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WORDSLEY, STOURBRIDGE.

Crystal Palace.

GREAT ANNUAL EXHIBITION OF FRUIT and GRAND NATIONAL DAHLIA SHOW, Friday and Saturday, September 7th and 8th, 1888. In conjunction with the Fruit Show, arrangements have been made for a

CONFERENCE OF FRUIT GROWERS.

The questions to be discussed will include the Profitable Culture of Fruits for Market and Home Supply, the Packing, Carriage, and Sale of Fruits, their Economic Importance and Utilisation. Hon. Secretaries to Conference:

Mr. WILLIAM EARLY, Ilford,
Mr. LEWIS CASTLE, Hotham House, South Wimbledon.

Engagements for Next Week.

MONDAY, September 3rd.—National Chrysanthemum Society: General Meeting at 7.30 p.m. Sale of Dutch Bulbs at Protheroe & Morris's, and Stevens' Rooms.

TUESDAY, September 4th.—Bicester Flower Show. Sale of Imported Orchids at Protheroe & Morris's Rooms.

WEDNESDAY, September 5th.—Royal Caledonian Horticultural Society's Show at Edinburgh (2 days). Bath Floral Fete (2 days). Sale of Dutch Bulbs at Stevens' Rooms.

THURSDAY, September 6th.—Sale of Dutch Bulbs at Protheroe & Morris's Rooms.

FRIDAY, September 7th.—Dahlia and Fruit Show, and Conference of Fruit Growers at the Crystal Palace (2 days). Sale of Imported Orchids at Protheroe & Morris Rooms. Sale of the Royal Nursery, Ascot, at the Mart, by Protheroe & Morris.

SATURDAY, September 8th.—Bulb Sale at Stevens', and Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, SEPTEMBER 1, 1888.

CURRENT TOPICS.

THE FRUIT CONFERENCES.—Two real conferences on hardy fruits, their culture, uses, &c., in one year seems to indicate a sudden awakening either to the value of competition or else to the importance of hardy fruits both as objects of general culture and of consumption as food. It matters little what motives may have actuated this or that originator of the respective gatherings, this or that body or committee charged with their conduct and, we cordially hope, successful issue. Even if the former incentive has been the actuating one, it will not be the first time in the world's history that dubious motives have been productive of useful results. All the same we hope that some higher considerations have animated the promoters of these conferences, and that a real, we may even say an enthusiastic desire to develop hardy fruit culture in the kingdom is the actuating force.

At the Crystal Palace, on Friday and Saturday next, the culture of hardy fruit in relation to agriculture is chiefly to be discussed, whilst at Chiswick some few weeks later we shall be instructed mainly, so far as there is room for instruction, in whatsoever may concern the culture of hardy fruits in gardens and ordinary orchards. Before both gatherings a wide field for inquiry and discussion is opened; but still, both will sadly fail of the needs of the case if some consideration is not given to the interesting as well as the important subject of the importations of hardy fruits into this country, and how these considerable importations can be checked by home-raised produce. Possibly a harder nut to crack may be found in the consideration of how to counteract climatic troubles and difficulties incidental to fruit production, as found in varying and ungenerous seasons.

MORE RAIN!—The weather has again been a sad incident of the week, the heavy downpour, accompanied by strong cold winds, of Tuesday and later having wrought infinite mischief amongst the corn, much of which is in process of being harvested. Seed crops generally, and Peas especially, suffer severely also; indeed, we fear a very bad crop of seed Peas, wrinkled forms especially, must result. The low temperature, combined with the excessive saturation of the soil, is acting adversely upon vegetation, which it is desirable should progress rapidly to maturity; whilst all the Cabbage or Brassica tribe is literally running riot in luxuriant growth. To town dwellers a day's heavy rain is probably little more than an unwelcome incident, but to the cultivator of the soil such weather as has marked the week so far brings gloom and dismay. Should the autumn finally take the same ungenerous and wretched line which has so far marked the summer, then will agriculture, as well as gardening, receive an overwhelming blow, to ease which the appointment of Ministers or Boards of Agriculture would be as ludicrous and helpless as can well be conceived.

MR. GLADSTONE ON SPADE CULTURE.—This eminent statesman has shown again his remarkable versatility of thought as well as of speech in the extremely interesting and non-debateable address given to the cottagers at Hawarden on the occasion of the recent annual flower show at that place. Having in previous years forcibly advocated the general cultivation of fruit by farmers, and also by cottagers, the right hon. gentleman this time went a step farther, and as boldly endorsed all that has been urged in this as in other gardening papers from time to time as to the value of spade cultivation.

The term spade is by Mr. Gladstone wisely shown to be of wide application as applied to culture, and practically signifies gardening—and good gardening. The mistake made some years since by both landowners and farmers in aggregating small farms and many homesteads into large farms worked by considerable capital and machinery has practically failed, and there remains now for the land interest no other resource but to revert to small holdings and "spade" cultivation. This method alone will re-people the soil, give universal employment, and extend practical gardening throughout all parts of the kingdom somewhat in the direction which so widely exists on the Continent. Domestic life and land cultivation must conjointly form the backbone of English rural life and prosperity. With these will come vegetables, fruits, poultry, bees, and other products which form blessings to every household.

Sale or Consumption.—Whilst there can be no difference of opinion as to the suggestion made by Mr. Gladstone, that in order to ensure equitable transit rates for garden produce per rail, small growers should lay their heads together and combine, it does seem as if just now a little too much stress was being laid on the marketing of such produce, and hardly enough on home consumption. Of course, in discussing the interesting subject of the profitable employment of the land and of labour, the marketing of produce must come uppermost; but there are myriads of small occupiers who should, and probably do, cultivate their holdings — whether gardens or allotments—that they might have a healthful supply of fruits and vegetables for their domestic consumption. Blessed indeed are all such, for they are a long way favoured over their unfortunate brethren in towns who have no gardens, and who are, indeed, almost ignorant of all garden knowledge.

With an ample supply of home-raised garden produce, there is no fear of ill-health, poverty, or starvation. The mere gathering of fruits and vegetables fresh from one's own plot is a special delight, whilst the consumption in such case is trebly pleasing; but if there be some little outlay, perhaps, in rent, seeds, and manure—and with good management these expenses are not large—the labour, which after all forms the chief gardening capital, costs nothing, and its product is all profit. Yet even those whose business it is to produce for others—and that, perchance, largely—may well feel that the disposal of their produce profitably is not the be-all of existence. They, at least, may hope to find some pleasure in their garden surroundings, and, not least, in the enjoyment as food of what they have laboured to produce. The pleasures of gardening are not all bound up in the profit account or in market returns.

Shilling Gardening Books.—Commenting upon the excellent character of our recently-published book on *The Tuberous Begonia*—which, by the bye, we note has received pleasant commendation at the hands of some of our contemporaries—a worthy correspondent asks that more shilling books may be published. Whatever may be the ultimate outcome of our little venture, we join with our correspondent in regarding the shilling as the now popular figure for gardening books—really, if we may so term them, manuals—which, whilst accessible to all purses, shall yet be peculiarly fitted to encourage the ordinary grower and enlighten the amateur cultivator. The general public now demand shilling books of all kinds, and possibly the time may not be far distant when the popular requirements will have to be met by sixpenny ones. Should that be so, the gardening book trade must follow suit. The days of costly works, which are as bulky and generally as frigidly dry and technical as they are costly, seem to be passing away.

In any case, the reading public now is being found amongst the masses rather than of the classes, and the masses must be catered for. It is specially to the interest of every class of professional horticulturists to render gardening knowledge popular, because the wider gardening sentiment is diffused, the greater the area from which trade customers will be drawn. There is a wide difference between the owner of a garden, who likes to have it neat and tidy because that is the correct thing, and that owner who, through the agency of books and papers, has learnt to acquire a veritable love for gardening, and whose tastes soon convert him into a real amateur gardener. Probably, there is no "fancy," if it may be so termed, displayed by civilised man which is so permanent and productive of real enjoyment as is this love for gardening, especially as age renders indulgence in more active modes of enjoyment very difficult. Clearly we must encourage this process of conversion.

The Potato Disease.—Whilst the fruit growers are lamenting the sparse nature of their crops, their undoubted backwardness, and comparative lack of quality, the Potato growers are in far worse case, for their favourite product is being decimated right and left, and in rich soils, in the most terrible way. We seem to be carried back to the year 1845, when the appearance of this fell Potato disorder wrought such havoc in our gardens and fields; but with this difference—that since then, and in spite of periodical attacks of the fungus in a very virulent form, we have almost, if not quite, trebled our Potato breadths. For a few years, when dry summers prevailed, there was such comparative immunity from the fungus that Potatos were wonderfully plentiful and cheap. They are cheap enough still, but that is because everyone is afraid to buy, whilst everybody who has Potatos is anxious to sell before they get worse.

In many gardens great difficulty will be experienced in meeting the usual Potato requirements, whilst in cottage gardens and allotment plots the poor growers will have to be content with from one-half to perhaps one-third of their usual produce; and upon all such growers—and these are indeed legion—the loss incidental to the disease will fall heavily. To the nation at large the depreciation of the Potato crop must be estimated by millions of pounds' value. No doubt, the reappearance of the Peronospora, in its worst and most destructive aspects, will once more stimulate the attempted production of disease-resisting kinds of Potatos. The difficulty which raisers have to contend with is found in the grave uncertainty which exists as to the real action of the fungus, and what peculiar properties Potatos are required to possess which shall enable them to resist disease, if actual resistance be possible. So far, in the production of such resisting or assumedly resisting kinds, all progress has been of a haphazard character.

Our Bean Crop.—That Jupiter Pluvius is no enemy to the Bean crop is just now pretty plainly evidenced. In common with all other vegetables, both runner and dwarf Beans were rather later than usual in blooming; but still, that little lapse has been amply atoned for by a wonderful productiveness since. Dwarfs are more generally grown in private gardens than in market fields, where runners are the favourites. This year the breadths are wonderfully extensive, and though chiefly grown without sticks, and receiving, perhaps, one topping only through the summer, yet are producing such wonderful crops as to beat all previous records in productiveness. As a result, we see thousands of bushels disposed of daily in the market at about 2*s.* each—a miserable price indeed when it is remembered that the first cost of gathering ranges from 4*d.* to 6*d.* per bushel. Clearly a big produce is not always a blessing to growers, who look for some 3*s.* 6*d.* to 4*s.* per bushel as a fair return.

But whilst the fact of the enormous produce of runner and dwarf Beans is indisputable, it is worthy of record that such results should flow from wet, sunless, or comparatively sunless, weather. It is one of the scientific superstitions that insects—and bees especially—are indispensable aids to Bean fertilisation. Curiously enough, we invariably find that in hot weather, when insects—and especially bees—can labour with freedom, Beans always set badly; whilst in such a season as the present, when insects have been checked in their operations by bad weather, Bean bloom has never set so readily. The very causes of Potato disease have been prolific, not only of Beans, but of nearly all other vegetables, so that nature has given us some compensation for heavy losses in other directions, if inadequate ones. We hope for a long mild autumn, and in such a case we shall have, other than Potatos, a wealth of delicious vegetables nearly to the end of the year.

Conference of Fruit Growers at the Crystal Palace.—We understand that a meeting of the executive committee of the above conference was held in "Anderton's Hotel," Fleet Street, on Tuesday last, Mr. T. Francis Rivers in the chair. The principal business was the consideration of a number of communications received by the hon. secretaries, and the determination of the programme for the conference. The committee now comprises about seventy of the leading fruit growers, nurserymen, and amateurs throughout the kingdom, all of whom had expressed their hearty approval of the scheme, and their desire to assist in rendering the meeting both useful and interesting. After considerable discussion it was decided that the subjects should be taken in the following order, each paper to occupy about twenty minutes in reading, to allow ample time for discussion. The conference will be held in the Crystal Palace (the place will be notified on the morning of each day) on September 7th at 3 p.m., and September 8th at 2 p.m. On September 7th, the first subject will be "Fruit Culture for Profit," by Mr. T. Francis Rivers, to be followed by Mr. Coleman, Eastnor Castle Gardens, and others. The second subject will be "The Packing, Carriage, and Marketing of Fruits," by Mr. Webber of Covent Garden and Mr. Samuel Rawson, of Birmingham. On September 8th, Mr. Tallerman will deal with "Fruit Distribution," Mr. Manning with "Fruit as Food," and Mr. Albert Bath with "Land Tenure in Relation to Fruit Cultivation." All who intend taking part in the discussion will facilitate the arrangements if they send in their names at once to the hon. secs., Mr. Lewis Castle, Hotham House, Merton; Mr. Wm. Earley, Ilford; or to the chairman on the day of the meeting.

Presentation to Mr. G. T. Miles, Jun.—On the occasion of the annual flower show, at High Wycombe, held on the 22nd ult., Mr. G. T. Miles, Jun., of Wycombe Abbey Gardens, the late secretary of the society, was presented with a gold watch, in recognition of the valuable honorary services he has rendered to the society during the past eight years. In making the presentation, Mr. D. Clarke remarked that very much of the success which had attended the operations of the society was due to the efficient way in which the duties of secretary had been discharged during the past eight years by Mr. Miles and those who had been his coadjutors. They were indebted very much not only to Mr. Miles, but also to his father, who, from the earliest formation of the society, had taken a very warm interest in its welfare; and in all probability but for this fact the success which had attended the society would not have been attained.

Bulbs for the Royal and Public Parks.—We are informed that the whole of the bulbs required by the First Commissioner of Works and also the Metropolitan Board of Works, for planting in the London parks, are being supplied by Messrs. James Carter & Co., High Holborn, W.C.

Autumn Show at Manchester.—We have received as we go to press a copy of the schedule of prizes issued by the Royal Botanical and Horticultural Society of Manchester, for a fruit, flower, and vegetable show, to be held in the gardens at Old Trafford on the 21st and 22nd inst. It includes some forty-three classes, all of which are open, and apportioned as follows:—fruits, 21; vegetables, 7; and flowers, 15. The fruit classes provide for collections of eight and four dishes respectively, Grapes, Peaches, Nectarines, Pine Apples, Melons, Plums, Figs, Pears, Apples, &c. The vegetable section includes a collection of twelve dishes, and single dishes of Potatos, Tomatos, Onions, and Celery; while the cut-flower classes are confined to Dahlias, Roses, herbaceous plants, Gladioli, Stocks, Asters, Pæonies, &c.

Birmingham Horticulturists at Reading and Heckfield.—On Monday last the members of the Birmingham and District Gardeners' Mutual Improvement Association, to the number of seventy, enjoyed a most successful excursion to Reading and Heckfield. The party left Snow Hill Station at 5.40 a.m., and on arriving at Reading were conducted over the nursery and trial grounds and then the seed warehouses of Messrs. Sutton & Sons, who entertained the party at luncheon. Breaks were subsequently called into requisition, and the party drove over to Heckfield, where they arrived at 21.5 p.m. Here they had the pleasure of inspecting a thoroughly well-managed garden in all departments, and especially of seeing the flower garden, which is, perhaps, the most perfect of its kind in the kingdom. After rambling for some time through the gardens and woods, by the kindness of Miss

Lefebvre, tea was served in a large marquee, and the party left at 5-30 p.m. on the return journey, Birmingham being reached at 10-10 p.m. Perfect weather was enjoyed throughout the day, and all were delighted with the day's outing.

The Shrewsbury Flower Show.—The attendance at this popular exhibition last week seems to have been greater than ever, and it is quite refreshing, after such a run of financial failures as have been recorded this season, to hear of a genuine success. On the first day the sum of £247 1*s.* 3*d.* was taken at the gates, and on the second—always the best day—the total reached £1,367 odd, over 40,000 persons being estimated to be present. The amounts named, we should add, do not include the value of the tickets sold before the show opened. Unfortunately, the second day's proceedings were marred by a fatal accident which occurred at the railway station in the evening through the terrific crush on the platforms. As the Birmingham train approached the platform, an alarm was raised that a man was on the rails, who was subsequently discovered to be Mr. John Henry Harrison, a florist, of Lord's Wood Road, Harborne. His body was picked up as quickly as possible and conveyed to the infirmary, when he was found to be dead.

A Man's Life Saved by a Gardener.—A gratifying instance of the value of ambulance instruction is reported from Wylam-on-Tyne. It seems that the coachman at Mr. Norman Cookson's, of Oakwood, cut his fore-arm with a hay-knife, dividing all the principal blood vessels, and with considerable presence of mind Mr. John Crear, formerly under-gardener in the employment of Mrs. Henderson, and a member of a branch of the St. John's Ambulance Association, at once controlled the bleeding by a stick and bandage properly applied over the brachial artery. Dr. Foulis was summoned, and was much pleased to find an operation performed, without which, as he asserted, the man would have bled to death before his arrival.

Testimonial to Mr. James Huntley.—This gentleman is the hon. secretary of the Trowbridge Horticultural and Floral Society, and having been connected with it since its establishment thirty-six years ago, and having also filled the onerous post of secretary for a period of twenty-five years, it is thought that a testimonial should be presented to him, and an influential committee has been formed at Trowbridge, with Messrs. T. S. Hill and J. Howard Foley as hon. secretaries. The society holds one exhibition every year on a large scale, and the labour connected therewith is very great. It is one of the best shows in the West of England, famous for its Fuchsias and vegetables. Its financial position is sound—indeed, it is one to be envied, for when the last balance sheet was issued in November, the balance at the bank was £245. This means good management, and in this respect Mr. Huntley has proved an admirable manager. That a good sum will be realised towards a testimonial fund we have no doubt whatever.

The Potato Disease: An Infallible Remedy!—It is announced that M. Prilleux has just put before the French Academy of Science an infallible remedy for the Potato disease. This is the recipe: Put 13 lbs. of sulphate of copper, and the same quantity of chalk, into 22 gallons of water, and souse the plants with the mixture. An experiment made from the 5th to the 16th ult. saved the diseased plants thus treated, while thirty-two per cent. of those which were left to themselves went to the wall. But the disease must be taken in hand as soon as the first black spots have been perceived on the leaves.

Hardy Flowers at Reading.—With reference to the report of the Reading show, published in our last, a correspondent points out that Mr. E. F. Such, of Maidenhead, won the first prize with a dozen bunches of hardy flowers in a competition against other stands containing choice greenhouse and stove flowers, and that he was second to Mr. Phippin with 18 bunches of hardy flowers, the former showing mostly greenhouse subjects.

Vegetarian Food.—Mr. Joseph Knight, secretary of the Vegetarian Society, 75, Princes Street, Manchester, writes:—"In your issue of the 25th inst. is a reference to a vegetarian meeting held in London. Will you kindly permit me to say that if any of your readers are desirous of knowing more about vegetarian food, which is at once cheaper, healthier and pleasanter than the ordinary mixed diet, I shall be happy to send a few papers to any inquirer on receipt of request."

Maidstone Chrysanthemum and Fruit Society.—The annual exhibition of this society will be held at the Corn Exchange, Maidstone, on November 13th and 14th.

A GARDENERS' PARTY AT THE DELL.

Bearing in mind the pleasant excursion made to Swanley and Eynsford last year, the members of the National Chrysanthemum Society decided to repeat the experiment this season, but changing the venue from Kent to Surrey. Permission having been most kindly and readily given by Baron Schroder for the party to visit his beautiful gardens at The Dell, Egham, some seventy-five members and friends left the Waterloo terminus by a mid-day train on the 24th ult. Arrived at Egham station, the party availed themselves of some conveyances that were at hand, and as many roads lead to Rome, so several lead to The Dell, and considerable amusement was created as to who should get there first by going in different directions. Mr. Ballantine, the gardener, was waiting to welcome the visitors, who formed a gathering such as is seldom or never seen in this rural retreat. Many questions were asked as to why Chrysanthemum men should visit an establishment where Orchids rather than "Mums" are the special feature; but Chrysanthemums were found in the garden, and in considerable force, to the joy of the special "Mum" lovers. A move was soon made to the Orchid houses and others in succession, and although the occupants of the former structures are to all intents and purposes out of season, yet some grand pieces of rare and beautiful subjects were there to gratify the eyes of both connoisseurs and others, who were, perhaps, as unfamiliar with the great Orchid family as they were practical in Chrysanthemum culture.

Great interest was centred on a group of Cattleyas and Lælias such as is rarely witnessed in any country. The central object of this magnificent group was C. Hardyana, with the bold and handsome proportions of C. gigas; and the huge rich crimson-purple and orange labellum was well backed up by the rosy petals, richly reticulated with dark veins and white markings like a Fritillary. C. Schroderiana and Lælia callistoglossa came in for a share of attention, which was little, however, compared with that bestowed on L. elegans, and its even more elegant variety, L. e. Turneri, of which there are several colours, and by some considered worthy of specific distinction or something equivalent to it, because believed to be natural hybrids. Very worthy of notice was an intensely dark-coloured variety, with the lateral lobes of the labellum rolled over the column in a striking manner. The beautiful white and yellow-throated, sweet-scented C. Eldorado alba augmented the list of good things, as well as Pachystoma Thompsoniana, Dendrobium macrophyllum Veitchii, D. rhodostoma, Oncidium Limminghei, Galeandra Baueri, Maxillaria venusta, and Houlletia Brocklehurstiana, the latter of which is a singularly striking and curious combination of colours. A magnificent piece of Saccolabium Harrisianum filling a basket 3 ft. square, is not at present in flower, but its value is such that none but connoisseurs can understand. A great number of Cypripediums, including C. Dominyanum, C. grande, C. Morganiæ, C. Sedeni candidulum, C. albo-purpureum, and a great many others scattered through the houses, afforded a display which is only exceeded by their persistency in flowering. But a rich floral feast was yet in store in the shape of some plants of Peristeria elata, and a grand bank of Disa grandiflora. One pot of the former, standing on the floor to give it head-room, had five spikes of bloom about 7 ft. high, one of them which was counted carrying thirty flowers of the purest white. There were about sixty spikes of Disa grandiflora, each carrying from one to four flowers. Though the latter number is exceedingly unusual, the flowers are in no way diminished in size.

A fine piece of Utricularia montana in a basket hung up to the roof of the house, was no doubt taken for an Orchid by many. The roofs of other houses were beautifully festooned with various climbers, such as Allamandas, Lapageria alba, and Gloriosa superba with its fantastically formed scarlet and yellow flowers. Various Aroids, such as Alocasia Thibautiana, Anthurium Warocqueanum, A. Andreanum and A. Veitchii, constitute a special feature in themselves, especially the latter, a gigantic specimen of which is doubtless the largest in the country. The leaves are 4 ft. or 5 ft. in length, and the plant is 8 ft. or 9 ft. in diameter. Fourteen lights of a frame filled with Nerine Fothergilli major, the bulbs of which at present look baked and dead, will by and bye afford a magnificent spectacle; the flower spikes have already commenced to push up.

The Pine-Apple houses, Melon and Cucumber pits were each visited in turn, and also that containing a fine collection of Calanthes, making good growth. The vineries were eagerly inspected, and afforded excellent samples of cultivation. The wonderful blue-black bloom of Alnwick Seedling is apt to make one's mouth water; one rod bore seventeen large bunches, while Duke of Buccleuch had twelve and Black Hamburgh nineteen large bunches. Madresfield Court and Muscat of Alexandria were also equally fine.

From the gardens the visitors passed by a subway to the charming pleasure grounds, where a beautiful prospect awaited them in the bedding and the rich collection of Coniferæ, all in robust vigour. The Cedars, Araucarias, Thujas, Cupressus, and Retinosporas are exceedingly rich and varied in their respective colours, such as those of Retinospora plumosa aurea and R. p. argentea, which are too conspicuous and fine to be overlooked. By the kind permission of the Baron, the picture gallery and the statuary were inspected and admired. From the mansion itself fine views of Windsor Castle were obtained through glades and vistas in Windsor Forest, against which the house and gardens abut.

During the inspection of this fine country residence, time sped unheeded till it was time to think of the inner man, and arrangements having previously been made by the secretary, the whole party proceeded by conveyance and otherwise at a rapid pace towards the "Anglers' Rest" Hotel, Bell Weir, Egham—a charming and secluded retreat on the banks of the Thames—where the host, Mr. Hyde, had prepared an ample repast for his hungry guests. When this was finished, Mr. Holmes, in a suitable speech, requested the party in an informal manner (so as to exclude anything like a matter of business) to commission the president of the society, Mr. E. Sanderson, who was present, to write to Baron Schroder and his courteous gardener, Mr. Ballantine, to thank each for the great kindness they had bestowed on the National Chrysanthemum Society, in granting permission to visit and inspect the beautiful gardens and pleasure grounds at the Dell. By this time it was raining in torrents, but soon cleared up, and the order of the day for the brief remaining time being "Go as you please," the party availed themselves of the opportunity to ramble on the banks of the Thames and view the local places of interest, amongst which were Magna Charta Island, Holloway's Sanatorium on the hill, permission to visit which being kindly granted by the authorities. In due time the party found their way to Egham railway station, where a number of carriages were specially set apart for the accommodation of the same. At length, without hitch or mishap, Waterloo station was reached, at which, and at several stations along the line, the party broke up—

"And each took aff his several way,
Resolved to meet some ither day."

—*Visitor.*

NOTES ON FRUITS.

Lord Napier Nectarine.

This very desirable variety possesses qualities which strongly recommends it for cultivation by everybody. It is at present, perhaps, one of the most extensively grown of all Nectarines, and the fruit being of good size, handsome colour and good flavour, makes it specially valuable for exhibition purposes. It is a good cropper, and stands forcing well, which is a great point in its favour. In habit of growth it is not strong, rather the reverse, and the leaves are somewhat small and dark green. Another good Nectarine is Rivers' Orange, the fruit being of medium size, and, as its name implies, of a dark orange colour, heightened by vivid rose. In habit it is similar to the foregoing, with the exception of its leaves, which are not so dark a green in colour.—*F. R. S.*

Angelina Burdett Plum.

This is a very fine purple Plum, now to be seen fruiting in the gardens of the Royal Horticultural Society, at Chiswick, both on a wall and as a standard. It was raised many years ago by the late Mr. H. Dowling, Woolston Lawn, Southampton. The skin is thick and of a dark purple colour, covered with brown dots and blue bloom. Dr. Hogg describes it as "flesh juicy, yellowish, rich, and highly flavoured, separating from the stone; an excellent dessert Plum, ripe in the beginning of September, and if allowed to hang until it shrivels, it forms a perfect sweetmeat. The tree is a good bearer, and hardy." The plant on the wall is bearing only at the extremities of the branches, which is peculiar to Plums, but a standard tree is very heavily laden. There is a coloured illustration of this Plum by Andrews, in the volume of the *Florist* for 1853.—*R. D.*

GARDENING NOTES FROM IRELAND.

AUTUMN SHOW OF THE ROYAL HORTICULTURAL SOCIETY OF IRELAND.

THIS exhibition was held in the grounds of Sir E. C. Guinness, off Harcourt Street, Dublin, on Thursday, 23rd ult., but the weather, which to a great extent makes or mars all floral displays, was on this occasion xtremely unpropitious. Storm and rain prevailed to such a degree that at one period of the day the bandsmen were obliged to take shelter under one of the tents, and from thence discourse their music; consequently promenading, which is much indulged in on these beautiful grounds on such occasions, had to be abandoned.

WANT OF COMPETITION.

THE most careless observer could hardly avoid noticing how deficient and weak the competition was in the various exhibits placed on the tables. This is a feature that I fear is becoming permanent with the shows of this society, but has been more noticable during the present year. Perhaps the chief exception to this statement was in the various classes of Grapes set up, and these, except in a couple of instances, were all fine and the competition good.

STOVE AND GREENHOUSE PLANTS.

IN these classes the prizes awarded lay between Mr. Flynn, gardener to L. G. Watson, Esq., Newstead, Black Rock, and Mr. Coughlan, gardener to Richard Pim, Esq., Stradbrooke Hall. The first prize was given to Mr. Flynn for a group of six plants with variegated or singular foliage, and another for six plants, same as the latter, only grown in pots not over 10 ins. across. For stove or greenhouse plants in flower there was no competition, but for a group of nine mixed foliage and flowering plants Mr. Coughlan received a special first prize. Mr. Flynn also exhibited a fine group of exotic Ferns, most of which were lately noticed in these columns. In Mr. Pim's group of nine there were two well-grown and finely-bloomed plants of Vinca alba, V. rosea, and a fine plant also in flower of Lapageria rosea.

FUCHSIAS.

IN this class there were three competitors, Mr. Hatton, gardener to George McMasters, Esq., M.A., Brookville, Donnybrook, being first with a group of six plants. The whole were so evenly grown that it would be no easy matter to say where one differed from the other either in height or shape. They were exceedingly well grown, perfect in bloom, and on the whole remarkably well done. The second prize went to Mr. Hand, gardener to Mrs. Donnelly, Auburn, Malahide.

PELARGONIUMS.

FOR zonal Pelargoniums in flower, Mr. Hatton was again first with a well-bloomed lot, and Mr. Hand second. In the class for tricolors, the first prize fell to Mr. Hatton, and the second to Mr. Merrigan, gardener to J. E. Burke, Esq., Tullamaine House, Dublin.

TUBEROUS BEGONIAS.

THOSE grown in pots gave evidence of very poor cultural skill, as the two lots exhibited were neither well grown nor well bloomed. The first-prize lot of six was made up of some good doubles and singles, but deficient in the merit which should qualify them for exhibition. In cut blooms, a very fine stand of singles and doubles was put up in trusses, and having twenty-four varieties, by Mr. Porter, gardener to Lord Ashtown, Woodlawn, co. Galway. There was no competition, but the stand well deserved the first prize awarded to it. In this class, W. E Gumbleton, Esq., of Queenstown, Cork, contributed a very fine lot of new Begonias, not for competition, and for which he was highly commended.

FLORISTS' FLOWERS (AMATEURS).

WITH the exception of the cut blooms of Begonias alluded to above, and the few entries for the special prizes, florists' flowers were a very poor lot. In single Dahlias of twenty-four blooms, each different, the entry was scratched, and in the class for twelve varieties, three blooms of each, J. E. Burke, Esq., was first, and Mrs. Donnelly second. There was no entry for Pompons. The stand of thirty-six Dahlias entered for the special prize—the society's Cup—was an exceedingly fine lot, and was staged by Laurence McCormick, Esq., Rowlestown, co. Dublin, being in form, substance and freshness as near perfection as could be. Roses were a poor lot, and the classes badly filled. Gladioli, that used to form so attractive a feature at autumn shows, were, with one exception, entirely absent. This one was a lot of thirty-six, sent in by James F. Lombard, Esq., Southhill, Upper Rathmines (gardener, Mr. Tobin). This stand was awarded the society's Cup, and considering the storms and general backwardness of the season, it was well won by this splendid lot. There were some boxes of Asters, Marigolds, &c., which, no doubt owing to bad weather, were somewhat below exhibition mark.

NURSERYMEN'S CLASSES.—ROSES.

AFTER the magnificent display of Roses which the Messrs. Dickson & Sons, of Newtownards, made at the late Bray show, one would have come to the conclusion it was their last effort for this year, but not so, as this show fully proved. The stand of forty-eight they staged for competition was, I believe, fully as good as any Roses this firm has exhibited during this year. Besides the stand for competition the Messrs. Dickson staged another box of forty-eight Roses as an extra, and this was quite equal to the first prize lot; the judges recommended a H. C. Medal for the second stand. Such a collection of superb Roses would give pleasure even when they would be expected to be at their best, but at this time—so far beyond the regular period for these flowers—visitors who saw them were both pleased and surprised.

DAHLIAS.

EQUALLY attractive was the thirty-six lots of Dahlias staged by the Messrs. Dickson, Newtownards; and Messrs. Henderson, of Templeogue Nurseries, co. Dublin. Messrs. Dickson, who obtained first prize, had some fine flowers of Willy Garrett, Mrs. Kendall, General Grant, Gloire de Lyon, Colonist (a fine one of last year's introduction), T. G. Saltmarsh, General Gordon, and Crimson King. Nearly all these are new, and not long in the hands of the trade. Messrs. Henderson's stage was awarded second prize, and a nice even lot they were.

FRUIT.

UNRIPENESS appears to have been a defect in some of the fruit shown, and this, with a couple of exceptions, refers to Plums, dessert Pears, Apples, and I might add, in at least a couple of cases, to Grapes. On the whole, however, the different classes for Grapes were well contested. For the best stand of white Muscats, the Earl of Clancarty, Garbally, Ballinasloe (gardener, Mr. Cobban), was first; Mr. Irwin, gardener to Mrs. Tedcastle, Rathfarnham, being second. For white Grapes of any other variety, the Earl of Wicklow, Shelton Abbey, co. Wicklow (gardener, Mr. Tyler), was first, and Lord Ashtown second. In the two classes for black Grapes, the Earl of Wicklow and the Earl of Clancarty were first and second in the order named. The great tug of war, however, was for the Hamilton prizes, and also for those offered by Mr. Thornton, fruiterer, of Grafton Street. In both cases Mr. Tyler pulled through first, being very closely followed by Mr. Cobban, who came second. Mr. Irwin was third for the Hamilton prize, and Mr. French, gardener to John Pollock, Esq., Lismany, co. Galway, second for the Thornton prize. Peaches, Nectarines, Melons, Figs, &c, were fairly well done, as also two Pine Apples from the gardens of the Earl of Clancarty, who was awarded first prize, the Earl of Wicklow securing the second.

VEGETABLES.

FOR trays of twelve sorts of vegetables there were only two competitors, and one exhibitor of a tray of six. First prize was taken by Mr. J. Mahony, gardener to Mrs. Jury, Greenfield, Donnybrook, and second by Lord Ashtown. In Mrs. Jury's collection there were fine samples of Kidney and Broad Beans, Tomatos, Cauliflower, and even thus early, some really fine Brussels Sprouts. In Lord Ashtown's lot there was some good well-blanched Celery.

A very remarkable contribution, consisting of three immense heads of Mackey's King of Yorks Cabbages. These were sent in by Mr. Cassels, by whom they were grown, and were splendid examples of what can be done by good cultivation, and having the right kind to go on with. The heaviest of these weighed 19 lbs., and although of such size, was in no way coarse in texture, and was of fine form.

CONTRIBUTIONS OF PLANTS AND FLOWERS.

FROM their nurseries at Fortfield, Templeogue, the Messrs. Henderson & Son sent a fine collection of decorative and flowering plants, which were so artistically arranged as to attract much attention from visitors during the day. This group was highly commended by the judges. From his nursery at Newry, Mr. T. Smith forwarded a collection of cut flowers of hardy herbaceous plants. Owing probably to the increasing favour with which herbaceous flowers are being regarded, there was nothing perhaps in the whole show about which visitors lingered longer than they did about Mr. Smith's stand of flowers. Every bloom appeared to be discussed and admired, and from the apparent interest taken in them there ought to be a good time in store for such men as Mr. Smith, who keep these choice herbaceous plants Out of a large number, here are a few well worth the attention of anyone wishing to have some really good things:—Chrysanthemum Precocité, Centaurea macrocephala, Gentiana asclepiadea, G. septemfida several species of Montbretia, Helianthus, Eryngium, and various other plants. The prizes to be given by Hamilton Drummond, Esq., and to which I propose alluding on some future occasion, ought to have the effect of stimulating the cultivation of herbaceous plants; but, independent of that, it can hardly be denied that such a display as Mr. Smith brought under public notice must lead to so desirable an end. Another much admired stand was one set up by Messrs. Dobbie & Co., of Rothesay. The collection was a miscellaneous one, and included specimens of their Model White Turnip, Selected Golden Ball, splendid white and red Celery, enormous Leeks, good Parsnips, Carrots, &c. Their Pansies, Violas, Sweet Williams, &c., were greatly admired, but the marvellous symmetry and regular colouring of their French and African Marigolds excited most attention of all. These were really beautiful, and in this direction at least the Messrs. Dobbie seem to have laid the foundation of a good business for next season.

A fine lot of Palms were sent in from the viceregal gardens, and from the gardens of Sir E. C. Guinness. The Glasnevin Botanic Gardens also contributed some fine specimens of the above, as well as a choice collection of flowering and variegated foliage plants. Among the latter were two beautifully-marked Crotons, named Sunshine and Jubilee; and amongst the former, a good plant of Hæmanthus Katherinæ, and a nice plant of Disa grandiflora superba. A very distinct object in the group was a fine plant of Hartingtonia californica.

In addition to the foregoing, Mr. Nugent T. Everrard, of Randalstown, Navan, sent some dishes of fine Peaches; Mr. Pollock, of Lismany, fine Apricots; and Mrs. Lovel a basket of flowers and foliage, very tastefully arranged. The judges of plants were Mr. F. W. Moore, Botanic Gardens, Glasnevin; Mr. D. Pressley, Glenarvon, Chapelizod; and Mr. W. Dick, Whitefield Lodge, Phœnix Park. On florists' flowers, Mr. W. E. Gumbleton, Queenstown, Cork; Mr. F. W. Burbidge, University Botanic Gardens; and Mr. C. Smith, St. Anne's, Clontarf. On fruits and vegetables, Mr. D. Drummond, Rathgar; Mr. Roberts, Charleville Forest, Tullamore; and Mr. Duncan Welsh, Mount Merrion, Stillorgan.—*W. D.*

CLIMBING STOVE PLANTS.—II.

BOUGAINVILLEAS.

Here again we have another class of plants that are more amenable to stove culture during their infancy, but which flourish well when they have attained some age, and are large enough to plant out in a conservatory or warm greenhouse, when they yield such an abundance of flowers that the foliage can scarcely be seen for the enormous quantity of bloom produced on a well-established plant. This remark applies more especially to B. glabra, which is undoubtedly the finest species amenable to cultivation. Plants of this kind when planted out and let ramble up the end of a greenhouse, will keep up a supply of flowers all through the summer and autumn season; the individual flowers, not mentioning the long sprays it will produce, will be much finer both in size and colour than any plant that was ever grown in a pot. For an exhibition plant, when in good order, it stands amongst the foremost, but being a deciduous plant it requires a certain period of rest during the dull months of the year, and afterwards sharp pruning out of all the weaker wood, which is of no further use to the plant except at the time of growing, when the foliage obtained from such growth does help to develop root action. It is easily propagated from cuttings from the weaker wood at any time during the summer season, and with good cultivation in a stove temperature young plants may be soon made into nice half-specimen flowering plants.

CLERODENDRONS.

Although the majority of this genus are stove shrubs, yet in Clerodendron Balfouriauum we have a good pillar or rafter plant, suitable for trellis-work or for making an exhibition plant when well flowered. It is easily cultivated in a stove heat, and easily propagated from cuttings, which soon make nice little flowering

plants. Being such a well-known and easily-managed subject, it is not necessary to describe it, but the other species of the genus I will give a paragraph to when treating on stove-growing shrubs.

GLORIOSA.

A grand class of climbing plants, producing flowers of an orange shade, somewhat resembling a miniature Lilium, G. superba being the best of the genus. They require a good heat whilst making their flowering stems for the season, and during the winter months it will be necessary to dry them off, when they will start into growth again in the spring, making long soft shoots of a considerable length, and terminating in a spray of flowers. They may be trained to trellis-work after they show signs of flower, but show to best advantage when suspended from a roof. A rich loam, with a mixture of rotten manure added, taking care that the compost be porous euough, will suit them admirably. The dry bulb when first potted does not require too much water until it shows signs of growth, but when fairly established it will take any amount of sustenance. After the flowering period, water should gradually be withheld until the stems are quite decayed away, when the pot may be stored away in a warm dry place until wanted for the next year's growth.

IPOMÆA.

This is a free-growiug class of stove climbing plants, and yields flowers in abundance on strong healthy plants. The only fault with these plants is that their flowers are only serviceable for the day upon which they open, but as they yield flowers in abundance, and can be depended upou to always have some ready for cutting every morning during the summer and autumn months, this small fault may be condoned. I. Horsfalliæ is the brightest coloured of the genus, and consequently more sought after than the others, but requires a great amount of roof room to bring it to perfection. It is best propagated by grafting pieces upon either the roots of Ipomæa ternata, or upon young plants of the same just nicely established from the cutting pot. I. ternata has pure white flowers, which are produced in clusters. While upon this subject, may I be allowed to ask what is the difference between I. ternata and the so-called I. Thomsoniana, sent out some years ago as a magnificent plant for exhibition purposes?—*W. G.*

THE LONDON PARKS.

VICTORIA.

The scroll carpet bedding on the east side of the park is always a feature of the place, and it is done up in a fashion such as we seldom see so largely adopted. The beds are well elevated above the level of the grass, while along the centres of these are other figures considerably above the general level of the beds themselves. These central figures are planted with one or other of Alternanthera paronychoides aurea, A. magnifica or A. amœna, and edged with another, the whole having a sharply sloping edge of Echeveria secunda glauca. The general groundwork consists of Mentha Pulegium gibraltaricum, which always furnishes a carpet of a pleasing dark shade of green. The outer edge consists of a liue of small plants of Golden Feather and a double line of Echeveria secunda glauca. Along the central figures, and also in the grouudwork of Mentha, are dot plants of Echeveria metallica, E. glauco-metallica, Sempervivum cuneatum, S. dorame, S. canariense, S. calcareum, S. Haworthi, Chamæpeuce diacantha, C. cassabonæ, and Pachyphyton bracteosum, with patches of small plants of the latter.

In a semi-circular piece of ground there is the usual display of flower-beds, such as Londoners like to see. Being fully exposed, there is a tolerably fair amount of bloom on the Pelargoniums, but nothing compared with that of more favourable seasons. A bed of Henry Jacoby, with its intensely dark scarlet flowers, is by far the most conspicuous, and from what we have seen of it, both here and elsewhere, it is a very hardy kind. Being at some distance from the pathway, its brilliancy is more agreeable to the eye. There is a pretty bed of Verbena venosa mixed with Centaurea candidissima, but its beauty is lost in the distance from the public eye. A cheerful contrast of colours is afforded by four beds of bicolor Pelargoniums, mixed with blue Violas and edged with Coleus Verschaffelti, Golden Feather, and a double row of Echeveria secunda glauca, which is much used for this purpose throughout the beds. The latter are considerably elevated above the general level of the grass, and their edges, therefore, require some support of this kind. Most of them have a heavy edging inside the Echeveria of such things as Coleus Verschaffelti, Golden Feather, Iresinc Lindeni, black Beet, yellow-leaved Fuchsias, yellow or bronze-leaved Pelargoniums, and Lobelias, most of which are fairly well coloured.

Two large oblong beds with indented ends are, as usual, very elaborately wrought out, and are sufficiently neat and attractive to be admired by lovers of that style of gardening. The general groundwork consists of Mentha Pulegium gibraltaricum. In the centre are circular patches of Alternanthera paronychoides aurea, with a dot plant of Echeveria metallica; there are also crosses of A. versicolor with figures of A. paroncyhoides between, and these forming elevated plateaus, have their abruptly sloping sides planted with Echeveria secunda glauca. On a lower level are scroll figures of various Alternantheras, with numerous patches all round towards the margin of the bed and edged with Echeverias. The groundwork of Mentha extends to the margin, which has an edging of Golden Feather and a double row of Echeveria.

Where sheltered, the beds of Cannas in other parts of the park look very well, although they have not yet made a very luxuriant growth. Some broad-leaved bronzy green varieties in a sheltered hollow near the pond are certainly the best, and completely fill the beds. The beds of Verbenas are also far better than we should have expected them, seeing that in rich soils and in wet weather they usually grow rampantly, but flower rather sparingly. In the long border running round one side of the park the double-flowered form of Helianthus decapetalus multiflorus produces a fine effect; but we should like to see a greater admixture of other perennial subjects that flower equally freely, and give much additional variety. The tendency seems to be to depend on patches of various annuals to create a display. Such things as Ten-week Stocks, Larkspurs, and Tropæolums, hold their own very well; but Bocconia cordata, Lythrum Salicaria, autumn-flowering Phloxes, Antirrhinums, Tradescantia virginica, Nicotiana affinis, and Monarda fistulosa purpurea, are more appropriate and interesting. The Night-scented Tobacco is not usually considered a perennial, but is so under favourable conditions, and when well sheltered in a dry soil during winter. The vigour with which it grows and flowers in the open air, however, even when annually planted out iu a small state, should warrant a more extended cultivation than it enjoys at present. Hardy herbaceous plants always come well to the front in wet seasons, as we had evidence in 1879, when the summer was equally unfavourable to summer bedding stuff. Flowering specimens of Yucca recurva, 6 ft. in height, are conspicuous here as elsewhere.

NOTES FROM SCOTLAND.

Royal Horticultural Society of Aberdeen: Grand Floral Fete.—*Angust 23rd, 24th, and 25th.*—The grand floral fête organised by this society, and which occupied the place of the annual show of the association, was held in the Duthie Public Park, Aberdeen, on the above dates. For the purposes of the fête an extensive portion of the park ground was enclosed, and minor marquees for the accommodation of the various exhibits and refreshment stalls, while a particularly spacious marquee was provided for the floral exhibition proper. The society in former years held a couple of shows a year, a spring and an autumn one, but this year, as the fête was the only show held, the difficulty was experienced of having it at a time to suit both early and late crops. So far the experiment succeeded, but unfortunately the society has had to encounter during the year the most unfavourable weather. Everywhere the season is about three weeks late. The appearance of the exhibits, however, was on the whole very creditable, in some cases indeed the plants and flowers being considerably over the average, and admittedly much superior to what has been seen in many of the large shows in the south. On enteriug the large marquee, the fine show of greenhouse plants ranged along the centre attracted special attention. Fuchsias, a point in which the Aberdeen show is usually strong, were massive, fiuely formed and well-flowered; while the Pelargoniums were, both as regards colour and bloom, scarcely anything behind. In the professional section the exhibits of Mr. W. Ogg, Morken, were specially commendable. Immediately adjoining, in the same section, the display of Ferns was very fine, especially those shown by Mr. Alexander Grigor, Fairfield. In the amateurs' section the richest display of Ferns was, perhaps, that of Mr. James Fyfe, Thistle Place, Aberdeen; while in the same section, Mr. James Minty, Canal Road, Aberdeen, had, as is his wont, some highly creditable specimens of pot-plants; also Mr. A. Gillespie, Aberdeen, had some very good plants in this department. Among pot-plants, those in the working-class section were surprising in the splendour of the bloom and size of the plants. Near the show of pot plants was a very fine table of horticultural produce, exhibited by Mr. John Proctor, gardener to Lord Provost Henderson, Devanha House. Mr. Proctor's was the only entry in this particular competition, but it was of such an excellent description, that it certainly formed one of the features of the exhibition. Amongst the cut flowers, considering the unfavourable season, Asters were probably the weakest feature in that department, the weather having been exceedingly severe on them; while Pansies were, on the other hand, about the best. Except in one or two cases, the Dahlias were very poor, while there was an extensive display of fairly good Stocks. The Roses formed a specially noteworthy feature, and in this regard nothing could be finer, and nothing better has been seen in the country this season than the specimens shown by Messrs. Cocker, Aberdeen, for which they were justly awarded the Silver Cup. Having three years in succession taken the cup, it now becomes the absolute property of that firm. The Dahlias were a fair lot in this division, and Messrs. Croll took the premier honours. In the competition for table decoration the first prize was wou by Mr. Robert Duthie, Aberdeen. A very interesting show was that of bouquets, the best of which came from Mr. George Stephen and Messrs. B. Reid & Co.

The show of fruit was not so good as has been seen, but on the whole it was very fair indeed. Strawberries considering the season were good, but Black Currants were especially fine, several specimens being quite as large as ordinary-sized Cherries. The show of Apples was rather poor, but the specimens were very good, both in size and quality. Pears are late, and those showu were very small. Some handsome Peaches were forward, while Grapes, though behind the specimens of some former years, were very good, those shown by Mr. Stratton, gardener to W. Lumsden, Esq., of Balmedie, being the finest in the exhibition. There was a fine display of Melons, the entries being so numerous and the quality so excellent that it was found advisable to award extra prizes in this section. The vegetables were shown in a separate marquee, at the north end of the grounds. They were not quite so good as the productions of last year, neither in point of numbers nor quality, though speaking generally they were very fair in view of the adverse character of the weather for some time past.

Leith Flower Show.—The fifth annual exhibition of the Leith Horticultural Society was held in the Junction Street Hall, on Saturday last. Since its birth every effort has been put forth alike by the admirer of the beautiful, and the gardener, amateur, and window-plant grower to make the concern a success, nor have their energetic and untiring efforts been in vain, for from the quantity and quality of the exhibits brought forward on Saturday, little doubt exists, if the progress continues in the same ratio, that in as many more years it will take its stand in many respects on the same platform as the Edinburgh Caledonian Society. It is seldom, indeed, that the impress of success attends a youthful concern, especially a flower show, in so short a time.

The hall is the largest in the town, and was filled to the door with stuff which reflected considerable credit on the growers. Fruit, excepting indoor, was however behind the usual, but the season, needless to say, accounts for that defect. Messrs. Munro & Ferguson, Abercorn Nurseries, exhibited a most interesting collection of outside flowers, which drew the attention and admiration of all. Among the gardeners' exhibits were some fine plants—foliage and flowering. A fine plant of Diplacus glutinosa, profusely covered with flower, was very attractive. A very interesting and somewhat exciting feature of the competition was Mimulus Harrisoni and Blue Lobelia; for a pan of each was offered a Silver Medal. The coveted prize which, as naturally would be expected, attracted a strong competition, was awarded to Mr. King, Restalrig Park. The vegetable competition was strong, and testified what degree of perfection the non-professional can achieve when the bent of his energies are engrossed in this pleasing and healthy recreation. Among the chief prize-takers in the gardeners' class were the names of Messrs. King, Restalrig Park; Clark, Leith; Beattie, Bonnington Park; Linton, Afton Park; Dougal, Talbot House; and Paterson, Willow Brae. In the amateurs' class were Messrs. Manclark, Leith; Calcot, Watson; Mitchel, Kechil; and Russell. The secretary, Mr. Stevens, and his colleagues of the committee showed admirable taste and skill in the arrangement and order which everywhere prevailed.—*D. Chisholm.*

FLORICULTURE.

The Florists' Laced Pinks.

By James Thurstan.

It is highly gratifying to me, as an old Pink grower, and I am sure it will be to many others who still exist, and may have the opportunity of reading your issue of August 11th, to notice the article upon the Florists' Laced Pinks, by that popular and much respected florist, Samuel Barlow, Esq., J.P., of Stakehill House, Castleton, near Manchester. I had the pleasure of knowing the late Samuel Cooper, of Timperly, and have heard him state with his own lips what Mr. Barlow speaks of.

Mr. Barlow faithfully represents the Florists' Laced Pink when he designates it as "deliciously sweet and fascinating," and it has long been a mystery to me why such a lovely florists' flower, perfectly hardy, and easy of cultivation, should for so many years have been allowed to lie dormant, or in other words, to have been apparently despised.

Oh, what changes time produces! If any person who may possess a volume of one of the old florists' works of forty years ago—*e.g.*, the *Midland Florist*, of 1847, and will read the several articles and discussions which appear upon the Pink, surely he will wonder why this delightful variety of florists' flower should have passed almost into oblivion.

I recollect going over forty miles one day, about thirty years ago, to see a Pink show at Middleton, three miles from where Mr. Barlow resides, and which was held in a large club-room of a public-house, and never shall I forget the great number of Pink blooms that were staged there in ginger-beer or "pop" bottles on tables all round the room; every flower had its label attached, showing the name of the variety. Old Jones' Huntsman, Lee's Joseph Sturge, Beauty of Blackburn, &c., were there in dozens! The latter was a beautiful "black and white" Pink, so called in those days because there was no lacing round the petals, only the dark centre. At this date such a Pink would be looked upon as imperfect, and be disqualified as an exhibition flower. It was the custom in those days for Pink growers to hold special exhibitions at large public-houses, and in the volume of the *Midland Florist* above referred to there appear reports of Pink shows held June 30th, 1847, at the "Crown" Inn, Nottingham; on July 3rd, at the "Red Lion" Inn, Newcastle-under-Lyme; on July 11th, at the "Lamb and Flag" of the same town; on July 12th, at the "Horse and Trumpet," Bradford; on July 19th, at the "Green Man," Vindercliffe, near Bradford; and scores of other similar Pink exhibitions were doubtless held in different parts of the country.

In an article on the Pink, which appeared in *The Gardeners' Magazine* of February 9th, 1884, by that well-known florist, Mr. James Douglas, F.R.H.S., Ilford, Essex, and author of *Hardy Florists' Flowers, their Cultivation and Management* (a very useful and instructive little work), he says, "It is surprising the Pink is not more grown in gardens than it is, for there is no sweeter flower. The Rev. George Jeans said, a quarter of a century ago, 'Although the palm of excellence is generally assigned to the Carnation, and ladies prefer the Picotee, there are not a few humourists—and I am not ashamed to call myself one of them—who after all hold to the Pink as their favourite.'"

Mr. Douglas, in another article on the Pink, which appeared in the same journal for March 15th, 1884, says, "I remember being in the company of the late Mr. John Keynes, of Salisbury, a few years before he died, and on that occasion he stated that they had as many as five Pink shows at Salisbury in one year. I think the old veteran said the Pink was the first flower he cultivated, and I fancy he pawned his watch to purchase his first collection."

The late John Edwards, of Holloway, wrote an article on the Pink in the *Birmingham and Midland Gardeners' Magazine*, in 1852, and that renowned florist must have perceived the Pink declining at that time, for he says, "Are we to allow the glories of the Pink to decline? Will such long, true patrons as Messrs. Smith, Maclean, Young, Looker, Hale, Creed, White, &c., quietly rest with matters as they are?"

Will it not at once strike the reader of these quotations that there must be something remarkably attractive and fascinating in the cultivation of the Pink to have produced such enthusiasm in the hearts and minds of such men as the late Samuel Cooper, the Rev. George Jeans, John Keynes, John Edwards, and to which might be added the late John Harris, raiser of Black Diamond Carnation (Tipton), Robert Hallam, Thomas Coudry, and Samuel Brown, of Birmingham, who were all lovers and large cultivators of the Pink? Many hours of happiness have I personally experienced, at various times, in company with several of these old veterans, in listening to the enthusiastic reminiscences with regard to the Pinks they had grown, raised, and exhibited, &c.

The late Doctor Hardy, whose favourite flower was doubtless the Tulip, cultivated the florists' Pink; and several times, whilst looking over my beds of Pinks in full bloom, he remarked, "Is it not astonishing why Pinks possessing such refinement in their lacing, combined with their delicious perfume, should not be more thoroughly appreciated and extensively grown?"

Such flattering remarks of florists of the past, whose standing and reputation were of the very highest degree, is strong evidence that any amateur will meet with satisfaction and gratification, if he will only venture to make a start at Pink growing; but as an old cultivator of this lovely, charming flower, let me advise such amateur to commence with the best show varieties he can possibly obtain, and not to start with second-class kinds. I have grown Pinks and most other florists' flowers for over thirty years, and if any reader of this article could only imagine with what delight I have cultivated Pinks, and what pleasure they have, year after year, afforded me, his garden would not, another season, remain without its attractiveness being enhanced by a bed or border of exquisitely-laced florists' Pinks.

Withthe Editor's permission, I shall have pleasure, in a subsequent issue, to state my views as to the properties constituting a really good exhibition Pink. [Please do.—Ed.]—*Finsbury House, Richmond Road, Cardiff.*

New Dahlias Certificated.

There was a pretty display of new and old Single and Cactus Dahlias at the meeting of the Floral Committee of the R. H. S. on Tuesday, and the three following varieties were certificated: Victoria.—Flower-heads of good average size, with broad, rounded, flat florets, the ground colour of which is white, but often faintly suffused with a pale straw-yellow colour. A broad and very distinct crimson border runs round each floret, giving the heads an attractive appearance. Duchess of Albany.—Florets broad, rounded, and emarginate at the apex, with a curious pale brown border, often of irregular width, and sometimes with a central line of the same colour on a groundwork of pale lilac. It is both distinct, curious, and interesting, and will, no doubt, be liked by many for its novel combination of colours. Both the above were exhibited by Messrs. J. Cheal & Sons, Crawley. Beauty of Brentwood.—A Cactus Dahlia of good form, being a bright rosy magenta seedling from Juarezi, with much larger and fuller flower-heads than that well-known variety. Being fuller, they do not present the loose or ragged appearance of that sort, but are sufficiently so to be valued as a decorative Dahlia of considerable merit. Exhibited by Mr. J. T. West, gardener to W. Keith, Esq., Brentwood.

Carnation, J. Harrison.

We learn from Mr. W. M. Hewitt, of Chesterfield, that this fine pink and purple bizarre, for which Mr. T. Lord, of Todmorden, was awarded a Certificate at the late Manchester show, and which was also distinguished by a similar award made at Oxford on the 14th ult., was raised by him, and not by Mr. Lord, as the report given in our last would infer. Mr. Hewitt writes:—Mr. E. S. Dodwell, my old and much-esteemed friend and brother florist for thirty-five years, has grown the variety the last two years, and given a very favourable opinion of it—and with my permission he sent Mr. Lord some plants for trial last autumn."

New Gladioli.

At the meeting of the Floral Committee on Tuesday, Messrs. Kelway & Sons were awarded Certificates for the following new varieties: Bullion.—Flowers straw yellow, suffused with blush, and splashed with red. The lower segment is narrower and clear yellow. Eleven flowers were fully open on the spike. Mago.—Intense scarlet, with the lower and narrower segment white at the base, and suffused with rose at the junction of the white and the scarlet upper portion. Nicon.—Most noticeable for the size and delicacy of colour of the flower, the general body of which is white, suffused with blush, and irregularly striped with rose. The three inner segments differ in being of a pale yellow. Accia.—Brilliant scarlet, while the lower, inner segment is rose-coloured, and purple towards the base. Magas.—The throat of this variety is red, while the lower segment bears a central rose-coloured blotch. All the rest of the flower, which is large, is white and faintly suffused with blush. Cebes.—Blooms only of medium or average size, deep rose, shaded with scarlet at the margin.

Scarlet Bizarre Carnation Robert Houlgrave.

This variety was raised from seed, sent to me by Mr. Dodwell. It first bloomed in 1885, and although the bloom was little more than semi-double, it was very striking from the depth and brilliancy of its colours, and was much admired. In 1886 it was in my stand which won the first prize for six Carnations at the Northern National Meeting; only two other blooms were exhibited, and they won the third and the fifth prizes in the S.B. class, a First Class Certificate being also given to it. In 1887, at Oxford, in my stand of six and in the Scarlet Bizarre class, it won the first, second and fourth prizes. Also at Middleton it won the first and second prizes in the class and in the stand. First Class Certificates were given to it at Oxford and Middleton.

This year it won at Oxford in the stand, and the whole of the five prizes in the class for single blooms. Further, it was awarded the premier prize for the best Carnation in the exhibition. Only six blooms were staged. At the Northern National Meeting at Manchester, and at Middleton, it also won all the firsts and many other prizes.

Robert Houlgrave is a very distinct variety, with very glaucous green foliage, and of sturdy dwarf habit, scarcely requiring any tying. The scarlet and the maroon colours in the flower are of greater depth and richness than they are in any other Scarlet Bizarre, while the petals are large and well formed, and show the bold bizarre flakings to great advantage.—*S. Barlow, Stakehill House, Castleton, Manchester.*

Carnations and Picotees at Middleton.

At the eleventh annual exhibition of the Middleton Floral and Horticultural Society, held last week, the Carnations and Picotees, as usual, made an attractive display on their own account in the cut-flower department. Unfortunately but few of the flowers were named, so that we are unable to give much information as to the sorts exhibited. Mr. Barlow was first and third for six Picotees; Mr. G. Thornley coming in second; but in the corresponding class for Carnations, the last-named was first, Mr. Barlow taking second and third awards. For three Picotees, the leading award also went to Stakehill, as did the second and third prizes for three Carnations. In the single classes, Mr. Barlow, Mr. G. Thornley, and Mr. T. Oldham pretty evenly shared the awards between them. In the scarlet bizarre class, Mr. S. Raynor won with Robert Houlgrave.

THE WARREN, SOUTHPORT.

This is the residence of Mrs. Burton, at Birkdale, and is one of the most extensive of the many suburban gardens around Southport. Even here the extent is limited, for reasons given in my remarks on a neighbouring place, at p. 820 of your last volume. The chief part of the space set apart for vegetable culture at the Warren is sunk by excavating the sand to the sea level, with the view of securing plenty of moisture, and some of the sand is replaced with soil brought from a distance. Crops that usually occupy the ground in winter are not grown on this breadth, as the moisture would be too much for them, and such plants as have to be kept over the winter for spring planting are grown on another piece 20 ft. to 30 ft. higher, as is also the Asparagus, which was the best I have seen in Lancashire. If this remark meets the eye of anyone who has seen better, I should like to see it reported in your columns. I am interested in the matter, because this vegetable causes some of my acquaintances in this part considerable anxiety, and all attempts at its culture have been given up in more than one instance.

I had made frequent inquiries as to how the Asparagus thrived near the sea, but the replies were not encouraging. The reasons assigned I will not here stay to relate. In laying out these Southport gardens the main point in view is to make one object protect another from the gales, rather than follow any particular style and system of arrangement. As for instance, the piece of ground on which the Asparagus and other things are growing is protected on the west and north by three or four out of the fourteen glass houses on the place, and then a little to the south there is a bank thrown up to give additional protection to the sunken part of the vegetable garden, as well as

supplying a suitable place for cultivating a few shrubs. Old roots of trees crown the top of the bank, Ivy being planted with the view of covering them. Next comes a row of Privet, the very air being redolent with scent from the flowers of this plant, of which there are hundreds in different parts of the garden, looking something like a fairly-flowered Deutzia gracilis, and Mr. Roberts, the gardener, informed me that he had not seen it so floriferous before. In front of the Privet we have the orthodox style of planting, and to cover the remainder of the bank the following plants had been chosen and planted three years ago :—A few plants of Pinus maritima, also the common Yew, Euonymus, Aucubas, Hodginson's Holly, Retinosporas, and the Tamarisk.

Entrances that are usually left open in inland gardens are here provided with doors to break the currents. Sundry rows of Bamboo mats, that are used for packing the raw sugar shipped to the neighbouring city of Liverpool, run north and south to protect Roses and other plants. Mr. Roberts drew my attention to two rows of Roses each side of a narrow walk, and a corresponding narrow border on either side. Those on the west side were near the screen—say, about 1 ft.—and the others 10 ft. or 12 ft. away. The difference in appearance was most marked. The first were really what might be described as of fair average growth, and the latter looked singed. Even a bed of Sea Kale had one of these screens in front of it, not because of the cold, as Southport is 6° warmer than Blackpool, another watering-place only a few miles further north on the same coast. No, it is the occasional violent storms and the saline-laden air that calls for these protectors. I can testify to the ill effects of these westerly gales on plants twenty miles east of the coast, having seen the common Yew and other hardy evergreens as brown as if scalded on the wind side.

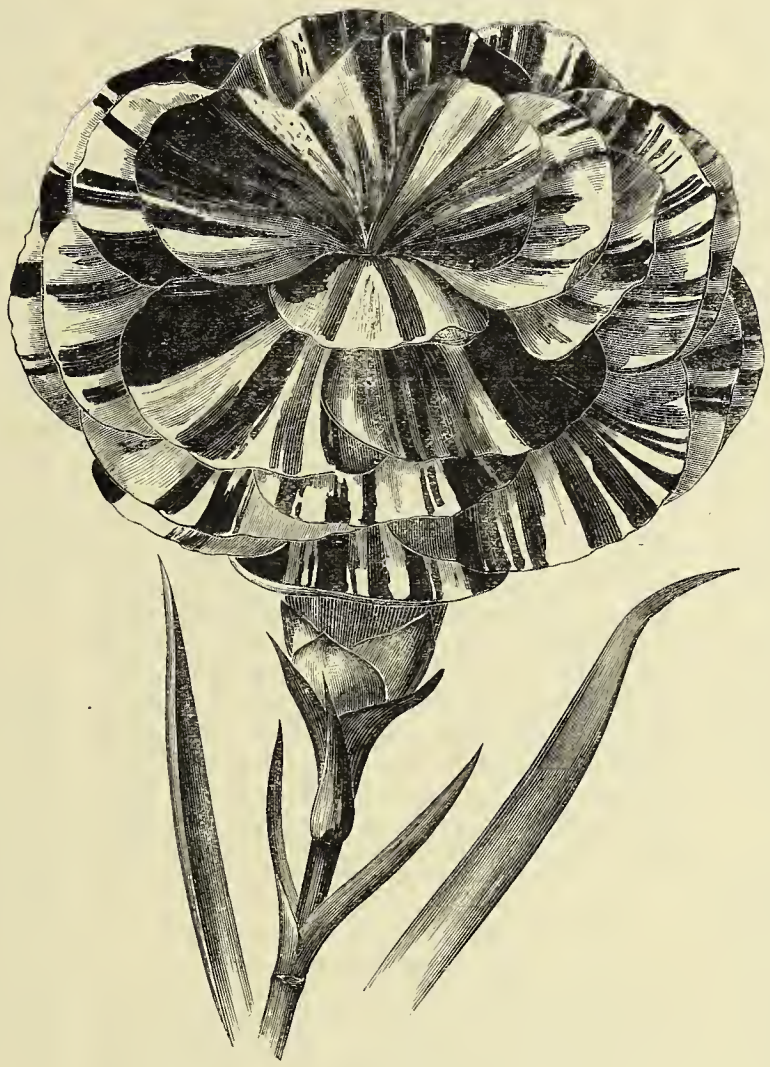
On the outskirts of the vegetable quarters numbers of Carnations and Picotees are grown, and it was quite a treat to see such a representative collection of all the best kinds. In passing through the houses I noticed a large plant of Passiflora Constance Elliott draping the roof of the Camellia house, and which Mr. Roberts finds useful for decorating the neighbouring church on harvest festival occasions, when pieces several feet long are cut. A plant of Bougainvillea glabra in full flower was covering a space 21 ft. by 8 ft. of the back wall of a house chiefly devoted to Ferns. In the vinery was a good crop of Grapes, with fair average-sized bunches of Hamburgh, Alicante and Muscat of Alexandria, and on the back wall of this house were Peach trees with fruit above the average size on them. Under the Vines were some creditable Fig trees in pots, also nice half specimens of Phœnix reclinata, Davallia bullata and D. hirta cristata. To succeed the Peaches in this house there is another lot in an unheated span-roofed structure, the south side of which was partly covered with hybrid perpetual Roses planted in a border and trained under the glass. Tea Roses have a house to themselves, and are brought on early in the year. Heavy crops of Tomatos were to be seen on Carter's Perfection, Trophy, Excelsior, and a variety named Sandwich Island, which, with two or three other kinds, were planted out in beds on either side of a span-roofed house. There were also good crops of this fruit on outdoor plants trained against the walls of the houses. Both these and the indoor varieties were free from all kinds of disease, which the writer rather envied, for in addition to the constant presence of the white-fly, he had been more or less plagued for months with the black spot (Cladosporium lycopersici), accompanied by rusty leaf growth, leaving only 2 ft. to 3 ft. of healthy green on shoots 12 ft. to 15 ft. long, which was the means of reducing the winter's crop by one half.

The Warren is noted for its choice collection of greenhouse Rhododendrons, which are sheltered in a span-roofed house, many of the plants being of great size, and are, I am told, well worth a visit in March and April. In a sheltered part of the garden were good specimen Chrysanthemums of the bush form. On a sloping bank at the north side of the carriage approach, planted in designs, were thousands of Sedums, Echeverias, Saxifrages, and other dwarf hardy subjects. The other class of bedding-out plants, such as Pelargoniums, are not satisfactory, and are only grown where they are sheltered.—*W. P. R.*

HARDY PLANTS IN FLOWER.

ONONIS NATRIX.

This is a yellow-flowered species that flowers with us well into the autumn. It grows about 2 ft. in height, and forms a good bushy plant. The foliage is very pubescent and viscid, with rather an unpleasant smell when broken or bruised. The yellow flowers are slightly larger than those of O. arvenis or O. rotundifolia, with the standard of the corolla veined with faint red lines. On a sloping bank in sandy soil this Rest-harrow will be found a useful plant ; it is easily raised from seed.



SCARLET BIZARRE CARNATION, ROBERT HOULGRAVE.

CALLIRHOE INVOLUCRATA.

The bright crimson flowers of this species remind one more of a Malope than a Callirhoe ; its habit is, however, different, being procumbent and perennial. The leaves are very deeply divided and hairy. The best position is on a ledge, so planted that it can overhang rockwork and get the full sun.

HELIANTHUS MULTIFLORUS MAJOR.

For cutting purposes this perennial Sunflower is very useful ; the flowers are light, and for a Sunflower very graceful, the side flowers being the most adapted for cutting. As a back-row plant in the herbaceous border it forms at this season a highly attractive subject. When thus grown it should be broken up in October and only moderate-sized clumps planted ; if left unbroken it soon monopolises too much space. The stock not wanted for border work can be advantageously used in the shrubberies or wild garden.—*J. W. O., Pinner.*

ALLOTMENT GARDENS.

THE Duke of Westminster is showing his class—and landowners generally—a good lead, which we hope to see largely followed, by dividing twenty-five acres of land, lying between Chester and Eaton Hall, into quarter-of-an-acre allotments, which he has let to 100 mechanics and labourers, and the scheme has proved a great success, for every allotment has been taken up. While it is gratifying to know it is so, it need create no surprise ; land hunger is being severely felt by the labouring classes near large towns and cities, where house rent is high, and where the garden, so-called, to many of the lower class dwelling houses, is simply the dimensions of the minimum of the air-space required by the bye-laws of the municipal corporation, local board, or sanitary authority. The Duke of Westminster charges at the rate of £5 per acre per annum, which covers tithes, rates and taxes. The land is cultivated by spade industry, and is reported to be in a high state of cultivation. Whether a quarter of an acre is not too much for a labouring man to cultivate, who has to give ten hours a day to his ordinary occupation, is a matter of opinion, and especially so if the land is to be cultivated well. We have had considerable experience of allotment gardens, and find that one-eighth of an acre is as much as an ordinary labourer can cultivate with advantage ; and it is found to produce a large amount of food for himself and family. After all, this s a matter of detail, subject to the test of experience ; but it is a fact, nevertheless, that to properly till and cultivate successional crops on a quarter of an acre of land by spade labour, means a large demand in the way of manual toil. Lord Rothschild has recently set apart a piece of ground, near to the Mill Hill Park Station of the District Railway at Acton, for the labourers on the Gunnersbury estate, who live at Acton, each man having an eighth of an acre at a mere nominal rent. We hope and expect to see other landowners following these examples. The English land question is one that is assuming large proportions, and it is destined to come up for settlement in the not distant future. Subjects that evoke a great deal of discussion, and call forth much difference of opinion, are found to be ripening for practical legislation with marvellous celerity, and the English land question is one of these. An influential section of the community is found advocating the nationalisation of the land for the benefit of the commonwealth, and though to many this must appear of the nature of a confiscatory movement, the fact that it is advocated by able men is one that cannot be ignored. The vexed tithe question, the rating of land, the operation of the laws of entail and primogeniture ; these and other matters that cluster round the main question, like a ring of satellites about a great planet, are all being drawn within the range of practical politics. Let us hope that they will all be settled in due course upon a just and equitable basis.

Are the capabilities of the land to maintain a larger number than at present tested to their utmost capacity ? We think not. Under-cultivation is now almost invariably the order of the day. Take a number of allotment gardens that are well cultivated by spade labour. Although it is done at odd moments, and without much pretence of systematic cropping, yet, if at all observant, we are able to see what a large produce it is capable of yielding under superior cultivation. The establishment of allotment gardens is opening the eyes of social reformers to the greater capacities of the land to help in maintaining the community. The next momentous and difficult question is how to utilise and distribute the produce so as to be most profitable to the producers. In all cases the allotment holder should be free to dispose of any surplus produce he may not require for his own consumption. How he can best do this is the point. By the application of the principle of combination and co-operation, we think this matter is capable of being practically solved. It is the social reformer rather than the party politician that must step in and take up the question at this point ; but we want, above all things, a higher order of intelligence developed among our suburban and rural populations, and we look with hope for the advance of this with time. Though it may be slow, we are yet sanguine it will be none the less sure and stable, and capable of great things in the future.—*E. W.*

THE AMATEURS' GARDEN.

PELARGONIUMS.

Few amateurs have yet got into the secret of annually cutting down and re-starting the show and fancy varieties of Pelargoniums, in the same manner as those do who grow for exhibition purposes. Market growers do not require large plants, but propagate and grow them annually to the desired size from cuttings. Private growers and amateurs may do the same thing; but as a rule they like to have large specimens as well. To obtain them, old plants must be annually subjected to a severe pruning, an operation that in the eyes of the uninitiated seems like destroying them. This should, of course, have been done about a month ago, and the leafless stems and branches should be again budding freely. So long as the weather remains moderately dry they will suffer no harm by being out of doors, but as soon as it becomes cold with heavy drenching showers they should be removed indoors, where they can be kept in that condition as to moisture, which is most suitable to their well-being. Bedding Pelargoniums that were propagated last month in the open ground should now be potted up, so that they may become established in pots before winter, without the aid of artificial heat.

CALCEOLARIAS.

Whenever the seedlings are fit to handle, depending, of course, upon the time they were sown, they should be pricked off into pans or boxes about 2 ins. apart each way, and when they have formed nice stocky plants they should be potted singly into 3-in. pots, and kept growing slowly but steadily in the cool temperature of a frame, as near the glass as possible, so that they may get the full advantage of the light, and remain dwarf and sturdy. Immediately after each potting, the frame in which they are placed should be kept close until the plants have taken to the fresh soil and afterwards freely ventilated. If the size of the plants warrant it, they should then be put into 40-sized pots about the end of October, as this is a suitable size in which to keep them till they begin to grow more rapidly as the days lengthen in early spring, when they may be put into their flowering pots. The chief points in the cultivation of the herbaceous sorts consist in keeping them cool, near the glass, moderately and constantly moist and clean. They are extremely liable to be attacked, much to their injury, by green-fly, so that a continual watch must be kept upon them, especially at the time they are potted. Light fumigations with tobacco paper will keep the pest in subjection.

CHRYSANTHEMUMS.

The popularity of this grand autumn and winter flower is not surprising, seeing that such a display of bloom can be made when everything out of doors is fading or has been destroyed by frost and rain. Another recommendation possessed by the Chrysanthemum is that so little fire-heat is necessary at any period of the year to preserve it in the best of health, and to flower it. During the latter stage no fire-heat is necessary, and the cooler and drier the house can be kept the better for the flowers, and the longer will they last in perfection. If fire-heat can be dispensed with altogether they will be more durable, and unseasonable growth of the stems and leaves avoided. Much will depend upon treatment from now onwards, whether the show of bloom will be good. A leading point to be kept in view is whether few large heads are desired, or a large number of moderate-sized ones. For conservatory decoration the greater the quantity of bloom the greater the effect, provided the heads are large enough to show their true character. It is necessary to disbud to a certain extent, even for this purpose, and the sooner it is seen to the better, as the buds are now rapidly forming, and if allowed to take their natural course they weaken one another.

VALLOTAS AND AMARYLLIS.

Amateurs, as a rule, are not experts in bulb culture, but of those grown in pots, few, if any, are easier to cultivate in pots than Vallota purpurea and the Belladonna Lily (Amaryllis Belladonna). The former is evergreen, and should not at any time be dried off so as to cause the destruction of the leaves. Less water should be given in winter, and the temperature of a cool greenhouse is sufficient. The bulbs flower best when the roots are pot-bound. Under these circumstances an abundant supply of water is necessary during summer, and great benefit is derived by assisting them with liquid manure during August and September till they come into flower, which will depend upon the temperature of the house, but those months naturally constitute the flowering season. The routine of culture is of the easiest, a fact which is attested to by the success which the holders of some allotment gardens meet with in growing. A zinc pail has been used as a pot in some instances, because (so said the grower), the bulbs burst an ordinary flower-pot. They also flower magnificently. The Belladonna Lily of South Africa is quite different from the South American Amaryllis, so called, and which are more properly termed Hippeastrums, and require stove temperature. The plant under notice is a true Amaryllis, and can be grown to perfection in a greenhouse temperature. It is deciduous, flowering in the autumn when the leaves are down and very little water is required. The leaves commence to push up in winter or early spring, and should be encouraged with copious supplies of water till they again fade next summer. From now onwards, flowers keep coming into bloom, and look very handsome in their garb of rose, pink, and white. The Belladonna Lily may be successfully flowered in a greenhouse, window, or even in the open air in warm sheltered localities.

THE VEGETABLE GARDEN.

TOMATOS.

It is extraordinary what a large consumption there is of these just now. The prices in Dublin were never known to be so high, and our friends in Jersey and the south of France, who are chiefly supplying our markets, must be making a good thing of it, or it may happen, as with other matters, that the growers are receiving much less than the middlemen. However this may be, I believe that home-growers who devote their attention to having them for market during the winter, spring, and early summer months, will be able to derive a good profit from them. I was told on a late occasion by a man who forces Grapes and Peaches for an early market, and, who in conjunction with these, forced Tomatos this year as well, that he had made more money from his Tomatos than he did from either Peaches or Grapes. He had the roof of a small house devoted to them, and had them also growing on the Vine trellis wherever there was space to be had between the Vines in the forcing vinery. It is quite evident that at the prices they are selling at there is not half a supply for the demand, and as yet few people outside the middle and upper classes of the community can pay the prices asked. If, therefore, it is the case that Tomatos will pay better than Grapes or Peaches, it is time those who grow these latter fruits for the Dublin market should consider the necessity of putting their houses in order to allow at least a portion of them to be devoted to the forcing of Tomatos instead.—*W. D.*

LETTUCES.—SUTTON'S STANDWELL AND ALL THE YEAR ROUND.

The statement at p. 804 of your last volume as to the Standwell Lettuce appearing to be identical with the white-seeded form of All the Year Round, is correct as far as it goes—*i.e.*, that there is great similarity between them, but leaves an impression that the difference exists in the name only, which is not the case. The Standwell Lettuce, while closely resembling All the Year Round in appearance, remains good nearly a month longer before going to seed—an advantage which every grower recognises the importance of. The Standwell so far deserves its name that I doubt if it would produce seed in this country. Can any reader say otherwise?—*W.*

NEW PEAS: THE ABBOT AND THE DUCHESS.

Having grown The Duchess—a variety raised and sent out by that celebrated raiser Mr. Abbot, of Doncaster—I am tempted, after reading your description of The Abbot as grown at Chiswick, to ask what difference there is between the two? Will some of your readers who have grown both be so good as to say if they are distinct or not?—*B. L.*

LOBELIAS FROM SEED.

OF all dwarf free-flowering bedding plants none are more interesting and pretty than Lobelias, which can be readily propagated either by cuttings or seed. If the latter mode be elected, the present time is a good one for amateur cultivators who cannot command artificial heat in the spring, for by sowing now a large margin of time will be effected, inasmuch as the blooming period will commence much earlier next season than would otherwise occur were the operation put off till next March. Many amateurs possess cold greenhouses, which could thus be economically used for wintering one of the prettiest and freest of dwarf subjects; and not only so, for plants so saved are superior in every way to spring-sown seedlings, being more robust in habit, and more free in the matter of bloom. With regard to the latter method of increasing one's stock, my experience is that unless the aid of artificial means can be adopted it is practically useless to attempt to raise plants from seed for bedding purposes, as the summer is necessarily over before they are ready to take their place as decorative subjects. The wet weather of the past season has militated against the Lobelia, equally with many other charming little pot or bedding plants; but we must not, therefore, lose heart, but accept the lesson as one of experience, and philosophise accordingly.

Herewith I append the results of two sets of sowing. On September 5th, 1887, pots were prepared in the usual way, and selected Lobelia seed was shaken over the soil; pieces of glass were placed on the pots to keep the conditions more uniform as regards moisture and temperature. Germination occurred a fortnight later, but the seedlings were not transplanted till March following, when they came into strong bloom under glass the beginning of June, and outdoors the latter end of the same month.

The second sowing took place on March 11th, 1888, germination succeeded on April 14th, and the plants commenced to flower on August 1st, so that comparing the two events a clear gain of nearly two months was effected in favour of autumn sowing. No artificial heat whatever was used, except a petroleum stove to just exclude frost.

The varieties grown are Speciosa, Brighton and Swanley Blue. The former is still one of the best, and needs no description; the second is a good bright dwarf blue, and the last hails from Swanley, and is a light pale blue and white variety of strong habit and free-flowering character. It is said to be a grand winter bloomer, but of this I cannot speak, as I lack the essential conditions needful to illustrate the fact. Lobelias generally are well worth the attention of small amateurs, for these, grown in pots and given an elevated position near the glass, in association with Harrison's Musk—which, by the way, has done splendidly this season—largely contribute to render the greenhouse gay and interesting.—*C. B. G., Acton, W.*

ZONAL PELARGONIUMS.

AMONG the many flowering plants in season at the present time, these deservedly retain a foremost place, and can hardly be excelled. Whether utilized for conservatory decoration or cut-flower purposes, they are very useful, and are varied in colour sufficient to please the most fastidious. By careful management a succession of plants can be obtained, thereby prolonging the flowering period, a great advantage truly, seeing that they enjoy so much popularity.

Plants now at their best will continue throwing up trusses for weeks to come, and those which are to succeed them should now be outside, plunged in ashes, or on the open ground, so that by having the full rays of the sun the plants will grow sturdy and become thoroughly ripened. Pinch out the flower stems for a short time at least, when they can be introduced into the greenhouse, allowing them to bloom at will; these will be found doubly useful at a time when bright colours are by no means plentiful. Do not pinch after being put inside, as the plants will receive a check which cannot be regained, simply because there is not sufficient sun and light to enable them to overcome the pinching process, and instead of the fine trusses expected, a few weak ones only will be the result.

Nice rich soil composed of loam, leaf-soil and manure from an old Mushroom bed will suit them admirably. Stimulants should be given when the pots have plenty of roots in them, either in a liquid or dry state. Cut back old plants in spring and insert the cuttings, which will soon root and make good plants for flowering the following summer or winter as desired.

Great are the strides which have been and are now being made in the development of the zonal Pelargonium, and the finely-formed trusses are the result of much labour, skill and patience. The varieties are so numerous that it is possible only to mention a few here, but these are good in every respect.

DOUBLES.—Guillion Mangellii, magenta; a free-flowering variety. Mrs. A. Saltby, rosy pink. Circe, maroon, good. Wonderful, the old red one, useful and free. Madame Thibaut, dark pink. La Cygne, white, pips well formed, trusses of excellent shape.

SINGLES.—Henry Jacoby, dark red; one of the best grown. International, blush, fine pips and truss.

Métis, dark scarlet, white eye. Miss Hamilton, blush. Eurydice, lilac-pink, white eye; good. Niphetos, white; an excellent one. Aspasia, white, pips somewhat rounder than the last mentioned. Rev. Atkinson, brilliant scarlet.—*F. R. S.*

THE CHISWICK TRIALS.

THE Fruit and Vegetable Committee met at Chiswick on the 21st ult., when the following crops on trial this season were inspected:—

1. *Potatos.*—Of the eighty-six varieties being grown, all, with very few exceptions, were found to have suffered severely from the disease, the early varieties more especially so. The following varieties proving to be good croppers and of fine appearance were subjected to the test of cooking, viz., Governor (Dean), Lavington Conqueror (Lye), Epicure's Delight (Smith), Vegetarian (Dean), Renown (Webb & Son), Débûtante (Ellington), Castle Morton (Collins), Nelly Blue Eyes (Dean), Basford Beauty (Howard), Bluebeard (Dean), Purple Beauty (Dean), Stirling Castle (Murdoch). None of them was considered of superior quality, being somewhat watery, a result attributable to the excessive wet season.

2. *Spring-sown Cabbages.*—A collection of forty varieties. The following were selected as the most desirable varieties to cultivate for use at this season, viz., Early Etampes (Vilmorin), Early Paris Market (Vilmorin), Leeds Market (Rutley & Silverlock), Prince's Nonpareil, Early Dwarf York.

3. *Tomatos.*—A collection of fifty-two varieties grown in pots. None of these were considered superior to sorts certificated in 1887, and now in general cultivation.

The Floral Committee met on the 24th ult., when the collections of Stocks and Asters on trial in the gardens were examined. Of the large-flowering Ten-week Stock from Messrs. Vilmorin the following colours were selected as the most distinct, and awarded three marks, viz., white, sulphur, lilac, blood-red, violet, light violet. Of the same section from Messrs. Benary, the white, dwarf white, brick-red, and light blue received three marks; also of the Dwarf German Chamois and those of the new Giant Perfection (Benary), sulphur-yellow and light blue, received three marks, and the dark blood-red from the Novelty and Specialty Seed Company.

Amongst the Asters the following received three marks. Half-dwarf: Multiflora, white; ditto, light yellow (Vilmorin); Globe Pæony-flowered, copper coloured, white edge (Vilmorin). Dwarf: Chrysanthemum, rose (Vilmorin); and ditto, scarlet-red (Vilmorin); Dwarf Queen, crimson (Benary); Dwarf Queen, white (Benary); Mignon (Benary). Pyramidal: Hedgehog or Needle, dark crimson (Benary); large-flowered rose, dark scarlet (Benary); Triumph (Novelty Company). The following assortments of various colours from Benary were commended, viz., double dwarf, early flowering, fourteen varieties; dwarf bouquet-flowered (Boltze's), eight varieties; dwarf Chrysanthemum-flowered, ten varieties; dwarf pyramidal-flowered, twelve varieties. The latter will be further examined.

FERNS FROM SPORES

ADIANTUM FARLEYENSE.

If this splendid form is not a distinct species, under what species must we class it as a variety? If it is a form of A. tenerum it should be called A. tenerum Farleyense, if a form of A. scutum it should be similarly named A. scutum Farleyense. Then why has it never had its proper characteristic name applied to it in the same way as all the varieties of the Lady or Male Fern are treated? If we saw exhibited plants of Athyrium Filix-fœmina plumosum, or any other variety of A. F-f. under the simple name of Athyrium plumosum, Fern experts would at once hold up their hands in abhorrence at such a barbarous use of the varietal name, without the specific name being applied first. Well do I remember, when under Mr. Abraham Stansfield, now of Kersal Moor, Manchester, but at that time with his esteemed father of the same name at the Vale Nursery, Todmorden, what a dressing down I should have got had I wrote a label (or tally) without the usual prefixes of A. F-f., or L. F.-mas, or B. S. for the hardy Fern.

Now in the matter of A. Farleyense, why should all the authorities (both in books and in catalogues) countenance the idea of slipping the specific name, and applying a varietal name only, thus at once misleading all young gardeners and beginners in Fern culture, without giving them an inkling of the specific name. Then again, may I ask through your columns how it is that so many varieties of Adiantums exist without anyone knowing to what really specific form they belong? [?] It would appear as if they were all species, for anything we know to the contrary, except the forms of A. Capillus-Veneris, which are readily traceable; but how many of the forms now under cultivation might be termed mere varieties of A. cuneatum, which, there is no doubt, is the parent of many of the new sorts that are being sent out at the present day.—*Nimrod.* [At Kew the plant has been labelled Adiantum tenerum Farleyense for several years past, and it is so named by Mr. Nicholson in the lately-issued *Dictionary of Gardening.* Our correspondent should remember that both gardeners and nurserymen are very conservative in the matter of names, and that when a popular garden plant does get sent out under an incorrect name, it is almost an impossibility to suppress it. Numbers of instances of this kind could be cited. —ED.]

GARDENING MISCELLANY.

Cannas as Decorative Plants.

MESSRS. H. CANNELL & SONS have for some time been collecting the finest dwarf varieties of Cannas, with a view to growing them mainly for autumn and mid-winter blooming, when they prove most valuable, as anyone may see by inspecting the fine collection at Swanley. At the meeting of the Royal Horticultural Society on Tuesday last they exhibited a number of exceedingly pretty forms, and received First Class Certificates for the following: *Capricieuse.*—The foliage of this variety is of a deep green colour, and comparatively small or medium size. The flowers are also moderate in dimensions, but of a brilliant scarlet, with a narrow yellow margin to each segment. *Admiral Courbet.*—For sub-tropical gardening this variety would be very ornamental, on account of the great length and breadth of the leaves, which may not inaptly be compared with those of a Musa. The flowers are yellow, splashed and spotted with red. *Madame Just.*—This also has ample deep glaucous green foliage. The three segments of the flower corresponding to the petals are broad and-orange yellow, while three inner ones, consisting of petaloid stamens, are narrower and scarlet. *Francisque Morel.*—The leaves in this instance are similar to those of the last, and would doubtless prove useful for outdoor or sub-tropical gardening purposes. The flowers are larger than any of the above mentioned perhaps, with broad crimson-scarlet segments. The latter was also exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

Adiantum versaillense.

UNDER this name Mr. B. S. Williams exhibited, at the meeting of the Royal Horticultural Society on Tuesday last, a large plant of a variety of A. Capillus-Veneris, which forms a close compact bush, every frond of which consists of a terminal mass or tuft of branches and wedge-shaped, overlapping pinnules, while the lower portion of the stalk is quite naked. The pinnules are small, and the whole is of a graceful and ornamental character. It was deservedly awarded a First Class Certificate.

Gaillardias as Bedding Plants.

THE showy Gaillardias are not so often seen bedded in masses in the flower garden as their decorative merits warrant, being more frequently relegated to the mixed border, where, of course, they are not out of place, but do not give the same bold effect as when planted *en masse.* One of the dwarfest and most suitable bedding varieties was shown with others at the meeting of the R. H. S. on Tuesday, by Messrs. Kelway & Son, under the dreadful name, for garden purposes, of G. splendidissima plenissima. As a variety it is certainly distinct and showy, all the florets being shortly tubular at the base, and the central ones most decidedly so. They are also intermediate between the tubular and the strap-shaped type, of a deep crimson-red with yellow tips. It was awarded a First Class Certificate.

Campanula isophylla alba.

OF the several pretty trailing Campanulas which are so largely grown in windows, few are more popular—judging by the extent to which it is cultivated—than C. isophylla, of which Mr. T. S. Ware, of Tottenham, has now a white form that is destined to meet with as much or more favour. The pure white nearly flat flowers are produced in great abundance on stems that sometimes attain a considerable length and become pendent over the sides of the pot or basket in which they are grown. The lower leaves are ovate, and the stem leaves lance shaped. For window or conservatory work it is invaluable. Mr. Ware exhibited a good plant of it at the meeting of the Royal Horticultural Society, on Tuesday, and received a First Class Certificate for it.

Delphinuim Horus.

AT the last two or three meetings of the Royal Horticultural Society Messrs. Kelway & Son have exhibited a number of exceedingly fine Delphiniums, some of which have already been noticed in these columns. On Tuesday last, among others, they had the above named beautiful variety, the flowers of which are of a rich, intense blue and semi-double, while the centre is filled up with small white petals. The spike shown was of moderate length, closely but not densely packed with flowers of large size, a feature much in its favour. It was awarded a First Class Certificate.

An Effective Flower Bed

HAVING this season to fill a large bed, more with a view to preserving stock than to securing any particular object as regards decoration—I planted it as follows:—The centre is filled with Pentstemons of various colours, with a few plants of Salvia patens dotted in among them. Then comes a broad band of Ageratum Lady Jane, and outside of all a wider one of Viola lutea grandiflora. Neither the Pentstemons nor Salvias are staked, and look better for being without them. The combination proves to be most pleasing—much more so indeed than I had any idea of realising when the bed was planted.—*Con.*

New Tuberous Begonias.

AT the meeting of the R. H. S., on Tuesday, Messrs. H. Cannell & Sons exhibited numerous plants of their dwarf strain of Begonias, and received First Class Certificates for the following: *Mrs. Lynch.*—The dwarf habit of the plant (being only about 6 ins. high), and the large, fully double flowers are first-class qualities. The petals are of a delicate pink, fading almost to blush as they become fully expanded; they are also broad, beautifully crisped at the margin, and arranged in several rosettes. *Mrs. Lascelles.*—The blooms in this case, measuring about 4½ ins. or 5 ins. in diameter, are just as large as we should like to see them. They are of a fine rosy pink however, and the petals are arranged in numerous rosettes. The centre is white at first, but becomes darker like the rest when fully expanded. *The Lady.*—This is a pure white variety, with yellow stamens, the flowers being produced on stiff erect stems raised well above the foliage. The latter is ample, and confined to within 3 ins. of the surface of the pot, but being a seedling it will no doubt grow taller next season.

The Botanical Syllabus of the Science and Art Department.

CONSIDERABLE changes have been made this year in the above syllabus, just issued by the South Kensington authorities. The preliminary subjects of morphology, histology, and physiology have been rearranged, and a new clause added, directing attention to the influence of light and heat on the various functions of plants. This latter clause will be practicably an instructive and useful addition for students who are in any way connected with gardening. The principal change has occurred in the list of natural orders that are required to be studied for a pass in the first or elementary stage, and the students of that stage form the majority of those who go up for examination. Up to the May examination of 1887 the following was the list:—Ranunculaceæ, Cruciferæ, Caryophyllaceæ, Leguminosæ, Rosaceæ, Umbelliferæ, Compositæ, Scrophulariaceæ, Labiatæ, Chenopodiaceæ, Cupuliferæ, Orchidaceæ, Lilaceæ, Cyperaceæ, and Gramineæ. This year Chenopodiaceæ, Orchidaceæ, and Gramineæ have been struck out of the list, and three other natural orders added in their stead. From a horticultural point of view, the change is interesting. The natural order Primulaceæ takes the place of one of the discarded families, and containing, as it does, some of the most useful and popular garden plants, is thus given a prominence that its wide range of subjects entitles it to. The inclusion of Boraginaceæ in the

syllabus will direct the attention of students to another useful class of plants, such as the Lungworts, Comfreys, Forget-me-nots, Echiums, and Gromwells (Lithospermum). In the Monocotyledons, Amaryllidaceæ has replaced the Orchid family. The former natural order is an important group of plants to horticulture, amongst its chief genera being Galanthus, Leucojum, Narcissus, Amaryllis, Clivia, Agave, and Hæmanthus. There will be no danger of the Orchidaceæ being neglected, because in the second stage students will still be required to know the character of that curious and popular family. The changes in the syllabus are certainly an improvement, and should encourage intending students. Gramineæ has long been a stumbling-block for students in the first stage, the dissection of such grasses as are in bloom early in the spring being a matter of difficulty for students of that stage to successfully accomplish.—*John W. Odell.*

ORCHID NOTES AND GLEANINGS.

Freak of Cattleya crispa.

From Mr. R. C. Kingston, gardener to Christopher Sykes, Esq., M.P., Brantingham Thorpe, East Yorkshire, comes a very fine form of Cattleya crispa, with a velvety crimson lip freely reticulated with veins of a darker colour, and which are rendered the more conspicuous towards the margin and apex by the paler almost white groundwork of those portions. The white portion is carried all around the margin, which is beautifully crisped. The rest of the flower was white, with the exception of a blush tint, especially towards the base, and one of the lateral sepals, which was abnormal. That half next the lip was coloured exactly like the latter organ, the basal portion having longitudinal deep purple and parallel lines, such as occur in the throat of the lip, while the upper part was dilated, crisped all along that side, and of a rich crimson, with forked and reticulating veins on a white ground towards the margin as in the lip. The occurrence is all the more singular, seeing that the lip is normal in shape and size. From whence then this extra portion?

New or rare Orchids Certificated.

From among the few Orchids shown at the meeting of the Floral Committee, on Tuesday, the following were selected for the award of certificates: Odontoglossum Karwinski, which in general structure resembles Miltonia Clowesii; but is quite different, producing its flowers on a branched stem 4 ft. in length, and having the chestnut-brown sepals and petals transversely barred with yellow. The lower portion of the lip is violet, and the upper portion broad and rose-coloured (Exhibited by Mr. Robbins, gardener to W. Vanner, Esq., Camden Wood, Chislehurst). Disa lacera, a very interesting species, with the flowers produced in a lax raceme on the top of stems about 18 ins. or 20 ins. in height. The flowers are small compared with most species in cultivation. The sepals are blue, the upper one being spurred and hooded after the manner of an Aconite. The lip is proportionately large and more conspicuous than in most species, lacerated or torn at the margin, as the specific name implies, and suffused with blue and purple. Botanical Certificate (Exhibited by Mr. G. W. Cummins, gardener to A. H. Smee, Esq., The Grange, Hackbridge). Trichocentrum Ella, an American Vandaceous Orchid, with oblong, fleshy, solitary leaves springing from very small pseudo-bulbs, and bearing a solitary flower on each peduncle. The sepals and petals are broad and white, spotted with rose. The lip, which is spurred, is adnate to the column, forming a cup, and has a large golden yellow blotch on the base. The short column has purple wings. Botanical Certificate (Exhibited by Mr. G. T. White, Winchmore Hill).

Cattleya Dowiana aurea.

This, the only known variety of this magnificent Cattleya, is a stronger-growing plant than the type, and comes from a different part of the country, namely, near Frontino in the State of Antioquia, whereas the specific form is a native of Costa Rica. The sepals and petals are of a nankeen-yellow, while the lip is of the richest crimson-purple with a velvety appearance, and is characterised by the more numerous and broader orange lines and reticulations on the lower part of the lamina and throat. It is now flowering in several collections. Some authorities classify it as a variety of C. labiata, from the numerous forms of which it differs markedly in colour. The lip of C. Percivaliana, however, shows some approach to it.

Odontoglossum Oerstedi majus.

The variety to which this name is given can be distinguished from the typical form, whether in flower or not, by the dark green colour of both pseudo-bulbs and leaves, whereas those of the type are uniformly of a light green colour with smaller flowers. The sepals and petals of the variety in question are pure white at first, but ultimately change to a dusky colour before they fade. The lip seems to retain its purity to the last, and is furnished with a characteristic orange blotch on the crest. Both forms may be seen in Messrs. John Laing & Sons' Nursery at Forest Hill.

Figures on Odontoglossum crispum.

A spike of this Orchid has been sent us by Mr. David Wilson, Westmount Gardens, Kelvinside, Glasgow, bearing some curious markings on the labellum. With the exception of the markings on that organ, the flowers were white, tinted externally with rose. We give an illustration of one of the flowers, bearing the figure of a lady dressed in the modern style, even (dare we say it?) to the dress improver, which will be readily recognised. What economy such figures serve in the life history of the Orchid does not appear; but we are more inclined to consider that they are the result of accident rather than that they should take any definite shape for a purpose. The mimicry, if such we may call it, owes its importance more to the imaginative brain of man than to any real good it may serve the plant.

Odontoglossum crispum.

The Gardeners' Calendar.

THE STOVE.

Shading.—As a rule, shading is superfluous after this time of the year, and the present season is no exception, seeing that we enjoy very little bright sunshine. All the light and exposure possible will now be needed to thoroughly harden and ripen the young wood. Where there are roller-blinds they need not be immediately taken away, but retained rather in case of any sudden burst of sunshine, which is liable to do a considerable amount of injury after a dull sunless time. Where a shading of paint or whitewash has been used, it may now be dispensed with, and any plants that might be liable to suffer from exposure to sunshine removed to another house, where the danger could be obviated.

Climbers.—For cut-flower purposes the Allamandas and Dipladenias are very useful, and may be expected to yield a large return for some time to come, but in order to ripen the wood and keep them healthy and robust, they should receive all the light possible. In fact, other conditions being equal, A. Schottii should not be shaded at any time of the year, as many thousands of blooms were obtained from a single plant last year, and no shading had been used even in the hottest weather. Clerodendrons that are trained to the roof and have now finished flowering may be cut back. Later-flowering kinds will yield a supply for some time yet.

THE GREENHOUSE.

Celosias.—The show-house or conservatory may be rendered gay for many weeks to come by the use of the various species and varieties now in cultivation, the names of which it is unnecessary to add. Of course, under this heading is included all the varieties of Cockscomb, the dwarf strains of which, such as Tom Thumb, are specially to be recommended. When the pots have become filled with roots after the final shift give weak liquid manure about twice a week, but do not over-water them at any time. Early-flowering Chrysanthemums that have been grown out of doors may now be lifted and potted up if it has not already been done, and those in flower may be taken at once to the conservatory. Campanula pyramidalis and its variety alba are also very serviceable at this season. Fuchsias will furnish a great quantity of bloom for some time to come.

Winter-flowering Pelargoniums, &c.—The plants that have been grown on for this purpose may now be housed in a suitable structure where ample ventilation can be given. They should also be encouraged to grow by keeping them rather warmer than the outdoor temperature. Salvias, Begonias, Bouvardias, and Carnations may be put indoors also to hasten the flowering period.

THE FRUIT HOUSES.

Peaches.—Those trees intended for starting towards the end of November should now be preparing to go to rest for a month or two, and if they have been thoroughly ventilated, either by the removal of the sashes or by keeping them wide open, the leaves will soon show signs of falling. They should not be starved, however, for want of water, and if necessary apply a little fire-heat to hasten the ripening process. Any trees that require lifting should have the operation performed during the early part of this month before the leaves have fallen.

Vines.—In order to induce pot Vines intended for starting early to go to rest, have the laterals removed, and the Vines taken out of doors, placing them under the shelter of a south wall. Cover the pots with Fern litter or some similar material, to prevent their roots from getting dried up. Indoor Vines should also have the laterals removed, preserving the large leaves, however, in the axils of which the fruiting buds of next year are seated. The latter will derive great advantage from the proximity of such, and plump up considerably.

THE KITCHEN GARDEN.

Cabbages.—The main crop of these for early spring use should be planted as soon as possible on rich well-manured land, as all plants of this class are gross

feeders, and repay liberal treatment by their superior quality. The breaks from which Onions have been cleared, and the ground deeply trenched, are suitable for Cabbages, and in the event of the former being late, as they seem everywhere this year, the latter may be planted after Peas or Potatos. The larger growing kinds should be planted about 2 ft. apart each way, while the smaller ones, such as Ellam's Early and Wheeler's Imperial, may be planted at 18 ins. apart.

LETTUCE AND ENDIVE.—Make large plantations of these in warm borders and under south and west walls from sowings that were made about the end of July. For the smaller-growing kinds 1 ft. apart will be sufficient, but the larger-growing kinds will require about 15 ins. between the plants in the row.

HORTICULTURAL SOCIETIES.

Royal Horticultural.

August 28th.

HARDY herbaceous plants were most prominent at the meeting on Tuesday last, but stove and greenhouse plants and florists' flowers were well represented. The collections of fruit were not so numerous or so large as on the last occasion, but were sufficient to show that Plums are now in season. A Silver Banksian Medal was awarded to Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, for a large and exceedingly attractive group of stove and greenhouse plants, including a large number of good Orchids. Delphiniums, Gaillardias and Gladioli were extensively exhibited by Messrs. Kelway & Son, Langport, Somerset, and a Silver Banksian Medal was awarded them. A Bronze Banksian Medal was awarded to Mr. T. S. Ware for a large group of cut flowers of hardy herbaceous plants and Dahlias. A Bronze Banksian Medal was also awarded to Messrs. J. Cheal & Sons, Crawley, Sussex, for an exceedingly showy collection of single and Cactus Dahlias. A beautiful group of tuberous Begonias was shown by Messrs. H. Cannell & Sons, Swanley, Kent, for which a Bronze Banksian Medal was awarded. A number of them were certificated, but Rising Sun seemed quite entitled to that distinction on account of its brilliant orange hue with a paler centre. They also exhibited a group of Cannas, some of which were certificated. A collection of cut blooms of orange and lemon African Marigolds, measuring 4 ins. or 5 ins. in diameter, and Veitch's strain of striped French Marigolds, were shown by Messrs. J. Veitch & Sons, Chelsea; and a large group of China Asters, lifted from the open ground and potted up, were exhibited from the Royal Horticultural Society's gardens at Chiswick.

A vote of thanks was awarded to A. le Doux, Esq. (Mr. W. Rhymes, gardener), Langdon House, East Moulsey, for a fine plant of Cattleya Loddigesii, le Doux's variety. A fine specimen of the white-flowered, sweet-scented Funkia grandiflora, grown in a pot, was shown by W. Roupell, Esq., Harvey Lodge, Roupell Park. He also showed some fine plants of Lobelia splendens Victoriæ, also in pots, but grown in the open air. Cut blooms of Hollyhocks were shown by Messrs. F. T. Smith & Co., Martell Road, West Dulwich.

At the meeting of the Fruit Committee, Messrs. J. Veitch & Sons, Chelsea, exhibited a large group of fruit, chiefly Plums, including the Peach Plum and Prince of Wales, reddish purple; Early Golden Drop, St. Etienne and Denniston's Superb, yellow; The Czar and Rivers' Early Prolific, purple; Early Orleans and Blue Gage. They had also fine specimens of Lord Suffield Apple, Sea Eagle Peach, Morello, Tradescant's Heart, and St. Margaret Cherries, Alpine Strawberries, and Quatre Saison, a white variety, and a new Melon named Standard. A collection of Plums was also brought up from the Royal Horticultural Society's gardens at Chiswick, including Damas de Mangeron, Mameloneé, Blue Gage, Victoria, and Gisborne's Early Yellow. An interesting lot of small sweet-flavoured Grapes was exhibited by W. Roupell, Esq., consisting of the Strawberry Grape, Niagara, a white highly fragrant variety, Purple Constantia, Grizzly Frontignan, and Primavis Frontignan. He also showed some beautiful samples of Duke of Buccleuch, which had been grown in an 11-in. pot. A seedling Melon was shown by Mr. G. Boston, The Gardens, Combe Park, Reading; and Whillan's Excelsior Melon by Mr. Whillans, The Gardens, Blenheim Place, Woodstock. A seedling Apple was staged by Mr. J. H. Lynn, Wisbech; and Messrs. Harrison & Sons, Leicester, exhibited plants of the Green Emperor Bean, a very prolific variety.

Trowbridge Horticultural and Floral.

THIS very popular floral festival took place on August 22nd in a field close to the railway station, in the finest of weather, and as usual it attracted a large company. There is one especial feature about the Trowbridge Show: the townspeople take it up with great spirit, and the town is prettily decorated. The Flower Show Committee gave a sum of five pounds towards the embellishment of the town, and it appears to be money well spent. Triumphal arches are thrown across the roadway at various points, and even the hotels dress up for the occasion. Under the directions of the station-master, Mr. J. A. Cox, the railway station is always decorated in a very gay manner, and on this occasion it appeared to look smarter than ever. Fine weather brought in a very large concourse of people, and every one appeared to be in the highest possible spirit.

A lot of fine plants, including Fuchsias of unusual excellence, are always staged at Trowbridge. But good as are the materials, no good effect is secured owing to the absence of anything like effective arrangement. The method adopted has been in force for years, and so wedded are the committee to their old ways that I fear they will go on in this manner until the end of time. Fancy having all the biggest plants put at the end of the tent, and the smallest in the middle! But so it is. I should like to have the arrangement of the tent for once, just to see what can be done in another and better direction.

Fuchsias are always such a leading feature at Trowbridge that I give them a foremost position in this report. The best half-dozen specimens came from Mr. G. Tucker, gardener to Major W. B. Clark, Trowbridge, who had, of dark varieties, Charming, the Hon. Mrs. Hay, Doel's Favourite, and Thomas King; and of light varieties, Harriet Lye and Arabella. Mr. H. Pocock, gardener to J. P. Haden, Esq., Trowbridge, came second. Mr. Matthews, gardener to W. R. Brown, Esq., Trowbridge, had the best four plants, staging the Hon. Mrs. Hay, Bountiful, Rose of Castille, and a seedling. Mr. Tucker came in a good second with Charming, Thomas King, Bountiful, and Mrs. Rundle. Some very well-grown and flowered Fuchsias were shown by amateurs and cottagers; but the large plants lacked their usual finish owing to the sunless and cold character of the season.

Of stove and greenhouse plants there were several collections, shown in classes for nine, six, and three plants. The principal exhibitors were Mr. G. Tucker, Mr. J. Matthews, Mr. Richman, gardener to C. L. Palmer, Esq., Trowbridge; Mr. Currey, gardener to Col. Pepper, Salisbury; and Mr. J. F. Mould, nurseryman, Devizes. The best specimen plant was a capital piece of Stephanotis floribunda from Mr. J. Hiscocks, gardener to E. B. Rodway, Esq., Trowbridge. Mr. J. F. Mould came second with Allamanda nobilis. The best new plant was Anthurium Van Houttei, Impatiens Hawkeri being placed second. Heaths were in fairly good form, shown by Mr. J. F. Mould. Begonias, both single and double, were in good condition, Mr. G. L. Palmer being first with six well-grown and bloomed plants in each class; Captain Tucker, Trowbridge, also exhibited well. Gloxinias and Achimenes were pretty good; some very nice plants of the former were shown by Mr. G. L. Palmer. Mr. G. Pynner, gardener to – Goldsmith, Esq., Trowbridge, had the best four specimens of Orchids, having Cattleya Loddigesii, C. Eldorado, Odontoglossum citrosmum, and Cypripedium Stonei. Zonal Pelargoniums, Petunias, and Verbenas made good features. Petunias are grown trained to wire shield-like sloping trellises, and they thus present to view a rather formal mass of flowers of fine quality. Verbenas are similarly trained; but neither are done so well as they were a few years ago when there was a much brisker competition among growers.

Foliage plants were somewhat past their best; they had been exhibited a good deal and had got stale. Mr. J. Currey had the best nine; Mr. W. C. Drummond, nurseryman, Bath, was second. Coleus were a very good feature, especially some finely-grown and coloured plants staged by Mr. J. Matthews. Caladiums were of medium quality, Mr. Matthews having the best half-dozen in this class also. Ferns always make a good display, as they are shown in groups of fifteen and include Lycopods also. Mr. Tucker had the best lot; Mr. J. Coke, gardener to A. P. Stancourt, Esq., Trowbridge, and Mr. H. Pocock receiving equal second prizes.

Cut flowers: among these Dahlias and Roses always take high places. Messrs. Keynes, Williams & Co., of Salisbury, were first, with twenty-four show varieties—twelve fancies and twelve bunches of Pompon varieties; Mr. G. Humphreys, nurseryman, Chippenham, was a good second in all three classes. Some very pretty single Dahlias were shown by Mr. A. A. Walters and Messrs. George Cooling & Sons, both nurserymen, of Bath. A very good collection of Cactus Dahlias was shown by Mr. G. Humphries.

Roses were numerous and very good, and especially so the Tea-scented varieties, in the different stands. Mr. J. Mattock, nurseryman, Oxford, took the first prize, with twelve varieties, three blooms of each; Messrs. Keynes, Williams & Co. being second. In the class for twenty-four varieties, single blooms, Dr. Budd, of Bath, was first, with a very fine lot; and Messrs. Keynes, Williams & Co. were second. In the amateurs' division, Dr. Budd was first in two classes for twelve varieties; Mr. Thomas Hobbs, of Bristol, being second. Of the Tea-scented varieties, the following were in good form: Marie van Houtte, Madame Lambard, Rubens, Catherine Mermet, The Bride, Comtesse de Nadaillac, Mrs. John Laing and Innocenta Pirola. The leading H.P.'s were Ulrich Brunner, Lady Sheffield, Dupuy Jamain, Beauty of Waltham, Marshal P. Wilder, Marie Baumann, Fisher Holmes, &c.

Fruit was scarcely up to the usual mark—and it is generally a high one at Trowbridge. But every show I have attended during the month of August betrayed this failing. The only exhibitor of ten dishes was Mr. A. Miller, gardener to W. H. Long, Esq., M.P., Rood Aston, Trowbridge, had a very good lot, consisting of Alicante and Foster's Seedling Grapes, Barrington and Noblesse Peaches, Violette Hâtive and Stanwick Elruge Nectarines, Moorpark Apricots, &c. Mr. W. Iggulden, gardener to the Earl of Cork, Marston, Frome, had the best six dishes, having Black Hamburgh and Foster's Seedling Grapes, Grosse Mignonne Peaches, Pine Apple Nectarine, Moorpark Apricot, and Melon. Mr. George Pymm was second. The best black Grapes were Black Hamburgh and Madresfield Court; the best white—Muscat of Alexandria and Buckland Sweetwater. The best Peaches were Royal George and Grosse Mignonne; the best Nectarines, Pine Apple and Elruge; the best dessert Apple, Beauty of Bath; the best culinary Apple, Lord Suffield; the best dessert Pear, Doyenné d'Eté. Apricots, Cherries (principally Morellos), Pine Apples, and Filberts were also shown.

It would take several columns of THE GARDENING WORLD to do justice to the show of vegetables: they were superb, and as numerous as they were fine. What a season of vegetables this has proved?—*R. D.*

Basingstoke Horticultural.

THIS flourishing society held its annual exhibition on the 23rd ult., and taken as a whole it marked a satisfactory advance on its predecessors. As a rule, competition runs high at Basingstoke, the gardeners in the district all doing their best to make the show a good one. The society is also fortunate in its committee, which is composed of practical gardeners and enthusiastic amateurs, and in being well supported by the leading inhabitants of the district. The cold and backward season does not seem to have had much effect on the vegetable growers of the neighbourhood, for it is seldom that better produce is seen than was staged on this occasion.

In the open class for twelve dishes, the awards fell to Mr. W. H. Lye of Kingsmill, Mr. Knellor of Malshanger, and Mr. Bowerman of Hackwood Park, all of whom showed in rare form. The leading samples were of Veitch's Autumn Giant Cauliflower, Perfection and Hackwood Prolific Tomatos, Model Cucumbers, Turnips, Duke of Albany Peas, Rousham Park Onions, White Gem and Major Clark's Solid Red Celery, large and well blanched, and Chancellor Potatos, very fine. There was a spirited competition for the prizes offered by Messrs. Sutton & Sons, and specially deserving of mention were the samples shown of the Duke of Albany Pea, Sutton's Early Gem, and Improved Intermediate Carrots, Ne Plus Ultra Runner Beans, and Prime Minister Potatos. Tomatos and other specialities sent out by Messrs. Webb & Sons were well represented in the competition initiated by that firm. In the single dish classes the Onions especially deserve commendation, and in particular the extra fine samples from Mr. Knellor. Potatos too were well shown, clean and good samples being staged especially of The Dean, Prime Minister, Sutton's Seedling, Satisfaction, Schoolmaster, Edgcote Purple, International, and Beauty of Hebron.

The display of fruit was below the usual standard, and it seems to be general this season. There was a good class of Black Hamburghs; and in other com-

petitions Gros Colmar beat Alicante, and Buckland's Sweetwater was of superior merit to Foster's Seedling, but the Muscats were generally deficient in colour. There were a few good dishes of Peaches and Nectarines, and a good sample of Apricots, but Apples and Pears were very poor—small and deficient in colour. The Melons were good, Blenheim Orange taking the lead.

In the cut-flower department there were some fine Dahlias from Hackwood Park, but the Roses were poor generally — the high-coloured ones being the best. Herbaceous stuff generally came out well, but the display of wild flowers was much inferior to what is seen at some local shows. Stove and greenhouse plants are usually well shown here, but they were better than ever on this occasion, and the competition more keen, as Mr. Mould, of Pewsey, put in an appearance. Though making a specialty of this class of plants, he was beaten by Mr. Bowerman, who, besides being a high-class fruit and vegetable grower, can hold his own in the plant department. Zonal Pelargoniums were well shown, and the Begonias were large, but some of the chief attractions were the Fuchsias exhibited by Mr. Russell, gardener to — Bradshaw, Esq., Audley Wood. Some of them were grown 7 ft. to 8 ft. high, 5 ft. in diameter, and covered with blossoms. I have never seen anything like them away from the West of England. The groups of plants, too, were a very good feature—indeed, I have never seen better at the London shows. The first prize was again taken by Mr. Weaver, gardener at Oakley Hall, near Basingstoke, who excelled his previous efforts in this direction; and a very good second was Mr. Dauncey, of Buckfield. Single specimen plants also claim a word for their good quality, the leading specimen being one of Eucharis amazonica in a No. 3 size pot, with over 200 flowers and buds.

The amateurs' tent was most satisfactorily filled with flowers and vegetables of all kinds, and in the miscellaneous class Messrs. Sutton & Sons contributed a large and most tastefully arranged group of cut flowers, also a strain of netted Gloxinias, crimson and purple grounds, veined with white, to which the judges awarded a Certificate of Merit. Some beautiful Carnations and Roses were also shown by Mr. Munday. —*Con.*

NOTICES TO CORRESPONDENTS.

Special attention is paid in the columns of The Gardening World to the answering of questions on all subjects connected with practical horticulture, and the naming of Plants (other than Florists' Flowers) and Fruits, in which department the Editor is assisted by gardeners and specialists of great experience.

It is particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

When sending Flowers or Fruits for identification it is requested that not more than six be sent at one time, that the specimens be good ones, and all legibly numbered.

To save time, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.

QUESTIONS AND ANSWERS.

Books.—*Dianthus:* The best is "The Carnation and Picotee, their History, Properties, and Management," by Mr. Dodwell, Stanley Road, Oxford. Price, 2*s.* 6*d.*

Drying Flowers.—*Pansy:* There is no royal road or simple directions that may be given, and which will apply to all kinds of flowers alike, as the individual properties of different kinds are so diverse; furthermore, you must gain by experience what you can never accomplish from mere instruction. As a rule yellow, red, scarlet, crimson and blue flowers dry readily, and preserve their natural colours, with less brilliancy, however, as might be expected. White is apt to become discoloured, and blue as well, especially if they are at all fleshy, because such flowers part very slowly with their moisture, and, therefore, lose colour during the long drying process. We should advise you to commence with some of the common flowers and press them between layers of soft, bibulous paper that will readily absorb moisture from them. Change the paper once a day, or even oftener, and dry that which has been moistened by the flowers. Avoid sweating them if possible, which will occur when heavy pressure is used and the papers have been neglected for more than twenty-four hours. Keep them in a dry, airy place, or even use artificial heat to expel the moisture as soon as possible, as much depends upon the quickness of the operation as to whether the colours are retained or not.

Garnishing Vegetables.—*Brun:* We have never heard any objection raised to the practice of garnishing vegetables with Parsley for exhibition. On the contrary, it has been practised for years by many of the leading exhibitors, and should be encouraged by show managers, with a view to making the vegetables look more attractive.

Gooseberries.—*C. H.:* We are sorry we cannot oblige you with the names. The only means we have of identifying such things is by comparing them with the sorts grown in good nursery collections. All the fruits have been gathered in the south.

Packing Flowers.—*A. Patey:* There is nothing better than tin boxes for small quantities to be sent through the post, first because they are not liable to be smashed in transit, and secondly because they retain the moisture and prevent withering. Card-boxes are good enough for the latter purpose, but should be furnished with a flap at one end, to which the postage stamps should be attached so that the box may not be smashed by the post office officials in the stamping process. Never cut flowers during the heat of the day, but in the morning and evening, preferably the former. Place the stalks for some hours in water previous to placing them in the box; by so doing the tissues become filled with moisture, so that the flowers will remain quite fresh for some days, more or less, of course, according to the kind. Use no larger boxes than the flowers themselves will occupy, but should the space not be full lay on some clean damp moss, sufficiently firm to retain the flowers in their places without shifting. This is the object to be attained in all cases, as nothing is more damaging to flowers than allowing them to roll about in the box. Finish off with a sheet of tissue paper next the lid. It is a favourite plan with many to use cotton wool for packing, but it is a great absorbent of moisture, and should always be wet when used at the bottom of a box.

Papaver Danebrog.—*T. Henderson:* The Danebrog Poppy is merely a variety or race of the Opium Poppy (Papaver somniferum), with a large white blotch on the base of each of the four petals. Many of the varieties and races or types have been extremely common in the gardens of this country from a remote period, and are, therefore, perfectly hardy. The treatment suitable in the one case is also suitable for the other, that is, they may be sown in April in the places where they are intended to flower.

Seedling Carnation.—*T. B.:* Your Carnation belongs to a type of yellow-ground flowers that are rapidly growing into popularity, and it should be grown on for further trial. The batch of Kilmurrey Seedlings in Mr. Dodwell's garden includes many finer varieties of a similar character, but better cultivation should be given yours before it is discarded.

Soil Round Oak Stems.—*Omega:* Three feet of soil, if merely heaped round the base of the trunk would not be likely to injure Oak trees; but should the same depth be spread over the ground, covering the roots to that extent, it would no doubt tell badly against them in a few years, by excluding the roots from air and the warmth-giving power of the sun. This would show itself in the more feeble growth of the branches made from year to year, and at no distant date might even kill the trees. If you value the trees at all, you should avoid placing the roots at a disadvantage by burying them at an unnatural depth.

System of Botany.—*Omega:* The founder of the present system of botany was Jussieu. The Linnæan system was long ago discarded, because, although it was easy and served its day when the structure and natural classification of plants was less known, it is of no use at the present day, because almost entirely artificial, and in its study gives no clue to the natural affinities of plants. By the Linnæan system, such things as Grasses, Salvias, Veronicas, Monardas, Calceolarias and other subjects belonging to the most diverse orders were classed under one and the same group or class, while the rules for diagnosing the natural orders were equally ridiculous. To return to the Linnæan system now would be to make a retrograde movement in the science.

Names of Plants.—*J. W. A.:* Aloysia citriodora, commonly called the Lemon-scented Verbena. *C. T. G. F.:* Calamintha Nepeta, The Lesser Calamint. *H W.:* Veratrum nigrum. *Omega:* 1, Antennaria margaritacea, Pearl Cat's-ear; 2, Galega officinalis, Goat's Rue. *W. Martin:* 7, Gasteria verrucosa (fruit next week). *L. G. Herne:* 1, Origanum vulgare; 2, Chrysanthemum carinatum; 3, Aconitum Lycoctonum; 4, Abronia arenaria; 5, Verbena venosa; 6, Veronica spicata.

Communications Received.—D. C.—W. M. H.—G. T. M.—J. C.—J. L. & S.—W. G.—W. S.—J. R. P. & S. (many thanks)—M. M. (next week)—Historicus.—W. N.—Caledonian.—W. W.—T. S. W.—S. B.—D. & L.

TRADE CATALOGUES RECEIVED.

E. Webb & Sons, Wordsley, Stourbridge.—Bulb Catalogue for 1888.

James Carter & Co., 237, 238, High Holborn, W.C.—Choice Dutch and other Bulbous Roots, &c.

W. Baylor Hartland, 24, Patrick Street, Cork.—"Original" Little Book of Daffodils, Cowslips, Oxlips, Hellebores and Primroses.

Thomas Frost & Son, Borough and Ling Nurseries, Maidstone.—Selected Dutch and other Flower Roots.

Jarman & Co., Chard, Somerset.—Bulbs and Seeds, Roses, Plants, Trees, &c.

LONDON SEED TRADE.

August 29th.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a brisk trade for Trifolium incarnatum at unchanged rates. New Winter Tares and Rye meet a moderate inquiry. Owing to unfavourable reports as to the crops of Red Clover in Germany, this article has advanced in value considerably. White Alsyke and Trefoil are firmly held. Bird Seeds unchanged.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending Aug. 24th was 29·67 in.; the highest reading was 30·10 in. at the beginning of the week, and the lowest was 29·43 in. on Friday evening. The mean temperature of the air was 60·0°, and 1·3° below the average in the corresponding weeks of the twenty years ending 1868. The mean showed was below the average during the first five, and showed an excess on each of last two days of the week. The general direction of the wind was S.W., and the horizontal movement of the air averaged 9·1 miles per hour, which was 0·4 miles below the average in the corresponding weeks of sixteen years. Rain fell on five days of the week, to the aggregate amount of 0·81 in. The duration of registered bright sunshine in the week was 29·2 hours, against 37·6 hours at Glynde Place, Lewes.

COVENT GARDEN MARKET.

August 30th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½-sieve	2 0	4 6	Pine-apples, St. Michaels, each	2 0	5 0
Filberts, per 100 lbs.	75 0		Pine-apples, Eng., lb.	2 0	3 0
Grapes ....per lb.	1 0	2 6	Plums, ½-sieve	3 6	5 0
Melons	1 0	3 0	Peaches....per doz.	2 0	8 0

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 6		Lettuces ..per dozen	2 0	3 0
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	0 9	1 3
Cabbages.... per doz.	1 6		Onions, per bushel	7 0	9 0
Carrots, New, per bun.	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	3 0	4 0	Radishes, per dozen	1 6	
Celery, per bundle	2 0		Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	0 9	
Herbs, per bunch	0 2	0 4	Turnips, per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys. 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Asters .....per doz.	3 0	6 0	Ficus elastica each	1 6	7 0
Balsams ....per doz.	2 0	4 0	Fuchsia, per doz.	3 0	6 0
Calceolaria ..per doz.	3 0	6 0	Heliotrope ..per doz.	3 0	6 0
Chrysanthemums, per dozen	4 0	9 0	Hydrangea, per doz.	9 0	18 0
Cockscomb, per dozen	2 6	4 0	Liliums, var., doz.	18 0	30 0
Coleus .....per doz.	2 0	4 0	Marguerites per doz.	6 0	12 0
Crassula....per doz.	9 0	12 0	Mignonette ..per doz.	3 0	6 0
Cyperus, ..per dozen	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz.	30 0	60 0	Pelargoniums, scarlet, per dozen	3 0	6 0
—viridis, per dozen	12 0	24 0	Pelargoniums, dozen	6 0	12 0
Evergreens, in var., per dozen	6 0	24 0	Rhodanthe.. per doz.	4 0	6 0
Ferns, in var., do.	4 0	18 0	Scented Verbena doz.	4 0	6 0
			Solanums....per doz.	9 0	15 0

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Asters, doz. bunches	2 0	6 0	Marguerites, 12 bun.	3 0	6 0
—(French), 1 bunch	1 0	1 6	Mignonette, 12 bun.	1 0	2 0
Bouvardias, per bun.	0 6	1 0	Pansies, doz. bunch.	1 0	2 0
Carnations, 12 blooms	1 0	2 0	Pelargoniums, 12 spys.	0 6	1 0
Carnations, 12 buu...	4 0	6 0	—scarlet, 12 sprays..	0 2	0 4
Chrysanthemums annual, 12 bunches	1 0	3 0	Pinks, 12 bunches	3 0	6 0
Chrysanthemums, 12 blooms	0 6	3 0	Poppies, 12 bunches	4 0	6 0
—12 bunches	2 0	6 0	Primula, double, bun.	0 9	1 0
Cornflower, 12 bunch.	1 6	3 0	Pyrethrums, 12 bun..	2 0	4 0
Eucharis, per dozen..	3 0	6 0	Rhodanthe, 12 bunch.	4 0	6 0
Forget-me-not, 12 bun.	2 0	4 0	Roses (colrd.) 12 bun.	2 0	4 0
Gardenias, 12 blooms.	1 6	4 0	—Tea ....per dozen	0 6	1 6
Gladiolus, 12 sprays	0 6	1 6	—Red .....per doz.	0 6	1 0
Heliotropes, 12 sprays	0 6	1 0	—Saffrano ..per doz.	0 6	0 9
Lavender, 12 bunches	3 0	4 6	Stephanotis, 12 sprays	2 0	4 0
Lilium longiflorum, 12 blooms	3 0	5 0	Sweet Peas, 12 bunches	2 0	4 0
Lilium speciosum, 12 blooms	1 0	3 0	Sweet Sultan, 12 bunches	2 0	4 0
			Tuberoses, per dozen.	0 4	0 9

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To Noblemen and Gentlemen requiring Land Agents, Stewards, Bailiffs, or Gardeners.

JAMES CARTER & Co. have at all times upon their Register reliable and competent MEN, several of whom are personally well known to Messrs. Carter. Enquiries should be made to 237 and 238, High Holborn, W.C.

SCOTCH GARDENERS.—John Downie (of the late firm of Downie & Laird), Seedsman, 144, Princes Street, Edinburgh, has at present on his List a number of SCOTCH GARDENERS waiting re-engagements. He will be pleased to supply full particulars to any Lady, Nobleman, or Gentleman requiring a trustworthy and competent Gardener.

WANTED, by a respectable steady young man, age 19, a Situation as Improver in the garden. Address, FRANK DABORN, Brooklands Lane, Weybridge, Surrey.

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ROYAL HORTICULTURAL SOCIETY.

NOTICE! The next meeting of the Fruit and Floral Committees will be held in the Drill Hall of the London Scottish Rifle Volunteers, James Street, S.W., on Tuesday, September 11th, when the special subjects invited for exhibition will be DAHLIAS, BEGONIAS, ASTERS, &c.

Open to Fellows at 12 o'clock, and to the public at 1 p.m.

An Apple and Pear Conference will be held in the Society's Gardens at Chiswick, from the 16th to the 20th of October.

For particulars respecting the election of Fellows apply to the Secretary, 111, Victoria Street, S.W.

National Chrysanthemum Society, Royal Aquarium, Westminster.

EARLY CHRYSANTHEMUM & DAHLIA EXHIBITION, Sept. 12th and 13th. Schedules free on application.

The Floral Committee will meet Sept. 12th, Oct. 10th and 24th, Nov. 7th and 21st, Dec. 5th, and Jan. 9th.

WILLIAM HOLMES, Hon. Sec.
Frampton Park Nurseries, Hackney, E.

PLEASE NOTE.—Intending members should join at once, and so secure the full advantages for the current season—viz., Admission to Four Grand Exhibitions and Seven Floral Meetings, also the usual privileges. Ordinary Member 5s., and Fellows 21s. per annum.

NATIONAL PROVINCIAL CHRYSANTHEMUM SHOW.

SHEFFIELD, NOVEMBER 16th and 17th.

The Show of the Season. Over £200 in Prizes. Schedules on application to W. K. WOODCOCK, Hon. Sec., The Gardens, Oakbrook, Sheffield.

Next Weeks' Engagements.

MONDAY, September 10th.—Sales of Dutch Bulbs at Protheroe & Morris's, and Stevens' Rooms.

TUESDAY, September 11th. — Royal Horticultural Society: Meeting of Fruit and Floral Committees at 11 a.m. Clearance Sale of Plants at the Eastgate Nurseries, Peterboro', by Protheroe & Morris (2 days).

WEDNESDAY, September 12th. — National Chrysanthemum Society's Autumn Show at the Royal Aquarium (2 days). Brighton Flower Show (2 days). Glasgow and West of Scotland Horticultural Society's Show (3 days). Sale of Dutch Bulbs at Stevens' Rooms.

THURSDAY, September 13th.—Sale of Orchids in Flower at Stevens' Rooms. Trade Sale of Greenhouse Plants at Ladd's Nursery, Swanley Junction, by Protheroe & Morris. Sale of Dutch Bulbs at Protheroe & Morris's Rooms.

FRIDAY, September 14th.—Sale of Established and Imported Orchids at Protheroe & Morris's Rooms.

SATURDAY, September 15th.—Sale of Dutch Bulbs at Protheroe & Morris's, and Stevens' Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, SEPTEMBER 8, 1888.

CURRENT TOPICS.

THE FRUIT CONFERENCES.—The Fruit Conference innings commenced on the 31st ult., when the Dunkeld gardens had the honour of playing first bat, the ancient town of St. Albans following on, on Tuesday last, and from the reports to hand it would appear that both scored well. The gatherings at both places were at once practical and enthusiastic, and we can but hope that other districts will follow such excellent examples, and discuss the fruit culture question thoroughly. There is some reason to fear that statements encouraging the much wider cultivation of fruits may be put forth, which whilst misleading to those investing in such vocation may also mislead landowners, and induce them to put such rental upon their land when required for purposes of fruit culture, as shall render occupation almost impossible.

We cannot agree with Mr. Emptage in his vigorous denunciation, at St. Albans, of the laying down of so much land in pasture, especially in the Hertfordshire district, because London, with its population of over four millions is near, and those millions have as great a need for an ample supply of milk, as they have for corn, fruit, or vegetables. Hay is also an element of prime necessity, and just now is a very costly one, therefore pastures are not only profitable, but they are essential to human life. Mr. Sampson Morgan, in insisting upon the need for the wide division of the land into smaller holdings, with the introduction of spade labour, was but taking a line which general fruit culture would exact. Mr. Hobday treated the question of Land Tenure in relation to fruit culture in a practical fashion, and short of absolute ownership, it is evident that no great encouragement will be given to the wide cultivation of hardy fruits either by farmers or by cottagers until they have as tenant-occupiers much greater control over the land than is now given. Of course, all the interesting questions incidental to the subject of national fruit culture cannot be discussed fully at any one conference, and we hope a series of these gatherings may materially help to a wise solution.

FRUIT-GROWING PROFITS.—Whilst we hope that in the various fruit conferences being held, or about to be held, all the various phases of fruit culture of importance will be discussed, it is hoped that special attention will be given to the very important one of Fruit-growing Profits. We are careful in using this term that it should not thereby be assumed that profits from fruit culture are to be taken for granted. Were such the case there would be no need to discuss the matter. What we would rather convey is whether there are profits or not, employing the term in a somewhat sceptical spirit. The other day the editor of a horticultural contemporary got a letter into an influential daily paper, in which he boldly proclaimed the possibility of making £250 per acre out of fruit culture. Such a statement is something more than absurd, it is little less than criminal, because it may, on the one hand, lead the landed interest to assume that fruit growers are making enormous profits, whilst it may also induce many persons to invest capital largely in fruit culture to their ultimate loss and sorrow.

Fruit produce is of a relative nature, and only the very best sorts in the best positions and under the best culture produce really good profitable crops. But even in such cases it is doubtful whether at any time, and under the best possible conditions, the produce ever obtains more than £150 per acre. But then a fruit orchard takes fully ten years to come to ordinary maturity, and fully fifteen years to reach to full maturity; so that taking even thirty years as the fair average life of a fruit orchard or garden, there are naturally only fifteen years of full productiveness. Then, if we consider the fact that real full crops are taken off, on the average, only once in three years we terribly reduce the average produce or profits of the entire thirty years. They will in fact, hardly exceed some £60 or £70, if so much; but enthusiastic

writers—not too precise in their statements—rush headlong to the maximum produce as being the average production. We may also well remember that when the produce of fruit trees is the greater, the prices are invariably the lower.

Outdoor Tomatos. — This year there are many breadths of outdoor Tomatos over which there has been occasional debate as to whether the plants and stakes should not be pulled up, and the ground sown with Turnip seed or planted with Cabbages. Whilst the heavy rains which marked the summer promoted excessive growth, the lowness of the temperature checked the setting of the bloom, so that the plants soon became utterly demoralised. A pitiable sight indeed of late have Tomato breadths presented, the plants being left in despair to utter neglect, and growing literally wild. If not soon cleared off, we shall hear presently that the Potato fungus, for lack of other food, has seized upon the Tomatos and eaten them up. Far better would it be that the plants should rot in some corner of the ground than that so ignominious a fate should befal them. The general failure of the outdoor crop, whilst inflicting heavy loss upon those growers who had faith in the eternal capacity of English summers to produce good Tomatos in the open air, should have proved profitable to those whose plants have been safely protected under glass.

There is to be considered the possible ephemeral nature of the Tomato's popularity in the market before jumping to conclusions; yet we hope that such popularity is by no means fugitive, but enduring. In such case it will be no wonder if more glass is erected for Tomato culture during the coming winter. On the whole, such form of culture seems to be not only the safest, but, in the long run, the most profitable. The remarkable results seen in the planted-out house of Tomatos at Chiswick show that even during such an untoward summer as the present this admirable fruit can be grown in enormous quantities within a limited area, and grown, too, in the very finest and most perfect form with exceedingly simple culture. It would take a large area of open ground to produce the same weight of ripe fruits which will this year be cut in the Chiswick house.

Gardeners' Orphan Fund.—We have the pleasure to announce that at the flower show held at Heckfield Place, on August 28th, Mr. Wildsmith, the local secretary for the district, collected the sum of £5, with three collecting boxes. Well done Heckfield!

Gardening Engagement.—Mr. C. Sawyer, for the past four and half years principal foreman at Cricket St. Thomas, Chard, Somerset, as gardener to the Marquis of Hertford, Ragley Hall, Alcester, Warwick.

Early Frost.—On the morning of Saturday last (September 1st) there was a white dew upon the grass, which, in other words, might be described as hoar frost, in the suburbs of London. The cold was very keen, and although not sufficient to do much damage, yet in low-lying localities the young leaves of Catalpa syringæfolia aurea were considerably damaged, and by the time the sun shone upon them they became curled up and discoloured.

How I Came to Grow Bulbs.—In a little brochure issued under this unassuming title, Mr. Rob. Sydenham, Tenby Street, Birmingham, describes how his attention was first turned to the culture of bulbs for pleasure, and subsequently for profit. A dozen Hyacinths seems to have been the extent of his first purchase, and for these he paid eight shillings, having then to hire the assistance of a jobbing gardener to pot them. This was in 1881, since which time he has gained largely in experience, as to cultural matters, and in the knowledge of what varieties are most suitable for certain purposes, all of which useful information is duly recorded. The author has also recorded his failures, a practice that is much to be commended for its value in teaching the inexperienced what to avoid. Further on, directions are given for the cultivation of Hyacinths under different systems, as well as various other subjects suitable for forcing.

The National Chrysanthemum Society. — The general committee of this society held their first meeting of the season at Anderton's Hotel, Fleet Street, on Monday last; the chair was occupied by the president, and the meeting was well attended. The secretary, with deep regret, reported that since the last committee meeting Mr. Woodbridge, who had been appointed one of the fruit and vegetable judges for the forthcoming November Show, had died, and a resolution was passed requesting the secretary to send a letter of condolence to his widow. Mr. Miles, of Wycombe Abbey, was elected to fill the vacancy as judge. The following Chrysanthemum societies were affiliated with the National Chrysanthemum Society, viz., Barnsley, Hampstead, Isle of Sheppey, Stroud, and Truro. Two Fellows were elected, and no less than fifty new members—a number unprecedented at any meeting of the society. This brings the roll up to 510 members. The exhibition of early Chrysanthemums takes place at the Royal Aquarium on Wednesday and Thursday next.

Jerusalem Artichokes in the West Indies.—In his admirable report of the Trinidad Botanic Garden for last year, the superintendent, Mr. J. H. Hart, remarks that the Jerusalem Artichoke is a useful and excellent tropical vegetable, producing quantities of its delicate tubers at intervals for a greater part of the year. It does not develop nearly so much fibre as in Europe, and when sent mashed to table is not easily distinguished from the Turnip. The different habit of the plant leads Mr. Hart to infer that it may be a variety of the type cultivated in British gardens. The Trinidad plant, even when well grown, seldom reaches more than 2½ ft. high when fully mature. It would be well if Mr. Hart were to send home a few roots for comparison under cultivation, as a dwarf variety would be acceptable to many.

A TRIAL OF TEN-WEEK STOCKS.

A large collection of Ten-week Stocks, from different seedsmen, has now been flowering freely for some time past in the gardens of the Royal Horticultural Society at Chiswick, affording an excellent opportunity for comparison, and a means of determining what is most suitable for particular purposes. Habit, height, colour, and season of flowering have all to be taken into account in determining what will suit a given purpose. More important to most people is the per-centage of double flowers which any particular strain will afford when the plants come into bloom; as a rule single Stocks are less attractive even than a Wallflower, but there are exceptions, as in the case of some of the large-flowering kinds, which, although producing a good per-centage of doubles, are very effective even in the single state.

Dwarf Kinds.

The dwarfest and earliest of all is undoubtedly a strain called the forcing Ten-week Stocks, represented by a white variety, named Snowflake, which commenced to flower several weeks ago, and is now flowering from the side branches. The stems do not exceed 4 ins. or 6 ins. in height, and the flowers are pure white, while a large per-centage is double. For decorative work early in the season this variety ought to enjoy a more extended cultivation. The Wallflower-leaved dwarf Ten-week strain ranges from 6 ins. to 9 ins. in height, which, considering the wet and sunless condition of the season, is remarkably dwarf. The quality is also of a high character, and the range of colour from mauve, pink, white, and pale yellow to purple, red and crimson. Dwarf Ten-week Stocks are taller, the average height being about 12 ins. A good per-centage is double, and the strain generally is of a high standard. The colours are equally as numerous as in the Wallflower-leaved section. Some of the large-flowering Wallflower-leaved varieties may also be classed amongst dwarf-growing kinds, as the stems of a white variety do not exceed 9 ins. in height. The leaves are dark green, and a large per-centage of the flowers are double.

Tall-growing Kinds.

That named Tree or Giant Ten-week Stocks range from 18 ins. to 24 ins. in height, and while undoubtedly the tallest, they are certainly not so fine as those of more moderate growth. For wide borders and public parks they would, it is true, be more conspicuous, effective and desirable on that account. A pale violet variety amongst the large-flowering kinds deserves some notice, on account of the massive and conspicuous character of the flowers, of which a good percentage is double, but even in the single state the broad overlapping petals are very effective. Six lines from another grower, including white, pink, blush, rose, crimson, salmony rose, violet, violet-purple, slate and slaty red varieties, exhibit a very equal or even growth of 12 ins. to 15 ins., and a large percentage of double flowers of high quality. A collection of large-flowering varieties, from another seedsman, includes some very peculiar shades of colour, such as white striped with a slaty tint and black-brown, but we do not much admire them in the presence of white, flesh, sulphur and lilac varieties, all of which are good and very massive in general appearance; but the sulphur-yellow sort is particularly fine, and, curiously enough, by accident or otherwise, the singles occurring in this line are white. This latter strain, as a whole, is rather above the average vigour, the white and sulphur varieties being about 18 ins. high, but the large and massive-looking flowers compensate in no small way for the length of the stems.

REGENT'S PARK.

Six or seven years ago carpet bedding was one of the strongest features of this park; but for some time this has given place to other kinds of bedding, chiefly of Pelargoniums, which until quite recently were a failure as far as bloom was concerned, owing to the continued cold, cloudy weather with heavy downpours of rain at too frequent intervals. Since August, however, the large beds have brightened up considerably, but are far behind what might be expected from them in more favourable seasons. Two oval beds of Zinnias on a groundwork of blue Lobelia are cheerful, but the plants are small, and apparently had been sown late. Four beds of Abutilon Thompsoni, mixed with Verbena venosa and Viola Blue Bell, edged with a band of Antennaria dioica tomentosa, are equally cheerful and better filled.

Red-flowered and yellow-leaved varieties of Fuchsia on a groundwork of Alyssum maritimum variegatum and scarlet Tropæolum, also constitute a feature of some note. Four beds of tuberous Begonias on a groundwork of Sedum lydium, and another four having graceful plants of Acacia lophantha in addition, are very pretty, and although the nature of the design necessitated it to some extent, there is rather too much repetition. The Begonias are rather small plants, but still uphold their reputation for free-flowering habit, even in wet weather.

The best feature of the park, as far as flowers are concerned, consists of two broad borders of hardy or half-hardy herbaceous plants, that have recently been added to it. Along the front of their whole length (they being placed end to end) runs a broad border of Ten-week Stocks, chiefly red and white, and of which a large per-centage are double. They are not planted in stiff regularity, but run backwards in angles or bays, so as to occupy the space between clumps or masses of such things as Galtonia candicans, Calliopsis tinctoria, Veronica longifolia, Antirrhinum majus, Aster lævis, A. horizontalis, and Veronica longifolia rosea, all in different stages of growth or flowering. Farther back are other masses of Pentstemons, Carnations (of which some in the way of Mary Morris are very fine), Mignonette, Sweet Peas, Hollyhocks, Dahlias, Evening Primroses, Œnothera biennis, Lilium auratum, Pyrethrum roseum, Gladioli, Helenium pumilum, Achillea Ptarmica flore pleno, Delphiniums and other subjects. The whole are backed up by a Holly hedge, and certainly look fine with their ever-varying colours as fresh masses come into flower. The beds of Pelargoniums, Fuchsias, &c., are nowhere in comparison, and the style of gardening might be adopted on a more extensive scale elsewhere with profit. Not far off is a specimen of Yucca recurva, about 8 ft. high, whose panicle of drooping white flowers has been compared by visitors to ropes of Onions.

A VISIT TO THE NURSERY GARDENS OF NANCY.

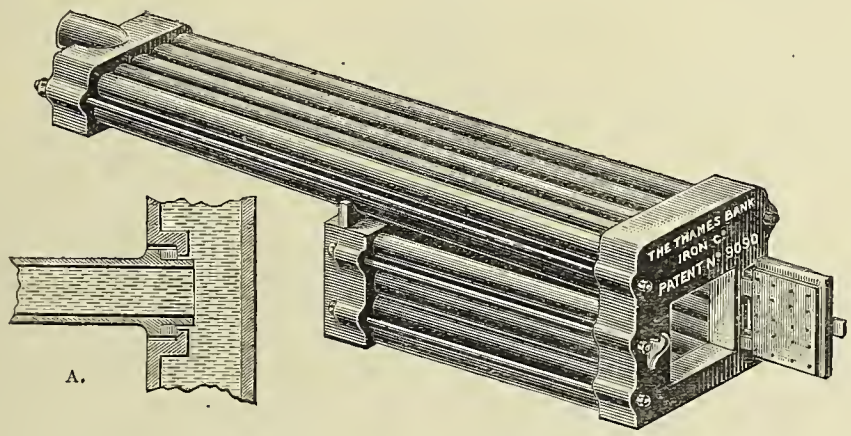
At all times a visit to these gardens is to the horticulturist a source of much and instructive enjoyment. Nancy being the birthplace and home of many of our choicest and best florist flowers, is, as it were, the "Mecca" of gardeners. But at the present epoch of gardening, when various sections of florist flowers have reached a point of perfection which a few years since would have been considered unattainable, a visit is of more than ordinary interest. Not to mention more than hybrid Gladiolus and tuberous Begonias, the amateur can imagine what a field of interest lies before him, these alone being sufficient to repay one for a journey to Nancy.

The grower of tuberous Begonias finds at the garden of Mons. Crousse, a superb series of seedling double

Begonias; the double white and double yellow of various shades are as yet unequalled in any other establishment. The size, perfect form, and habit of many of these magnificent flowers leave nothing further to be desired. Some of the seedlings raised this year are absolutely perfect, and make one long for the day when they will be found in the catalogue of Mons. Crousse. At this garden the Ivy-leaved Pelargoniums also are very noteworthy. Amongst those to be sent out by and bye are several of great promise. The Cannas raised by Mons. Crozy, of Lyons, are largely grown in this garden, but in our climate will be more generally useful for indoor culture, owing to want of combined sunshine and heat to develop them fully. (An instance of this can now be seen by any visitor to the nursery of Messrs. Cannell, at Swanley).

At the nursery gardens of Mons. Lemoine, the great point of interest is the new race of hybrid Gladiolus, a beautiful cross between Gladiolus Saundersi superbus and Mons. Lemoine's hybrids, made known on the exhibition table by Messrs. Veitch. Only one who has seen these exquisite flowers can have an idea of what is in store before very long for growers of hybrid Gladiolus. The form, size and markings are quite surprising, and reveal a beauty hitherto unknown amongst Gladiolus. It is possible that one or two may appear in the catalogue for next year, if on lifting them a sufficient quantity to pass into commerce be found to exist.

The herbaceous Phloxes contain many seedlings of wonderful size and beauty, many new shades being found amongst them. The new Montbretias, too, contain some seedlings of very much improved form and colour, and as they increase so rapidly one may expect very soon to find them obtainable.



New Horizontal Tubular Boiler: A.—section of patent joint.

Having visited and carefully examined both these gardens last autumn I was not prepared to find such a number of interesting novelties this year.—*John T. Poë, Riverston.*

NEW INVENTIONS.

A New Patent Horizontal Tubular Boiler.—The horizontal tubular boiler is not new; it has been in existence for many years, and is a favourite with the class most generally known as "the growers," that is to say, the hard-headed practical growers of plants and fruits for market, who, having immense ranges of glass, require their boilers to be moderate in price, durable, quick in action, and economical in the consumption of fuel in due proportion to the amount of work done. One of the first boilers of this character that was made was laid down for the late John Standish, of Ascot, many years ago to burn peat, but modifications of this form have been used since, and are used still by all the leading market and some of the great trade growers. In fact it may be truthfully said to be the pet boiler of the trade, but it has a weak place, though as far as our experience goes one seldom hears so much admitted by those who use them.

The weak place in question is the caulked joints, which allow but for a limited amount of expansion, and being freely exposed to the action of the fire, leakages are as a consequence liable to occur, and of course, as a rule, when a joint does give way, it is at the most inconvenient time possible. This fact has long been recognised both by the makers and users, but how to avoid the difficulty has been a problem that has only recently been solved by the Thames Bank Iron Company, Upper Ground Street, Blackfriars, who have patented a system by which the caulking is abolished, the joint being made with an india-rubber washer inserted in an inverted socket. At first sight it would seem as though the washers would not stand the heat, but the inverted socket, as shown in the accompanying illustration, keeps them in the water, and out of harm's way, so that the joint is practically indestructible by fire.

We regard the invention as a valuable one, insomuch as that it vastly improves the lasting capabilities of an already well-tried boiler, with the additional advantage that as the joints are put together with tie bolts, such a boiler can be fixed in a few hours, and there is a consequent reduction in the cost of labour. A boiler made on this principle has been well tested for some months by Messrs. Gregory & Evans, of Sidcup, Kent, and we believe they have no objection to show it to anyone interested in the matter.

NOTES ON FRUITS.

The Quatre Saison Raspberry.

I should be glad to know if any of your readers are acquainted with the "Quatre Saison" Raspberry? My experience is that there is no Raspberry to come near it for cropping. We have had on a few bushes a very large fruit crop; we gather a few now every day, and the canes are full of fruit and flower. I have gathered a dish on November 12th, and the fruit is fine and well-flavoured. The growth is altogether different from the common Raspberry, and it appears to increase rapidly.—*K. P.*

Lord Burghley Apple.

Although not a new Apple, this is not so widely cultivated as its merits deserve. That it is, however, beginning to receive recognition at the hands of cultivators, was evidenced at the Apple Congress, held at Chiswick in 1883, when thirty-seven dishes of it were exhibited. The tree bears heavily, even in such a season as the present. One of the trees at Devonhurst, Chiswick, is now loaded with fruits above the medium size. It is sometimes described as a small Apple, but on healthy-growing trees they are of good average size for a dessert variety. It is more or less flattened on the top, angular and green, suffused with russet and red, which as far as appearance goes does not much recommend it for general use. The flesh is, however, firm, crisp, and of a peculiar but agreeable flavour, such as we do not often meet with when in season about Christmas. It keeps well in the fruit-room.

Blenheim Orange Apple.

This will, no doubt, soon hold a leading place amongst choice Apples, and recommend itself both for kitchen or table use. Its late-keeping qualities also render it desirable for storage purposes. Young trees bear very sparingly for many years, owing no doubt to the great vegetative vigour of the variety; and trees on walls seem equally unfruitful for many years. In some cases trees so grown refuse to yield fruits except a scattered few on the tips of the leading branches. Old standard trees are the most prolific, especially in some soils or localities, and after having attained this size they last for many years in good condition, and continue productive. The fruits from old trees may not be so large as on healthy young and growing specimens, but the quantity is many times greater, and the yearly produce of standards grown on grass, and which receives no manuring beyond what exists naturally in the soil, is truly astonishing, and exemplifies the prolific nature of the Apple under favourable conditions as to soil and climate. At Merton Lodge, Chiswick, a tree on the grass annually yields from six to eight bushels. The soil consists of alluvium or Thames valley drift, the surface being of a moderately heavy loam overlying a great depth of gravel. The tree in question is an old specimen of moderate height, with a broad spreading head.

NOTES FROM SCOTLAND.

The Gardeners' Conference at Dunkeld.—Between sixty and seventy of the leading gardeners and nurserymen assembled at Dunkeld on the 31st ult., in response to the invitation of Mr. P. W. Fairgrieve, to take part in the interesting programme of inspection and discussion which had been previously arranged. Having entered the grounds, the party, under Mr. Fairgrieve's guidance, proceeded to inspect the fruit houses, which were found to contain remarkably fine crops, and the hardy fruit garden, which covers about 7 acres. This was a surprise to most of the visitors, who expecting something good, from Mr. Fairgrieve's reputation, were scarcely prepared to find such perfect examples of successful fruit culture as he had to show them. The party subsequently partook of luncheon at the City Hall, Mr. Dunn, of Dalkeith, presiding, and Mr. R. Lindsay and Mr. D. P. Laird, of Edinburgh, acting as croupiers. A most interesting discussion, initiated during the tour of inspection, was continued after the luncheon, and several of the party expressed the hope that other conferences of a similar character might be held in other parts. We regret that the demands on our space this week prevent us from going more into detail, but we shall revert to the subject in our next.

GARDENING NOTES FROM IRELAND.

New Prizes for Choice Hardy Flowers.

At a late meeting of the Council of the Royal Horticultural Society of Ireland, a proposal was made by Hamilton Drummond, Esq., Ashmore, Rathgar, to offer a Challenge Cup, value 15 guineas, to be won three times before becoming the property of the exhibitor; and he adds to this prize another of £5, which will be disposed of annually. The only conditions attached to these prizes are that in the case of the cup, as stated above, it must be won three times, I suppose in succession, and that the society shall add to the first prize of £5 a second one of £3. It has been also stipulated that no second prize shall be awarded unless there are four competitors, and that the competition shall be confined to amateur growers only, and further, that the prizes, and the conditions for obtaining them, shall be fully set forth in the society's schedule for 1889. These conditions were at once agreed to by the council, and on the part of the society their most grateful acknowledgment was accorded to Mr. Drummond for his most useful and generous offer. It was also determined by the council that to bring so important a matter under the immediate notice of intending exhibitors, printed slips containing all necessary information would be issued as soon as possible, so that ample time should be afforded for competing at the next summer and autumn shows.

It has been evident for some years past that there is a growing desire in people's minds to return to the cultivation of hardy flowering plants, and it is to encourage this growing feeling that Mr. Drummond comes forward in so practical a manner to aid in giving further stimulus in this direction. It is to be hoped that every exertion will be used to make this competition a success, and that it may be made worthy of the society, as well as of the liberal prizes offered by the donor. As the trade is likely to benefit somewhat by the increased demand for such plants as will be required for exhibition, in the interest of their clients, as well as in their own, they should take care that both plants and seeds should be of the best and choicest description.—*W. D.*

HARDY PLANTS IN FLOWER.

Alstrœmeria psittacina.

Though not so brightly coloured as many of the species of this family, the Parrot Flower deserves a place for its late-flowering qualities and hardiness. Owing to the cold wet season, our Alstrœmerias have not flowered so well as in past seasons. The subject of this note has been an exception, for it is still blooming with vigour, and will continue to do so until cut down by the frost. The flowers are of a dull crimson, curiously splashed with brown and green streaks of colour.

Dianthus dentosus.

A dwarf but very conspicuous species, growing only some 6 ins. or 7 ins. high, with glaucous foliage having rather an unhealthy tinge of red. The flowers are fully 1 in. across, and of a violet-red colour, with a dark purple eye. It requires a well-drained border to winter successfully, the best position for it being between pieces of sandstone in the rock garden, where it will grow into a spreading tuft.—*J. W. O.*

FLORICULTURE.

The Florists' Laced Pinks.

By Arthur R. Brown.

It was with great pleasure that I read the articles on this flower by those noted florists, Mr. S. Barlow and Mr. J. Thurstan, in your issues of August 11th and September 1st, and especially the reference to the reviving interest in this, which is one of the sweetest flowers in nature's rich collection. The question that just now greatly interests Pink growers is "How can these lovely flowers be again brought back to their proper place among florists' flowers?" Well, I think one reason why Pinks are not more grown is that they are not sufficiently brought before the public when in flower, and I believe that if a National Pink Society were established on the same lines as the other special florists' societies, we should soon see the flower cultivated in quantity again. I believe that an attempt was made to form such a society in 1884, but it fell through, owing to there not being enough exhibitors to make a show. Now, if only a small show were held at first, it would soon grow in the same way as the National Carnation and Picotee Society has done since it was started in 1877. It should be held the first year in conjunction with some other show, and even if there were only a few exhibitors the Pinks would be seen, and being seen, would sure to be admired. The provincial show of the National Rose Society is usually held about the time when Pinks are in bloom, and if the consent of the committee of that society could be obtained that would be the best course to pursue.

I am pleased to see that Mr. Thurstan has promised us his views on the properties of a good exhibition Pink, as the ignorance displayed on this subject is something astonishing. To give an instance of this, I exhibited a stand of Pinks at the Handsworth show this season, and nine out of every ten, not only of the visitors, but of the exhibitors also, thought they were another sort of Picotee.

The Pink, Mrs. Dark, mentioned by Mr. Barlow, was raised by my late father about fifteen years ago, and is a fine bold flower, but is not equal to some of his late seedlings, not yet in commerce, and among which I may name Amy, which I believe Mr. Thurstan considers the finest Pink in cultivation. The other one, which Mr. Barlow calls Brown's Double Red, has since been named Clipper, and is a very large full flower, but like Mrs. Dark, is inferior in size of petal to Amy, which has a large broad petal, well-continued to the crown, and is also of large size. The best twelve Pinks I have seen, which are in commerce at the present time, are Bertram (Turner), Boiard (Turner), Clipper (Brown), George Hodgkinson (Thurstan), Galopin (Turner), George White (Paul), Harry Hooper (Hooper), Mrs. Dark (Brown), Mrs. Thurstan (Thurstan), Ne Plus Ultra (Paxford), Shirley Hibberd (Turner), and Wm. Paul (Paul).

Wm. Paul is very late, much later than the other varieties mentioned, and to show a stand of twelve at one time, I should substitute Emerald (Hooper) for that variety, and I believe there are other fine varieties of Mr. Thurston's raising besides the two mentioned, but I have not had the pleasure of growing them.—*Crompton Road, Handsworth, Birmingham, Sept. 4th.*

*** In the last line of the first column of Mr. Thurstan's letter in our last issue, the name of "John Harris" was inadvertently printed for that of "John Haines."

Dahlias at Bishop's Stortford.

If anyone were to write a series of floricultural papers entitled "Florists at Home," Mr. Henry Glasscock, of Rye Street, Bishop's Stortford, the hon. secretary and treasurer to the National Dahlia Show held at the Crystal Palace, should be the subject of one of them. Mr. Glasscock has been a florist for many years, making Dahlias his chief fancy. They are grown in a piece of ground fronting his residence, but on the other side of the roadway, and a little north-east of the town. The Dahlia garden is situated on a sunny slope, which is sheltered to some extent from north and westerly winds, and in a position favourable to the well-being of the plants. That Mr. Glasscock grows very fine blooms is known to all who have seen the flowers he stages at the various Dahlia exhibitions. The garden is surrounded by a low stone wall, and the soil appears to be a good loam, though rather stony. One remarkable feature about Mr. Glasscock's Dahlias is their dwarfness of growth, and out of the 130 to 140 varieties of show and fancies he cultivates, scarcely one of them rises much above 4 ft. in height, the average being 2 ft. to 2½ ft. This dwarfness of habit is all the more noticeable in a season when there has been such a heavy rainfall that it has caused succulent plants like the Dahlia to grow with remarkable freedom.

In taking a hasty look over the collection of Dahlias, the plants being wonderfully clean and healthy, I made a note of the following varieties as strikingly good. Nellie Cramond (Keynes & Co.), new of 1888, purple, shaded with cerise, a charming flower of high-class quality; The Ameer (Keynes & Co.), new of 1888, dark maroon, shaded with purple, very fine and distinct, dwarf habit; Crimson King (Keynes & Co.), new of 1887, rich crimson-scarlet, a good early-flowering variety; Lustrous (Turner), new of 1888, deep bright scarlet, very promising, and likely to make an excellent show variety; J. F. West (Rawlings), yellow, heavily tipped with purple; a very constant and good variety; King of Purples (Keynes & Co.), new of 1887, a flower of fine quality, having a bright flush of purple, distinct and very attractive; Victor (Keynes & Co.), new of 1887, very fine, shaded crimson or dark maroon; Royalty (Turner), new of 1888, bright yellow, tinged with rosy purple; a fine flower, good petal and outline, highly promising; Mr. Gladstone (Hurst), very fine, Mr. Glasscock gets superb quality in this variety; H. Glasscock (Rawlings), a fine glow of purple, large, and of good form; Florence (Turner), bright golden yellow, an excellent addition to our yellow selfs; Colonist (Keynes & Co.), new of 1887, a very distinct and most constant and useful flower; Mr. George Rawlings (Rawlings), cream ground, suffused and edged with rosy pink; a charming flower; and Countess of Lonsdale, a lovely shade of pink, of the finest form, an old flower that appears to have gone to some extent out of cultivation, but a great favourite with Mr. Glasscock, and it must be admitted he grows it to perfection.

Of fancy varieties, special mention must be made of the following:—Edmund Boston (Keynes & Co.), new of 1888, orange, heavily striped with crimson, very fine; regarded by Mr. Glasscock as one of the finest fancies in the world; Plutarch (Turner), new of 1888, buff ground, striped and splashed with crimson; the wet season appears to have made this come somewhat coarse; Henry Eckford (Rawlings), yellow, striped with scarlet, very free and useful; and Valentine Humphrey (Humphrey), new of 1888, yellow ground, tipped with mauve, changing to silvery mauve, and striped with crimson; a distinct and charming variety.

Mr. Glasscock also grows a few Pompons, single Dahlias, and also varieties of the Cactus type. The following new varieties of Pompons were very good:—Grace (Keynes & Co.), bright cerise-salmon, a model flower and very pleasing; J. Sault (Keynes & Co.), clear pale yellow, very good indeed; and Janet, soft cerise, very pretty and pleasing. These are new varieties of the present year. Leila (Keynes & Co.), new of 1887, reddish buff, tipped with white, is also a fine and charming variety.—*R. D.*

Carnation, Mrs. Reynolds Hole.

I am afraid that the bursting calyx, or what the florists term a "split pod," is not merely an accidental, but a radical defect in this variety. How much a split pod detracts from the decorative value of a Carnation is seen by comparing it with one that does not possess this defect. Alas! not a few of our finest Carnations and Picotees possess this defect; and the best course to follow is to place a tie of bast or a small india-rubber band round the pod when the blossom is nearly or quite half expanded. One of the disqualifications in the case of Carnations and Picotees set up by the florist is a "split" pod; and as Mr. Dodwell states, in his book on the Carnation, "the reason impelling the disqualification of a flower exhibiting a split pod is, of course, to be found in the fact that were a split pod tolerated, its symmetry would be fatally impaired." But it is evident that a split pod is not so strongly objected to on the exhibition stage as it formerly was, though it is a very serious defect indeed. The fact that a burst calyx has operated as a disqualification, has tended to make raisers cautious in crossing, so that in the case of new varieties the unsplit pod shall be a feature. Take the case of a batch of ordinary seedlings of Carnations: when examined it will be found that a very large proportion of the flowers have split their pods in the act of expansion, and they, in consequence, present to view a very sorry and confused appearance; and yet such strains are lauded up to the sky by writers in some of your contemporaries as if they were something of unheard-of beauty; the same writers having a little stab at the florist on account of what they deem his weak, formal, and artificially produced varieties. I think that in granting certificates of merit to new Carnations and Picotees, the split calyx should be regarded as a bad defect, and the flowers, otherwise good, remain uncertificated because of the presence of this defect.—*R. D.*

COOMBE WOOD NURSERY.

On entering the nurseries of Messrs. J. Veitch & Sons at this place from the main London and Kingston road the first object of interest that greets the visitor is the grand avenue of Wellingtonia gigantea and Araucaria imbricata, which are planted alternately with one another from the road to the brow of the hill that slopes downwards rather abruptly into a valley, which is wooded all round on the opposite sides beyond the nursery. The latter, therefore, occupies a piece of flat table land, the sunny slopes and the valley beneath. All the upper portion consists of light gravelly soil, while the valley is loam, peat, or clay, affording, therefore, a great variety of soils for the growth of a large number of subjects; and the visitor is compelled to admit that every part is well occupied with something or other.

Conifers.

The trees constituting the avenue, of which we give an illustration, have been planted for about twenty years, and the Wellingtonias, all finely pyramidal trees, measure from 30 ft. to 40 ft. in height, overtopping the Araucarias, which grow more slowly, but are mostly fine trees, some 25 ft. or 30 ft. in height. Two other Conifers that thrive here after attaining a large size are Pinus excelsa and P. austriaca. There are also large quantities of young trees averaging from 2 ft. to 4 ft. in height, the former variety being the taller and most rapid grower. Handsome trees are Abies brachyphylla and A. Veitchii, especially the latter, the leaves of which are white on the underside, and owing to their curvature, the tree has a beautiful silvery appearance, especially when the sun shines upon it. There are specimens of many sizes up to 6 ft. or 8 ft. Few can fail to admire the steel-blue colour of Picea pungens glauca, the leaves of which are shorter and stiffer than those of P. Englemanniana and its glaucous variety. Abies concolor violacea is a striking and distinct variety of that species, with a violet tinge to the foliage. The better-known species of Abies and Picea are grown in great abundance. The specimens of the Umbrella Pine, ranging from 2 ft. to 15 ft. in height, are worthy of inspection. The large one, that had been sent to an exhibition at Edinburgh some years ago, has now recovered itself, and has dark green foliage as healthy as any. The Retinosporas, including R. ericoides, R. plumosa aurea, and others, are grown in large numbers, and some carpet bedding worked out with these Conifers is very neat and effective. The varieties of Cupressus Lawsoniana are both numerous, rich, and varied in colouring. C. L. lutea is wholly of a bright yellow; C. L. Allumii is of erect habit, similar to C. L. erecta viridis, but is flatter on the sides, and of a deep glaucous colour; C. L. erecta alba spica has the branches very effectively tipped with white. Of the latter there is a dwarf form named C. L. alba spica nana. Altogether some eighteen distinct named varieties of C. Lawsoniana are grown. The young shoots of Larix leptolepa have scattered leaves 2 ins. to 3 ins. in length, and with this may be classed Pseudolarix Kæmpferi, with curious fascicles of curved but flat leaves.

Evergreen Shrubs and Trees.

Very fine evergreen Oaks are Quercus bambusæfolia and Q. acuta (Q. Beurgeri). The former has small, lance-shaped leaves, of a light green colour, while those of the latter are oblong, deep green, and shining, from 4 ins. to 6 ins. in length, and 1½ ins. to 2 ins. wide. Seeing that a tree here measures 12 ft. in height, and in vigorous health, it may be considered perfectly hardy. Q. cuspidata is also very fine, with bright green shining ovate leaves. Beautiful dwarf evergreen shrubs are Olearia Haastii, Phillyrea Vilmoriniana, Senecio elæagnifolia (leaves rusty beneath), Daphniphyllum glaucescens, with leaves like a large Rhododendron, Andromeda japonica and Berberis illicifolia. The lower leaves of the latter are divided into three leaflets, which are finely serrated, while those on the upper portion of the shoots are ovate, with deep spiny teeth, resembling a Holly. It is dwarf, compact, bushy, and very dark green, and merits extended cultivation. Eucryphia pinnatifolia, a Chilian shrub, belonging to the Rose family, and introduced in 1880, is now one of the chief features of the shrubbery. The flowers are about the size of a single Rose, and pure white, but from the number of stamens might be called a white St. John's Wort. When first introduced it was, indeed, classed in that family. The flowers are produced in great abundance, and are agreeably but not powerfully fragrant. The leaves are dark green, shining, and divided into three or five leaflets. When better known it is destined to be largely planted.

The Hawthorn-scented Escallonia Philippiana is flowering for the second time this season.

FINE-FOLIAGED SUBJECTS.

Many of the evergreens above mentioned might rightly be classed here, but being evergreen, should be planted for the different effects they produce in winter. The Japan Maples are extremely numerous and varied. Two large broad-headed or spreading specimens of the typical form, Acer palmatum—better known in gardens under the name of A. polymorphum—are 15 ft. in height, a fact which speaks of their hardiness. The leaves of A. p. palmatifidum are very finely divided and green, while those of A. p. dissectum are equally fine but of a bronzy purple. The ripened leaves of A. p. sanguineum are of a deep blood colour, while those of the growing shoots are crimson. Large bushes of it have been grown on a sunny slope of the hill for the last twenty years. The young leaves of A. colchicum rubrum are glowing with bronzy red, crimson, and scarlet colours. Numerous standard specimens of the variegated Negundo are now in grand condition, and being nearly white, are conspicuous all over the nursery. Catalpa syringæfolia aurea is also of a warm bright yellow and particularly handsome. Nearly of the same colour is Sambucus nigra aurea, now very popular on account of its hardiness. Several other forms of this are grown, including S. n. argentea and S. n. laciniatus, as well as S. racemosa plumosa, with deeply-jagged leaflets. A standard specimen of the variegated Tulip Tree, about 10 ft. high, is now very fine. Large quantities of Vitis (Ampelopsis) Veitchii are grown in pots, both under glass and out of doors, as well as quantities of the Virginian Creeper, including a form named V. (Ampelopsis) muralis, with short tendrils furnished with sucker-like discs that fix the plant to a wall without other support. V. purpurea, V. laciniata, and V. Roylei are all very distinct and beautiful. Eulalia japonica variegata is a tall grass that might be planted with fine effect on lawns. Showy and conspicuous variegated Dogwoods are Cornus brachypoda variegata and C. sibirica Spathii, the latter with red stems and golden leaves, with an irregular green blotch in the centre. Rosa microphylla variegata would make a pretty subject for covering a dry bank. Out of a batch of Eucalyptus planted in 1880, E. coccifera, with glaucous leaves and white stems, is the only one that has survived the severities of our winters.

FLOWERING TREES, SHRUBS, AND HERBACEOUS PLANTS.

The nursery is to all intents and purposes a repository for plants, as anyone interested in hardy plants can soon determine. Japanese plants are well represented, and include many that are but little known. A large plant of Clerodendron trichotomum, about 10 ft. in height, was just about to break into full bloom the other day when we saw it. In general appearance it resembles C. fragrans, but has a large five-angled inflated red calyx, and white flowers in axillary cymes. Cæsalpinia japonica flowered recently in great abundance, and has ample, bipinnate, drooping Acacia-like leaves, yellow flowers, and prickly stems. Styrax japonica is now loaded with pale-coloured almost white berry-like fruits, and must have been magnificent when covered with its white flowers. A plant of S. Obassia, about 10 ft. or 12 ft. high, is also in fruit, and is notable for its large sub-orbicular leaves, which are coarsely jagged or toothed at the apex. Hydrangeas are grown in great numbers, especially H. paniculata grandiflora, the dense panicles of which are often 1 ft. in length. Very distinct and curious is H. mandschurica, which has black stems and pink flowers, often becoming blue, owing, probably, to something in the soil. A violet-blue species has not yet been named. H. quercifolia, with large, deeply-lobed, Fig-like or Oak-like leaves, is also grown, and is a native of Florida. Tecoma grandiflora is, however, a Japanese plant, and bears large terminal panicles of trumpet-shaped flowers, yellow on the external face, and scarlet on the internal or upper face. The scarlet berries and red fading leaves of Berberis Thunbergii are very attractive at present.

Several forms of Ceanothus are now profusely covered with their panicles of small but extremely numerous and showy flowers. Of the blue kinds, C. Gloire de Versailles is certainly the most profusely flowered; but C. azurea has darker blue flowers. Marie Simon is also a fine thing, with cymose panicles of pink blooms. The Californian Chestnut (Pavia alba), better known as P. macrostachya, is now very profusely flowered. One of the brightest of the Clematis, of which there are many, is Gipsy Queen, having from four to six deep purple sepals changing to violet-purple. A white variety of Indigofera Gerardiana (I. floribunda) blooms freely for many weeks together. Amongst herbaceous plants, very noteworthy is Spiræa palmata alba, of which there is a large quantity with pure white flowers.

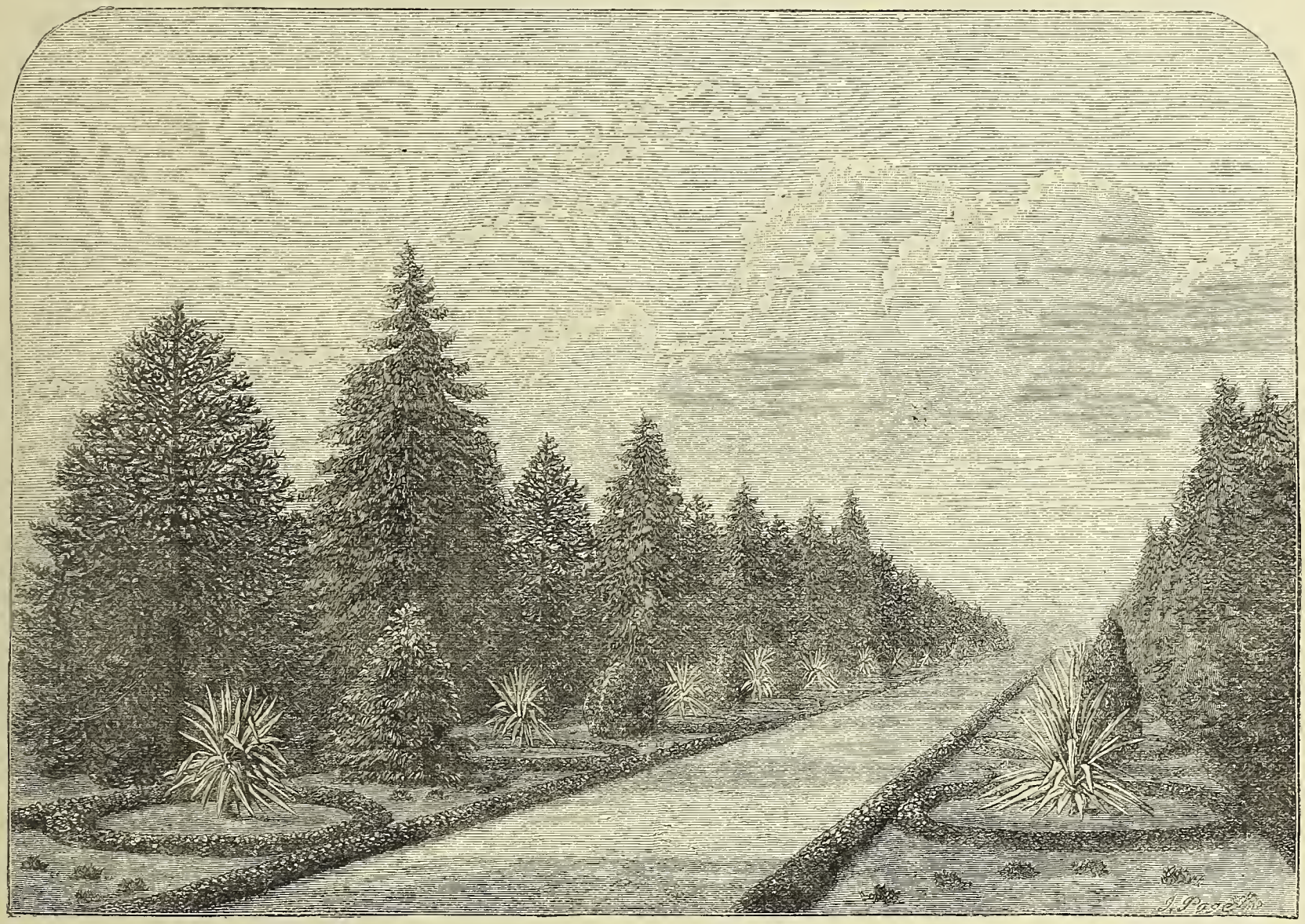
THE AMATEURS' GARDEN.

HYACINTHS, NARCISSI, &c.

The earliest batch of the large-flowering Hyacinths should be potted without delay, otherwise they make unsatisfactory progress if forcing be attempted while roots are but poorly developed. The sooner they are potted up now, however, the earlier they may be expected to flower under cool treatment, either in a greenhouse or the window of a dwelling-house. Wonderful results can be obtained even by an amateur who has a liking for his flowers and cares for them Prepare a compost consisting of two parts good turfy but mellow loam, one part of old hot-bed manure and a quantity of sand to render the whole porous and open. Drain well and pot firmly, leaving the bulb only half covered with soil when the operation is completed. The best plan is to fill up the pot with soil and placing the bulb in the centre of a 5-in. or 6-in. pot, press it down with the fingers and thumb until it takes a firm hold of the soil. After pressing the latter firmly add a little more if necessary, leaving about ½ in. for watering. Stand the pots on a bed of ashes in the open air or in a frame, and cover over with 3 ins. of coco-nut fibre, or sifted coal ashes in the absence of the former. When the bulbs have formed good roots they may be transferred to the greenhouse, or some warmer place, to urge them into growth and flower. Paper White, Polyanthus, Jonquils, Campernelle, and other Narcissi may be treated in the same way. They come into flower more slowly.

ROSES IN POTS.

Those having the command of a greenhouse can if they choose obtain Roses much earlier than under natural conditions, by growing them in pots in such a structure. A batch for that purpose may be pruned now, stood in



THE WELLINGTONIA AND ARAUCARIA AVENUE AT COOMBE WOOD.

the warmest end of the greenhouse, and watered but sparingly until they break afresh, and push away freely. They will flower all the earlier if not very severely pruned, as the buds on the upper portion of the shoots are always the more advanced. If the soil has been much washed out of the pots give a top-dressing, using some manure in the soil.

BEDDING VIOLAS.

Those who grow Violas for market purposes know the value of annual propagation in order to obtain vigorous plants in spring with large flowers. It is the custom with amateurs, and even with gardeners in private establishments, simply to lift their Violas from the beds in autumn, and lay them in closely in rows somewhere conveniently out of the way, or even to leave them in the beds till spring, when they are lifted and broken into pieces with the hand, refilling the beds or borders with the pieces. In other cases they suffer even greater neglect by being left in the beds or as mere edgings from year to year, while the plants get weaker and the flowers smaller. Under this system the plants gradually die out, and growers wonder why they degenerate. In the drier and warmer counties of the south this takes place very rapidly, especially in dry summers like that of 1887. Countess of Kintore is a deep lavender-blue and white variety that resists the drought, and flowers with greater freedom than any other; while Countess of Hopetoun is a meritorious white variety that flowers well in wet seasons, or in autumn when the weather becomes moist. There are, however, many new ones of sterling merit that deserve trial. They should now be propagated from cuttings, put in light soil in a frame, or on borders in the open air behind a north wall for southern counties, and in front of a south aspect wall in northern counties, where they should be shaded for a few days if the weather is dry and bright. Side shoots are best for cuttings, and root-suckers may be had in plenty, many of which will be partly rooted. Very little dressing is required beyond the removal of the lower leaves, unless the cuttings are old and spongy, when they must be cleanly cut close below a joint. Insert them with a bluntly pointed piece of wood as a dibber, and press the soil firmly about them. By spring they will be nicely rooted, and soon grow away, and flower freely when the weather becomes warm.

PENTSTEMONS.

Like Pansies, Violas, Carnations and similar hardy subjects, the Pentstemons are essentially flowers for everybody who has a love for them. Besides their own intrinsic merits for beauty, freedom of flowering, and infinite variety as to size and difference of colour, they recommend themselves to the amateur because easy to cultivate, and may be preserved in a cold frame in winter. Although nearly hardy, especially in the south, they are nevertheless liable to succumb in severe winters, when frost and wet alternate with one another. In heavy, loamy or clayey soils that retain much moisture they are liable to perish. There are, however, some varieties that are exceptionally hardy, and outlive the winter without any protection whatever. The old plants are in some instances lifted in autumn, and stored away in boxes in a cold frame; but they never grow away a second time with that vigour which is characteristic of autumn-struck cuttings. The best method of procedure is, therefore, to insert cuttings every autumn in pots, pans, or boxes, in a light sandy soil, and stand them in an unheated frame, or place a hand-light over them according to the quantity required. Shading from bright sunshine will be necessary for a time to prevent the large membraneous leaves from getting flagged, especially if at all soft. Select short side shoots, pulling them off with a heel; trim with a sharp knife and remove the lower leaves; insert them firmly, and not too closely. Pots are perhaps the best for small quantities, and those cuttings generally root best which are inserted round the rim. Before commencing to put them in cover the pots with a layer of clean sharp river sand.

SUCCULENTS.

A large number of Aloes, Agaves, Mamillarias, Cereus, and similar things are admirably adapted for greenhouse treatment, or even for the windows of dwelling-rooms, if they are kept dry in winter. Large specimens are admirably adapted for standing out of doors in prominent positions during the summer months, where they give an interesting and unwonted aspect to the surroundings. The keeping abilities are often impaired, however, by being left too long at the mercy of the weather in autumn during heavy splashing rains. If the ground where they are stood is at all wet or retentive of moisture, it constitutes another evil that ought to be avoided. All plants of any value should, however, be removed at no distant date to a greenhouse or a pit with dry shelving, and where ample ventilation can be given to ripen off their tissues properly. Upon this depends their power of keeping through the winter under a low temperature. Moisture is the greatest enemy to these fleshy subjects, doing most damage, of course, when the temperature is much below that of their native country, and when the freezing-point is approached or stands at that figure for any length of time.

FLOWERING STOVE PLANTS.--III.

DIPLADENIAS.

In these we possess one of the finest and most useful classes of exhibition climbing plants, with brilliant-coloured flowers, which are produced in abundance on well-cultivated plants, if we omit D. boliviensis, with flowers pure white, and throat of chrome-yellow tinge. To grow these plants to the highest state of perfection a compost of porous peat is requisite, intermingled with rough pieces of charcoal and broken brick, and in the case of large plants a small amount of good fibrous loam may be added. Taking these subjects from the cutting onwards, they generally thrive well if kept in a good heat, bottom-heat, if applicable, being of the greatest advantage to the development of root action. The roots may be described as tuberous, and to aid these tubers a strong top growth is necessary, producing plenty of foliage, which can only be obtained by the application of top and bottom heat. In the cultivation of these plants it will be found that a season of rest is requisite after the strong stimulus given to growth. It will therefore be necessary to keep the plants as dry as is consistent with the temperature of the house during the winter months, and care must be taken that the wood does not shrivel up from too quick a drying process, or the tubers in the pots will suffer at the same time. When starting the plants into growth in the early spring months, it will be found necessary to turn them out of the pots, examine and cut away all decayed roots and tubers, prune top shoots in to correspond with the root action likely to be developed, re-pot into the soil advised previously, and plunge in a good bottom-heat, training the young shoots as they advance in growth upon strong threads tied to the roof, to which they will readily twine if the plant be placed in a position so that the shoots can travel westward—that is, following the sun. They can afterwards be taken down from the roof and placed upon trellis-work if required for exhibition or for the furnishing of the general arrangement of the stove during the autumn months. D. Brearleyana is probably about the best amongst the high-coloured section, whilst D. amabile will still hold its own when well cultivated. There are other forms, but the two named will be good enough for ordinary purposes.

Anent the propagation of these plants, it may be said that they may be increased by cuttings in strong bottom-heat. Take a good well-matured shoot, cut it into lengths of 3 ins., or make a cut between every pair of leaves, and insert them in very sandy peat, plunging in a good bottom-heat, and cover with a bell-glass; they will soon root and quickly commence to grow from the axil of the leaf, the roots being produced from the stem below the leaves, but not necessarily from a joint where leaves have been growing from. These plants may also be produced from seed, and seed may be obtained from fertilised flowers of any of the forms named, provided care be exercised in the matter of fertilisation. It remains an open question if some amateurs in horticultural pursuits have not obtained better results from the hybridising of Dipladenias than some of our skilled professional men have done up to date. Take heart, oh ye amateurs!

MISCELLANEOUS.

Under this heading we may enumerate the following:—Jasminums, of sorts, also Manettia bicolor, of which it is difficult to see a plant at the present time. Passifloras, of sorts, not forgetting P. princeps. Stephanotis floribunda, of which I need say nothing further than do not depend upon seedlings, but if you have a good variety be content with plants propagated from it. Stigmaphyllum ciliatum is a plant very subject to red-spider, and requires a good deal of syringing. Thunbergia Harrisii and T. laurifolia constitute a very good arrangement of stove climbers, either for the adornment of the stove or warm greenhouse at home, or for the practical purpose of supplying the exhibition tent where the sorts are suitable for the purpose.—*W. G.*

GARDENING MISCELLANY.

A Stimulant for Spent Mushroom Beds.

IF any of your readers have tried Thomson's Vine and Plant Manure on spent Mushroom beds, I should be glad to know if they have experienced the same success as I have. I had a Mushroom bed in the spring of 1887 which was completely exhausted, and I did not anticipate being able to gather any more Mushrooms from it. However, I put a handful of the manure into every three gallons of tepid water, gave the bed a good watering, and covered it with dry litter. In about a fortnight afterwards I was agreeably surprised to find another crop making its appearance. Last spring I had another bed from which I had been gathering for about two months, and when it ceased to yield, my foreman wanted to clear it out, but I told him we would treat it in the same way as the one the year before. We did so, and in a fortnight afterwards the Mushrooms came up as thick as ever. Every ten days or so we damped the bed down with the liquid, and I believe we gathered more Mushrooms from it after applying the liquid than we did previously. I have great faith in the value of this manure, having seen the benefit of it here in the case of Vines and other plants, and I trust you will be able to find a corner for this note in your valuable paper, in the hope that my experience may be useful to other gardeners.—*Malcolm McIntyre, The Glen Gardens, Innerleithen, N.B.* [We gladly afford space for a record of such a valuable bit of practical experience, and should be glad if other gardeners would follow Mr. McIntyre's example in communicating useful hints for the benefit of their brother craftsmen.—ED.]

Shirley Poppies.

POPPIES continue to enjoy much public favour, to which they are justly entitled. The old garden favourites are chiefly run upon, although there is yet a number of species that deserve greatly extended cultivation, such as Papaver Rhœas, P. umbrosum, and P. pavonium, the former a Caucasian variety of our common Corn Poppy, and the latter a Central Asiatic species. The so-called Shirley Poppies consist of a selection of beautifully coloured varieties of the Corn Poppy (P. Rhœas). The double forms of this plant have been cultivated in gardens for a very long period, and now the single forms have suddenly sprung into popularity again, like single Dahlias. A bunch, including many beautiful varieties, comes to us from Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. The scarlet and red varieties of the wild plant are avoided for the less glaring and pleasing lighter shades, such as white, blush, pink, rose, and beautifully blended combinations of these colours. Rose varieties often run imperceptibly into scarlet at the margin, while the base of the petals may be pink. In other cases there is a large white blotch on the base of each petal instead of a black one as in the wild type. The blotch even there, however, is not constant, but may be altogether wanting. Another feature that strongly recommends the Shirley Poppies to general cultivation is the crumpled and plaited character of the petals, due to their being crumpled or folded in that manner in the bud. This gives them a better effect than if the petals were smooth, flat, and glossy. There is a tendency already for the flowers of this strain to become double, as in the old garden varieties of Papaver Rhœas.

The Double Hawthorn in Flower.

WE are wont to talk of the unseasonable flowering of the Glastonbury Thorn, but a tree of the double crimson Thorn in full bloom in September is phenomenal. A specimen of Cratægus oxycantha rosea plena, the double Rose-flowered variety, has been sent us by Mr. Mason, St. Anne's Park Terrace, Wandsworth. It is now in full bloom, whereas in July last the tree was entirely leafless, and apparently dead. The owner, thinking it was so, pruned the branches back to some extent, with the object of ascertaining whether they were fresh or dried up. They appeared quite sound, and the tree was allowed to stand, with the present results. The cause of this unseasonable growth was owing to the tree having been lifted in September last year—that is, about twelve months ago—which had the effect of throwing the tree into a dormant state, although we should rather have expected opposite results from such early lifting, and that the roots would have been well prepared to make an early start. We suspect that the soil had been very dry after such a droughty summer. Growth is not yet by any means rampant, but it speaks

favourably of the moistness and mildness of the season, and the tree will, no doubt, be able to make a more seasonable start next spring.

Sportive Tomatos.

A Surrey correspondent, "W. B. G.," sends us some stems and leaves of Tomatos exhibiting some remarkable freaks of growth, quite departing from their usual character. The leaves, extending over a considerable portion of a stem and its branches, have become so reduced that in most cases nothing remains but the midribs, which are rounded and cord-like, resembling the tendrils of a Vine, or some similar plant. The larger ones are branched, corresponding to the lobes or divisions of the leaf, while the small leaves given off from the branches are reduced to simple thread-like processes. There is a disposition on the part of many of them to become twisted towards their apex, and it does not take a great stretch of the imagination to conceive that the remote ancestors of the Tomato may have climbed by means of their leaves. The racemes of flowers are given off in the usual way and are quite uormal. Another curiosity presented itself in the development of strong branches bearing leaves from the base of the segments of a leaf, where the former join the midrib. Shoots from the bunches of fruit or flowers are not uncommon, but we are not surprised at the fact, seeing that the peduncle of a Tomato is morphologically a branch, or rather the original apex of the stem bearing it.

Variegated Tuberous Begonias.

Hitherto little in the way of variegation has appeared amongst the tuberous Begonias, the variation being confined mostly to the flowers. A boxful of leaves, however, has been sent us by Mr. B. R. Davis, Henford Hill, Yeovil, showing some beautiful tints of colouring. The younger leaves, or those produced at the present time, exhibit the greatest amount of variegation, which is creamy white, more or less tinted and delicately suffused with pink on the upper surface, while the lower surface is heavily blotched with a lively red and traversed with white veins. The normal dark green portion of the leaf has been very much reduced. Older specimens either do not develop the white and pink markings and blotches to the same extent, or they lose them after a time, and the leaves become of a glossy rich green above, but are more or less heavily blotched with deep crimson beneath. The lower leaves being green prove of immense advantage to the plant, enabling it to remain vigorous and healthy, while the upper ones capping the plant render it ornamental and effective. We have seen a somewhat similar combination of colours in Saxifraga sarmentosa tricolor, and pretty as they are in the present condition, Mr. Davis may be able to effect improvements and give greater variety.

Adiantum Farleyense.

What your correspondent "Nimrod" says (p. 11) is unfortunately too true, and, curious enough, no better example of what he points out could be cited than that which occurs on the same page, where a Fern is noticed under the heading of Adiantum versaillense. If, as is stated there, Mr. B. S. Williams exhibited before the Royal Horticultural Society a form of A. Capillus-Veneris under the name of A. versaillense, as one would naturally infer from the heading of the note referred to, he is much to blame, but far more so is the society which awarded it a First Class Certificate. Such a method of procedure is misleading in the extreme, and should certainly be corrected by the editors of such papers as insert their productions. A. versaillense is simply a form or variety of A. Capillus-Veneris, as is also the well-known Daphnites and Cornubiense; but if it is sent out under the name attributed to it in The Gardening World, even Fern connoisseurs will be mystified and misled.—*A. D. Webster.*

Ixora macrothyrsa.

Most of the Ixoras flower freely, even when subjected to a considerable amount of pruning; but that under notice refuses to flower unless allowed to run up with stems some three or more feet in length, after which they develop flower buds which gradually expand and ramify until a sub-globose panicle or cyme is produced about 10 ins. or 12 ins. in diameter, the former being about the average size of the truss. The flowers are proportionately large compared with those of other species, and are of a brilliant scarlet. The effect of two or three trusses of the above dimensions on the top of a plant may well be imagined. Two plants that have been in full bloom for some time in the Victoria house at Kew, prove a great attraction to visitors, and put the other species entirely in the shade. Although profusely flowered, their smaller trusses and blooms are not to be compared with those of I. macrothyrsa. The leaves are oblong, leathery, of great size, and droop on the stems much in the same way as do those of Ficus elastica when getting old. The plant was introduced under the name of I. Duffi, and used to be grown in the Palm-house; but the closer and moister atmosphere of the Victoria-house is more suitable to its well-being.

Unseasonable and Double-spathed Richardia africana.

Double spathes are by no means uncommon in collections of this plant where the conditions of culture have been favourable to a vigorous vegetative growth, but it is very unusual to see flowering specimens in September. At Devonhurst, the plants are kept in pots during the summer, and have been stood in the open air where they have been exposed to the weather to a certain extent, but are so sheltered by shrubs and houses that they have not felt the fury of the blasts which we have from time to time experienced lately. The lower spathe is no doubt a modified form of an ordinary leaf, but is pure white, about the normal size of the true spathe, and furnished with a long sheathing petiole, the portion where it leaves the flower-stem being very wide. Below this it can be traced down the scape for a distance of 6 ins., after which it becomes completely amalgamated with the stems, and the only trace of it is evidenced by the scape not being round, but furnished with a broad, blunt ridge. The true spathe is somewhat below the average size, and stalkless, but scarcely clasping the stem, which is carried beyond the point where the lower spathe leaves it for a distance of 3½ ins. It is, however, uearly uormal in shape, but some of the female flowers run down the scape outside it, where they are fully exposed.

Viburnum macrocephalum.

The Cotinus-leaved Viburnum (V. cotinifolium), considered by some authorities as a form only of the Wayfaring Tree (V. lantana), sometimes does duty for V. macrocephalum in gardens, but judging from specimens of the latter in the Coombe Wood Nurseries of Messrs. J. Veitch & Sons, the two are very distinct in general appearance, and flower at different seasons. V. cotinifolium blooms in spring or early summer from large well-advanced buds that have been formed the preceding season before the fall of the leaf, and from which it can be determiued at the winter pruning the quantity of bloom that may be expected. V. macrocephalum flowers in August and September from the young wood of the current season, and is therefore the latest-flowering species we have. It is a native of China, and was originally introduced in 1844. Although attaining a considerable size, it flowers freely in a small state, as the specimens in question do not exceed 18 ins. or 2 ft. in height, and bear terminal sub-globose panicles of pure white flowers, the calyx of which becomes enlarged and petaloid, much in the same way as that of V. plicatum or V. opulus sterilis, the barren form of the common Guelder Rose.

Veronica spicata var.

A pretty pink form of this old border plant is flowering well in the gardens of Aldenham Park. Mr. Beckett uses this and many other hardy plants with good effect in the kitchen gardeu as borders to the vegetable plots.—*J. W. O.*

Tachiadenus carinatus.

As a Gentianwort this genus possesses a peculiarity which only four other genera in the order do—namely, a completely two-celled ovary, bringing the family in very close connection with that of the Solanum. The leaves are, however, opposite, not alternate as in the latter order, and the intense blue of the flowers of many species belonging to the group is strongly suggestive of a Gentian, although the colour in that order is not by any means exclusively blue. Of five species known to science, and all indigenous to Madagascar, the present seems to have beeu the only one introduced. Other species are described as being rose-coloured or white, and we have, therefore, in this species the best of the genus. The flowers are produced in lax terminal cymes, and have long, slender, greenish tubes changing to white, while the lamina is of a deep violet-blue, more or less tinted with purple, but as it gets old the shades become considerably paler. The whole plant, which is herbaceous, does not exceed 6 ins. or 8 ins. in height, and is so neat as to be accommodated in small space, and may therefore be included in select collections of stove plants, where its brightly coloured flowers will recommend it to the lover of plants. The leaves are dark green, three-nerved and shining. A group of plants may be seen in the Begonia-house at Kew.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

One of the greatest aids in Orchid culture is cleanliness, and nothing assists more in maintaining this than a thorough overhauling—plant by plant and house by house. This kind of work should always be borne in mind by the grower, and whenever an opportunity presents itself it should be taken advantage of. Periodically, however, the thorough review of the plants should be the business of the season, and early in September is one of the most important periods for such work. Beginning at one end of the collection, the whole of the plants should be passed through the hands, the pots washed, the staging and surroundings cleansed, and the foliage of the plants carefully sponged whether they seem to want it or not. As a preventive, a sponge over with a weak solution of Fir Tree Oil or other good insecticide is very useful, especially for the destruction and keeping in check of that insidious pest, yellow thrip, which will present itself even in the best-kept collections. That thrips should be in the Orchid houses in summer is not to be wondered at when a Carnation bloom out of doors generally has a score or two of them; but it is the grower's place to keep them under, and if his plants are to thrive he must do so, even if he has to take to what I consider the last resource—fumigating.

During the autumn review of the plants, such as would seem to be in sour or unsuitable material should be re-potted. Occasionally a plant will be met with which, not having answered the expectations when last shifted, is now in too large a pot; this should be remedied, aud a smaller one given. Over-potting is not ouly a mistake with thriving plants, but often ruinous to weakly ones. Now and then a confirmed invalid will be met with, looking very unhappy in a pot, and with such, if an epiphyte, a re-establishing agent is ofteu found by taking it out and placing it on a raft or in a small basket at this season, and suspending it near the glass of the roof. Observe that the water in the tub in which tbe green is washed off the pots be taken outside and not emptied in the houses, otherwise it gives off an offensive and injurious odour for many days.

The Temperatures for the Month of September should be:—Warm or East Indian house, 75° to 85° by day, 70° at night. Cattleya or intermediate house, 70° to 75° by day, 65° at night. Odoutoglossum or cool house, 60° to 65° by day, 55° at night. Degrees Fahrenheit.—*James O'Brien.*

Zygopetalum maxillare.

Of the smaller-growing species of Zygopetalum, Z. maxillare is one of the choicest, and might worthily be admitted into the most select collections. The pseudo-bulbs are moderate in size, as well as the leaves, which are liuear, lanceolate, and arching. The sepals and petals are brown in the lower part, and blotched with that hue on the upper portion on a green ground. The lip is comparatively large, and forms as usual in this genus the most conspicuous part of the flower. The apical portion or lamina is broad and rounded, or intermediate between reniform and wedge-shaped, and of a violet-blue colour. The disk is large, fleshy, deep violet and corrugated or ribbed, giviug it the appearance of the jaws of some animal, and suggesting the specific name. It also forms with the column—which is also of a violet colour—a cup-like process. The plant, which usually flowers in August and September, has been in bloom for some time at Forest Hill, in the nursery of Messrs. Laing & Sons.

Broughtonia sanguinea.

I fear this grand crimson-flowered Orchid ofteu gets into bad conditiou at home by being potted or basketed in too much stuff. The very best way to grow it is on itself—*i.e.*, if a large clump or two or three smaller ones be put together so as to form a ball, they will soon grow into a solid mass, and can be suspended anywhere in a fairly warm house. So grown it is a beautiful object when in flower.—*G., Kingston, Jamaica.*

THE GARDENERS' CALENDAR.

THE STOVE.

WINTER-FLOWERING PLANTS.—Increasing attention will now have to be given to subjects for late autumn and winter-flowering purposes. With the low temperature, heavy rains, and often deficient sunshine, such things as Poinsettias, Begonias, Libonias, Centropogon, aud Euphorbia fulgens (E. jacquiniæflora), will have to be removed from the pits where they have been housed for the summer, and placed in warmer quarters to bring them forward, as well as to prevent the loss of foliage. This is particularly so in the case of Poinsettias and Libonias, especially L. floribunda, which will entirely lose its foliage if checked by a low temperature. Weak liquid manure given about twice a week will do much towards retaining the lower leaves of Poinsettias, and later on they will take it stronger, and will require a higher temperature to develope the bracts fully. Amongst winter-flowering Begonias, B. Socotrana, B. John Heal, B.. Abel Carriere, B. insignis, and many others might be mentioned. Strong well-grown plants of Centropogon Lucyanus, if well cared for, will supply a great quantity of flowers for a long period of time. After the terminal cymes have been cut, side ones develop, and prolong the flowering season indefinitely.

THE GREENHOUSE.

BOUVARDIAS.—Those grown in pots and kept in the open air for some months back will by this time have been housed. Some growers prefer planting out last year's plants in a frame after pruning them hard back. Large plants are obtained in this way, and a proportionately greater amount of flowers if they have been liberally treated when making their growth ; the trusses may not, however, be so large. The sooner the plants are lifted and potted now the better. Place them at once in a close, moist, and warm atmosphere till the roots take hold of the fresh soil, otherwise they are apt to become defoliated, and never recover their original vigour all through the winter. By maintaining a moderately high temperature the syringe can be freely used, which will also greatly assist in keeping them clean. When the terminal trusses expand they may be cut if wanted, and a long-continued succession will be furnished by side branches.

THE FRUIT HOUSES.

MELONS.—The season has been very bad for Melons in unheated pits, making them, in some cases, a failure. Where the pits are supplied with appliances for heating them by artificial means, the absence of sun-heat can be surmounted, although the deficiency of sunlight prevents the fruits from acquiring their accustomed flavour. Artificial heat will, however, supply the means of urging on growth, of ripening the fruits, and also of keeping the atmosphere of the house dry while the latter process is being accomplished.

CUCUMBERS.—For winter cultivation plants should now be ready to transfer to their permanent quarters, either in pots, boxes, or on mounds of soil specially prepared for the purpose. A suitable compost for Cucumbers will consist of three parts of loam, uot too heavy, one part of peat and a quantity of charcoal to render it porous and open. For summer culture mauure in some quantity may be added ; but it is better to avoid feeding material of a rank nature in winter culture. Feeding with liquid manure or some of the good artificial ones can be resorted to in due season. Press the soil firmly about the roots, which should be disturbed as little as possible, aud tie the stems of the plants to stakes until they reach the trellis-work. Keep the house close and shaded during very bright sunshine, and do not water very heavily until the roots have taken hold of the fresh soil and are growing freely.

THE KITCHEN GARDEN.

FRUIT-GATHERING AND PRESERVING.—Peaches and Nectarines on open walls will require more than ordinary vigilance to secure them iu good condition, as they are liable to split, and soon become decayed by the superabundant moisture. As soou as ripe, therefore, have them removed to a dry place to complete the ripening process, and maintain them iu a sound condition. Early Apples and Pears will have to be collected from time to time accordiug to their state of maturity. When they reach that period of ripeness which endangers their being blown down by squally weather, have the most forward of them gathered. Apples, such as the red and white Astrachan, if allowed to hang a day or two after being properly ripened, become mealy, tasteless, and useless. Net Gooseberries and Currants on walls, as well as late Raspberries, if this has not already been done.

HORTICULTURAL SOCIETIES.

Royal Caledonian.—*September 5th and 6th.*

THE annual autumn show of this society was held on Wednesday and Thursday, in the Waverley Market, and proved inferior to that of last year, both in point of numbers and quality, the late season and unfavourable weather having told its tale in this as in other localities. The display of hardy fruits, usually so good, showed a great falling off. The post of honour in the fruit classes must be given to the Grapes from Mr. McHattie, of New Battle Abbey, who secured the leading award in the competition initiated by Messrs. W. Thomson & Sons, of Clovenfords, in which there were five other competitors, whose productions collectively were the finest that have been seen in Edinburgh for some time.

Mr. Hunter, of Lambton Castle, was the only exhibitor of twelve dishes of fruit, and to him the highest award was made, his collection consisting of some fine Grapes, some wonderful samples of Marie Louise d'Uccle Pear, and very fine Worcester Pearmain Apples, &c. There were three competitors with eight dishes, but the samples shown in all cases were below the usual standard. Mr. Hunter again secured the first prize ; Mr. McKelvie, Broxmouth Park, being a good second ; and Mr. McIntyre, The Glen, Innerleithen, third. In the class for twelve dishes of hardy fruits, the falling off in quality was most marked, but Mr. Fairgrieve, of Dunkeld, who was first, showed some fine Apricots, Hale's Early Peach, and fine dishes of Cherries, &c. Mr. Low, Viewforth, Stirling, was second, with a nice collection ; and Mr. Brunton, of Drem, third. In a similar competitiou for fruits grown in orchard houses, Mr. Hunter again came to the front, with some really wonderful samples of Pitmaston Duchess Pears, weighing over 30 oz. each, Queen Apples, Beurré Diel Pears, about 2 lbs. weight each, splendid Peaches and Nectarines, &c. This was a most meritorious collection.

For the Messrs. Thomson's Grape prizes, as before observed, Mr. McHattie came in first with a magnificent lot, consisting of two splendid bunches of Hamburghs, about 4 lbs. weight ; Madresfield Court and Muscats, abour 5 lbs. each ; Duke of Buccleuch about 4 lbs. ; and all perfectly finished as regards shape, size, and colour. The second award went to Mr. McKinnon, of Melville Castle, who had Gros Maroc and Alicante, very fine both in bunch and berry, but whose Muscats were not equal to Mr. McHattie's ; third, Mr. Boyd, of Callendar, who had good Alicante aud Alnwick Seedling ; fourth, Mr. McKelvie, who had good Muscats and Duke of Buccleuch. For four varieties of Grapes, Mr. McHattie again held his own with magnificent examples of Muscat of Alexandria, aud really grand Gros Colmar, Hamburgh, and Madresfield Court. Mr. McKinnon was a good second ; and Mr. Boyd again third. In the single dish classes for Muscats and Hamburghs, Mr. McHattie was also to the fore ; and for a single bunch of Muscat of Alexandria the highest award went to Mr. Green, of Yester ; and in the corresponding class for Hamburghs, Mr. Copeland, Orwell Lodge, Edinburgh, was well first. Mr. McKinnon had the best Alicantes ; Mr. Boyd the finest Alnwick Seedlings ; and Mr. Murray, Park Hill, the finest Gros Colmar. Duchess of Buccleuch again gained the first prize for flavour, being well shown by Mr. McHattie. In other competitions the first prizes went as follows :—Melons, Mr. Fairgrieve and Mr. Laing ; Peaches, Mr. McLeod, Brentham Park ; Nectarines, Mr. Harkness, Berwick ; Apricots, Mr. Fairgrieve ; and Pines, Mr. McIntyre.

In the plant classes Mr. Grossart was a good first for a table, showing as usual a very neat and chastely arranged lot. Orchids for the season were very good, and the highest award for a group went to Mr. Curror, of Esk Bank, the best single specimen coming from Mr. Brotherston, of Tyninghame. Mr. Laing, of Salisbury Green, had a very fine Vanda Lowii. The nurserymen as usual rendered the society valuable assistance by contributing large groups of plants, iu a competition with which Messrs. R. B. Laird & Sons were first, and Messrs. Ireland & Thomson second, both showiug in their best style. Mr. Grossart took the first prize for foliage plants, also for Crotons and Dracænas, and Mr. Patterson as of old showed the best Heaths. Messrs. T. Methven & Sons contributed a very fine table of flowering plants ; and Messrs. Stuart & Mein, Kelso, a table of mixed herbaceous cut flowers. Messrs. Laing & Mather, Kelso, were awarded a First Class Certificate for a new Carnation, R. H. Elliott. A fine lot of Dahlias came from Mr. Campbell, of Blantyre, as also from Messrs. R. B. Laird & Sons. Messrs. Cocker & Son, Aberdeen, were first with a graud lot of Roses ; Messrs. D. & W. Croll, of Dundee, being well secoud. Single Dahlias: a very attractive assortment came from the Messrs. Laird & Sons. Mr. Johu Dowuie coutributed a large table of seedling tuberous Begonias, somewhat of a novelty here, and a very nice lot. Messrs. Dickson & Co., Waterloo Place, had a fine table of mixed cut flowers, including fine stands of their new Carnation, Maggie Laurie, a very pretty rose-pink variety.

Vegetables, on the whole, were well shown, and the first prize for a collection went to Mr. Low, of Viewforth, Stirling. Salads were also nicely exhibited by Mr. McKinlay, of Lesmahagow. Onions and Tomatos were shown well, also Potatos.

One of the features of the show in the plant way was a grand group of Conifers, Clematis, Ivies, &c., exhibited by Messrs. Ireland & Thomson, for which a special prize was awarded. Messrs. Munro & Ferguson had a table of cut herbaceous flowers, and were awarded a First Class Certificate for their Matricaria inodora flore pleno Snowflake. Messrs. Dicksons, Limited, Chester, were also awarded a First Class Certificate for their new border Carnation, Mrs. Reynolds Hole. They also exhibited cut herbaceous flowers.

Obituary.

ON Saturday the 1st inst., at Gunnersbury Park Gardens, Acton, W., the wife of Mr. John Roberts.

QUESTIONS AND ANSWERS.

SULPHUR AND VINES.—*Mealy Bug :* We have seen so much damage done to Vines when in leaf that we should be sorry to advise you to use it in the way you mention, even after the rods have dropped their leaves. You should paint the stems in winter with a mixture of gas-tar and clay in the proportions of one of the former to three of the latter. Knead them together until thoroughly incorporated, then add warm water until the mixture becomes of the consistency of cream, when it is fit for use. Before painting scrub the rods throughout their entire length with a hard brush, using soapy water, which should be afterwards washed off before dressing with the mixture, which should be put on with a painter's soft brush. Wash the glass and woodwork of the house with soft soap aud paraffin.

BLUE ROSE.—*J. W. O. :* The Blue Rose described in the catalogue you send us, has uot been exhibited in London or elsewhere so far as we know. It may be genuine, but—we shall believe in it when we see it, and not till then.

GOOSEBERRY.—*Omega :* The collections of Gooseberries are all gathered in our neighbourhood, so that we are sorry to say we cannot name the variety sent. In private gardens a few may be found specially protected for late use, but we cannot say where such are to be found ; besides, the collections there are most frequently unnamed, and the growers often in the same plight as yourself.

GRAPES SHANKED. — *Constant Reader :* The specimens of Madresfield Court you send us exhibit a clear case of shanking. You might inarch either Alicante or Gros Colmar on the roots of your Vine, but it would not assist you out of the difficulty, as the evil lies at the root, not the top of the Vine. We would advise you to lift the Vine after the crop has been gathered and examine the roots. It is possible that your border is over well drained for Madresfield Court, as it is a vigorous grower, and the berries are more liable to split than to shank. The operation should be performed before the leaves fall, and the injury will be repaired during the remaining portion of autumn and winter. Both the roots and the border should be subjected to a thorough examination to see that the roots are within reach of and are able to get a proper food supply. Water may have been deficient, seeing that the roots are inside.

CLIMBERS FOR NORTH WALL.—*L. A. :* There are many climbers that would do fairly well on a north-aspect wall, and flower in proportion to the amount of light they receive ; but if shaded by trees, walls, or houses in the vicinity, besides being hampered by their already unfavourable position, you cannot expect a large amount of bloom even if they grow satisfactorily and cover the wall. There are a number of the stronger-growing climbing Roses, which grow with tolerable freedom on such an aspect—other conditions being equal. Cotoneaster Simonsi may also be planted, and Cratægus pyracantha, the berries of which are more ornamental than the flowers. Others we would recommend are Camellia japonica, Kerria japonica (single and double), Forsythia suspensa, Clematis flammula, C. montana, Jasminum uudiflorum, J. officinale, Honeysuckle, Sweet Briar, aud Tropæolum speciosum. The latter would be at home, especially in the southern counties, and flower brilliantly, You do not, however, state in what latitude you are situated. nor anything about the locality and its surroundings. Why not plant a collection of select green and variegated Ivies, of which there are a great mauy beautiful forms—Euonymus japonica and its forms, and E. radicans variegata, all of which would look beautiful aud interesting ?

ORCHID TO NAME.—*R. Twiss :* Certainly uot Thuuia Bensoniæ, but near to T. alba. The yellow ou the lip of yours, however, differs from the type of T. alba. We will ascertain if possible if it has been distinguished.

NAMES OF FRUITS.—*W. Martin :* 1, Not recognised ; 2, Red Astrachan ; 3, Mank's Codlin ; 4, Kerry Pippin ; 5, King of the Pippins ; 6, Pear decayed.

NAMES OF PLANTS.—*Thomas Reason :* The commou or European Spindletree, Euonymus europæus. *P. Whitton :* Podophyllum peltatum. *William Craik :* 1, Lychnis coronaria ; 2, Aristolochia clematitis ; 3, Polygonum affiue. *L. Gibson :* 1, Berberis Darwini ; 2, Colutea arborescens ; 3, Chrysanthemum lacustre ; 4, Saponaria ocymoides ; 5, Calceolaria violacea. *R. M. Shirley :* 1, Juniperus communis ; 2, Retinospora plumosa aurea ; 3, R. p. argentea ; 4, Libocedrus decurreus ; 5, Abies nobilis ; 6, Papaver Rhœas flore pleno. *J. McP. :* 1, Artemisia argentea ; 2, Helianthemum vulgare tomentosum ; 3, Seduum stolouiferum.

COMMUNICATIONS RECEIVED.—E. D.—J. C.—A. D.—W. J. M.—W. S.—W. G.—T. N. (many thanks)—D. C.—B. L.—S. B.—J. T.

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ROYAL HORTICULTURAL SOCIETY.

NOTICE! The next meeting of the Fruit and Floral Committees will be held in the Drill Hall of the London Scottish Rifle Volunteers, James Street, S.W., on Tuesday, September 25th.

Open to Fellows at 12 o'clock, and to the public at 1 p.m.

An Apple and Pear Conference will be held in the Society's Gardens at Chiswick, from the 16th to the 20th of October.

For particulars respecting the election of Fellows apply to the Secretary, 111, Victoria Street, S.W.

Next Week's Engagements.

MONDAY, September 17th.—Sales of Dutch Bulbs at Protheroe & Morris's and Stevens' Rooms. Annual Trade Sale of Greenhouse Plants at the Dyson's Lane Nursery, Upper Edmonton, by Protheroe & Morris.

TUESDAY, September 18th.—Annual Trade Sale of Greenhouse Plants at the Burut Ash Lane Nurseries, Lee, S.E., by Protheroe & Morris.

WEDNESDAY, September 19th.—Annual Trade Sale of Greenhouse Plants at the Lea Bridge Road Nurseries, Leyton, E., by Protheroe & Morris. Sale of Dutch Bulbs at Stevens' Rooms. Sale of Azaleas from Ghent at Stevens' Rooms.

THURSDAY, Sept. 20th.—Annual Trade Sale of Greenhouse Plants at the Brimsdown Nursery, Enfield Highway, by Protheroe & Morris. Trade Sales of Dutch Bulbs, and Sale of plants of Lilium nepalense at Stevens' Rooms. Sale of Dutch Bulbs at Protheroe & Morris's Rooms.

FRIDAY, Sept. 21st.—Annual Trade Sale of Greenhouse Plants at the Longlands Nursery, Sidcup, by Protheroe & Morris. Sale of Established, Semi-established, and Imported Orchids at Protheroe & Morris's Rooms.

SATURDAY, Sept. 22nd.—Sale of Dutch Bulbs at Stevens' and Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, SEPTEMBER 15, 1888.

CURRENT TOPICS.

THE CRYSTAL PALACE FRUIT CONFERENCE.—Although somewhat lacking that definiteness of purpose which should characterise any gathering that aims to secure some given object, yet the conference of persons interested in fruit culture held at the Crystal Palace last week merits warm commendation. In the first place the gatherings were largely attended, and the interest evinced undoubtedly practical. In the second place the papers read and the subjects introduced, with some that have already been pretty well considered, if covering too much ground, yet included so much matter of interest that in helping to extend the discussion of the subject in hand, and in creating for it greater national interest, only good can result. Whilst we know nearly all that can be told with respect to fruit culture in gardens, we have very much yet to learn in relation to fruit growing in association with agriculture, and to no inconsiderable extent the Conference conduced to that end.

It was perhaps needful, after the discussion of some of the topics introduced, to remind the Conference that the object in view was chiefly the promotion of fruit culture in conjunction with farming, and we may well hope also, in connection with cottagers' gardens and allotments. The subject of the most desirable tenure under which land not owned by the grower should be held, to encourage the planting of fruit trees, was naturally the very basis of the topic discussed, and it is beginning now to be universally admitted that the existing land laws and customs of landholding or tenure have proved to be the chief obstacles to the wider cultivation of hardy fruits by farmers, &c. It may be that even after these objectionable laws and customs have been altered for the better the too well-known obtuseness of the farming fraternity may stand in the way for some time to come. The Crystal Palace Conference has made a good start; it now needs to make its aims more defined and clear, and eventually it may be productive of great good.

THE NATIONAL DAHLIA SOCIETY'S SHOW.—If the number of supporters of this exhibition is not large, it is at least certain that there is no lack of capacity to grow good flowers amongst them, whilst it is equally certain that the general public appreciate Dahlias as much as ever. Those famous trade growers, Mr Turner and Messrs. Keynes, Williams & Co., still continue to fight their battles as of old, and when such Greeks as these meet, the tug of war is full of excitement and interest. Both firms showed grand flowers in spite of a miserable season, and some of the amateurs who in years past have made good reputations were also well to the fore. Whatever critics may say with respect to the Cactus and single Dahlias, they do not decrease in popularity, whilst some of the newer forms will assist that popularity. These kinds being added to the exhibition classes, they conduce appreciably to the beauty and variety of the Society's shows. What the florist has accomplished in the improvement of habit in the show Dahlia we hope soon to see developed in association with the other sections, for in excessive height is found just now the chief defect of these decorative Dahlias.

THE CRYSTAL PALACE FRUIT SHOW.—Whatever may be the season's product of fruit, we are pretty certain to find some of the very best at this exhibition, and such was the case last week. The Palace nave presents one of the finest places in the world in which to hold horticultural exhibitions, and had horticulture that position in the United Kingdom which it holds in Belgium for instance, we should more often see the Crystal Palace the scene of grand displays. As it is, gardeners who can exhibit, the trade, and the public generally have much reason to be grateful to the Directors of the Palace for the very fine show of fruits, flowers, &c., made, as also for the very pleasant *réunion* of old friends which thus results. Our shows in London have become so few that opportunities to foregather in a kindly and friendly sense come seldom. We shall probably see no other such gathering until the Chrysanthemum season is upon us, and the National Society holds its annual big levée at the Royal Aquarium. We do not ignore the Apple and Pear Conference at Chiswick next month, but that will hardly prove a horticultural festival.

THE FRUIT GROWERS' ASSOCIATION.—The formation from out of the Crystal Palace Conference of a Fruit Growers' Association is a capital move if it be broadly and efficiently worked. To this end we would advise that the association, whilst having its business head-quarters in London, should all the same assume a peripatetic form, and hold meetings or conferences in diverse parts of the kingdom. We would advise that at least one summer conference should be held in the country annually and one in London during the winter; also, as the special object of the association is more national and agricultural than local and horticultural, it would be well to hold such conferences somewhat in conjunction with the Royal Agricultural or other societies' summer shows, and in accord with the Smithfield Club Cattle Show in London in the winter. Without doubt the new body will fail very much indeed in its purpose if it does not get hold of and interest the tenant farmers of the country.

Then there may be a great deal of good produced if occasional meetings of the members and others interested in fruit culture be held in nurseries, gardens, whether private or market, or, indeed, anywhere where some interesting examples of fruit culture might be seen. We publish in another column a condensed report of the gathering of Scotch gardeners and others held in the gardens at Dunkeld.

How many of our southern gardeners are there who would not enjoy some similar gathering here! Can the committee of the association organise something of a similar character? We have no doubt that many nurserymen and gardeners in England would be only too pleased to follow in Mr. Fairgrieve's footsteps; but there must be a distinct end in view, and that end must be the production and cultivation of hardy fruits in this country. It may be well also to study a little more than is at present the case the dietable value of fruit, and to welcome the assistance of the food reform bodies in their useful efforts to render fruits more completely the real food of man.

Horticultural Sales.—The formidable list of sales by auction near at hand of nurseries, nursery stock, private-grown plants, bulbs, &c., would almost lead to the inference that we are approaching a time when what is now termed legitimate trade will be all transferred to the auctioneer. It does seem obvious that there is some slackness in the ordinary nursery trade, and it is feared that numerous sales will hardly conduce to a better state of things. Of course, all classes want to live, and the man who has a stock for sale, and is unable to dispose of it through the usual course of trade, naturally flies to auction sales as one means of getting rid of that which otherwise may become on his hands a serious incubus. Therefore, on the principle that half a loaf is better than no bread, the aid of the knight of the hammer is evoked, and through his help the other members of the trade and private growers secure stuff at a very trifling cost. Were these solitary examples all might be well eventually; but somehow such is far from being the case, and the list of auction sales rather increases than diminishes.

Naturally it may be asked have we been producing nursery stock of all kinds in considerable excess of the ordinary needs of the nation; or, on the other hand, have the wants of the nation in the direction of trees, shrubs, plants, &c., materially declined? Possibly some member of the nursery and plant trade can answer the question. On the other hand, there may be a demand for plants, &c., in diverse directions—that the trade is, in fact, passing into the hands of others, who, watching the fashions and fancies or, perhaps, the genuine changed tastes of the public, have catered to satisfy those changed desires, and are thriving. That the old order changeth is a recognised axiom, which may not unnaturally be applied to gardening as to other things. Just as we should prefer to see fewer requests for situations, so would we rather see fewer sales, if such sales signify bad trade. If, on the other hand, they constitute but a new development of the nursery trade, and are profitable to the trade, then all is well.

Chrysanthemums.—Growers of these plants, for the production of exhibition flowers, have been looking upon the late continuous rainfall, low temperature, and cloudy skies with some considerable apprehension. Last year it was hard work to keep the plants duly provided with water, so rapidly did the soil in the pots dry up. Generally, flowers were very good, because the wood became so well ripened; but the Japanese flowers were the best on the whole, the heat and drought having prevented appreciably the full development of the incurved blooms. This year the chances of getting wood ripened seems remote, unless growers have some charm whereby they can dispense with sunshine, and yet secure good results. That is, however, it is to be feared, difficult, if not impossible. Of course, plants in pots, even in such seasons as the present, are much less affected by excessive rainfalls than are plants in the open ground, and the very limited area of soil exposed to the rain reduces the injurious effects which, out-doors, flow from so much moisture in the soil.

To obtain ripening warmth in the same way, however, is a much more difficult matter. Possibly something may be done by housing the plants earlier than usual, and if it be that under the ordinary conditions of exposure to which plants in pots are usually subjected, blooms would come late then it will be incumbent upon growers to house early. Naturally, whilst individual growers are contemplating their own chances, now so much discounted by adverse weather, committees of Chrysanthemum societies are all concerned lest with sternly fixed dates for their shows, they should find them too early for the flowers. Possibly the necessity for a little inside ripening, combined with a little pushing, may help in the end to produce more than ordinarily good flowers—at least, we hope it may be so, for any falling off in quantity at our coming Chrysanthemum shows would be a misfortune, which we are sure growers will labour to avoid.

Fruit-growing Profits.—We regret to find that in some remarks on this subject published on p. 19 of our last issue, we inadvertently erred in stating that the editor of a horticultural contemporary had in one of the daily papers proclaimed the possibility of making £250 per acre out of fruit culture, and we hasten to correct the error. What the writer in question did say was, that if five acres were planted with fruit trees "the net yearly result when in full bearing should be £250."

The Bath Floral Fete.—At this interesting show last week we are informed that a pretty display of annuals and florists' flowers from Messrs. Sutton & Sons was one of the most attractive features. A special Certificate was awarded to the exhibit as a whole, and five additional certificates for several novelties, including Sutton's new Gloxinias, Her Majesty, pure white, and a beautiful distinct netted variety.

Gardeners' Royal Benevolent Institution.—We are pleased to hear that by permission of Lady Bateman a fête was held recently in Oakley Park Garden, Scole, Suffolk, for the benefit of this institution, with the result that though the weather was unfavourable Mr. A. McMillan, the gardener, has been able to forward to Mr. Cutler £18 17*s.* 6*d.* as the profits of the fête.

Chrysanthemum Shows.—The annual exhibition of the Pembrokeshire Chrysanthemum Society will take place on November 9th and 10th; that of the Winchester Horticultural Society on November 13th and 14th; and that of the Ancient Society of York Florists on November 14th, 15th and 16th.

Landscape Gardening in India.—We understand that Mr. William Goldring has just received a commission from His Highness the Maharajah Gaekwar of Baroda, to go out to India to design and lay out some extensive gardens in the English style around his new palaces at Makarpura and Laxmilvilosa, at Baroda, and some public parks and gardens in other parts of his highness's dominions. For the next three years Mr. Goldring proposes to spend three winter months (December, January and February) in India, so that he will still be able to continue his home practice.

Chiswick Gardeners' Mutual Improvement Association.—The gardeners of the Chiswick district, associated together for professional improvement, and who hold their meetings through the kindness of the council of the Royal Horticultural Society in the well-known gardens of the society, being desirous of rendering some tangible support to the Gardeners' Orphan Fund, propose to hold, on October 17th, a soirée, at the Chiswick Vestry Hall, when in addition to offering to gardeners and other friends a specially favourable opportunity for social intercourse and enjoyment, the committee also hope to obtain from the proceeds a handsome sum towards the Orphan Fund.

Hybridisation in the Genus Citrus.—The superintendent of the Trinidad Botanic Garden, in his annual report for 1887, states that "There is little doubt in the mind of old residents in the West Indies that the genus as a whole (if the various species are intermingled or planted side by side) do not produce plants true from seed. The large number of varieties partaking of the character intermediate between those which are considered distinct species, that are to be found in all districts in the West Indies, especially in Jamaica, leads to the conclusion that there is much to be said in favour of the theory of hybridisation. How else can we account for a fruit partaking of the characters of both the Lemon and the Orange, and apparently intermediate between the two?—between the Lime and the Orange, so marked that we cannot tell whether sweet or sour until we taste, the fruit possessing the skin of the Orange, while the quality of the juice is that of the Lime and cannot be mistaken? Other fruits are to be found intermediate between the Shaddock and the Orange, while some with a skin resembling the true Lemon are sweet and luscious. The true Lemon and the true Citron are, however, rare, but the worthless spongy varieties between the two are innumerable. Having had considerable experience in raising plants from seed, I am able to say with some certainty that Oranges do not generally come true from seed, unless the trees producing the seed are isolated from other species of the genus, on account of hybridisation occurring among them."

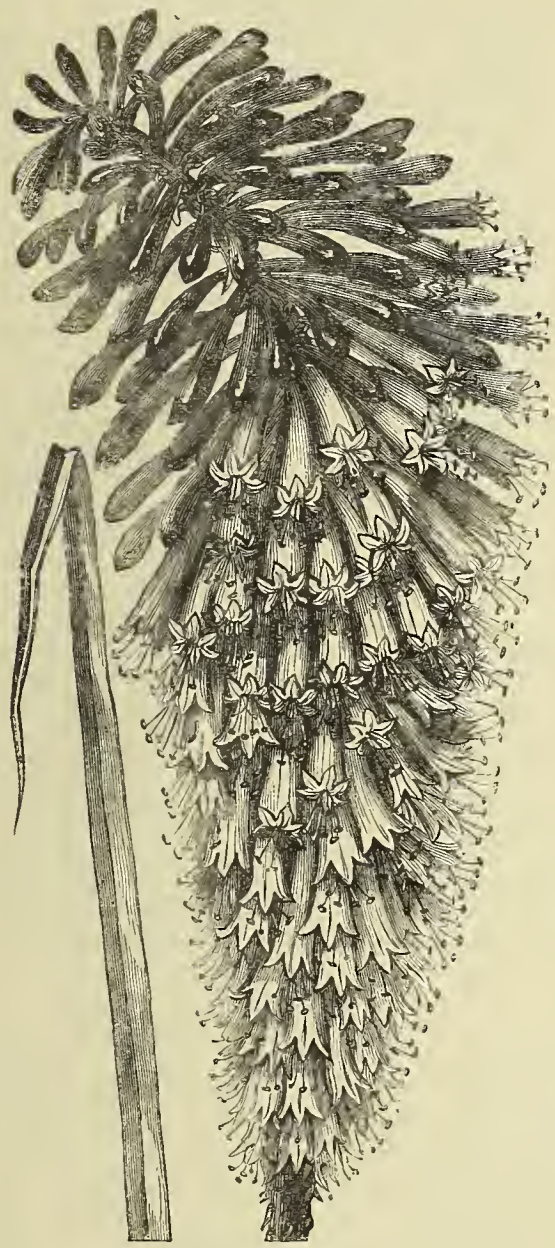
The Conference of Fruit Growers.—The conference which took place in the dining saloon at the Crystal Palace on the 7th and 8th inst., was well attended on both days by practical gardeners and others interested in the development of fruit cultivation. On Friday the papers read were on "Fruit Culture for Profit," by the chairman, Mr. T. Francis Rivers; "Packing Fruit" (see p. 34), by Mr. James Webber; "Packing, Carriage, and Marketing of Fruit," by Mr. S. Rawson; and on "Improving Orchards by Grafting," by Mr. J. Miller; also "Land Tenure in Relation to Fruit Cultivation," by Mr. Albert Bath, &c. The discussion which ensued was initiated by Mr. A. Dean, and continued by Mr. A. H. Pearson, Mr. J. K. Fowler, Mr. Peter Veitch, Mr. Reed, Mr. H. James, Mr. D. T. Fish, and Mr. G. Bunyard. On the following day, Mr. D. Tallerman read a paper on "The Science of Fruit Distribution," and Mr. Manning one on "Fruit as Food." Mr. J. Cheal commenced the discussion, which was continued by Mr. Alderman Chaffin, and Mr. T. W. Beach. Mr. J. Cheal proposed a resolution to the effect that it was desirable an association of fruit growers should be formed for the promotion of profitable fruit cultivation, and to improve the methods of distribution, the Executive Committee of the conference being requested to prepare a report on the subject, to be submitted to the next meeting at the Crystal Palace on October 11th. Mr. Fowler seconded the proposition, which was carried *nem. con.* A vote of thanks to the chairman was carried by acclamation. The meeting was adjourned to the date above mentioned.

ENGLISH CLIMATE, FRUIT CULTURE, AND FOODS.

As noticed in The Gardening World of last week, the Fruit Conferences constitute an excellent move for bringing out papers on some of the most important questions of the present day, and as remarked, there is a very wide field opened out, which no doubt will evoke considerable discussion. Fruit cultivation and fruit consumption, like anything else, is interconnected with other causes. If broad plantations of fruit trees were distributed over the land by the waysides, on commons, and on railway embankments, and if field hedgerows were composed of bush fruits instead of Thorns, &c., then indeed nature would put on a clothing of green shady trees, bespangled through the season with their amber and golden fruits. Landed proprietors and farmers should take this into consideration. Would it not also be the means of making our climate more regular, and also the rainfall to be more equal than now? The foliage would check a too rapid evaporation, and floods would not be so sudden. Our seasons are either too wet or too dry; regularity of climate would secure regular crops and less imports.

This is well so far as it goes, but in order to pay the grower, it may be asked, What is he to do with it when grown, either in a fresh or preserved state? This will, of course, be regulated by the law of supply and demand and other incidental matters; but what is the demand upon the human system for fruits and vegetables as foods? Taking the facts and the laws of nature by which we are governed, could we, as vegetarians, in a cold temperate climate, keep up that bodily heat in winter requisite to our latitudes? As countries recede from the equator northwards, the more heat-giving

foods are required, we respire more at a lower temperature than at a higher oue, and more heat is given off from our bodies into the surrounding air. Baron Licbig explains the principles which govern the relations between the food of man and the different latitudes of the earth. The warmer the climate, and the warmer we are clothed, the less appetite have we for food. The loss of heat by cooling diminishes the amount supplied. He says were we exposed to the cold Arctic regions, we could with ease cousume half a calf, and may be a dozen candles per day ! The carbon given to the body would ouly suffice to keep up the balauce between the internal and external temperature. In southern climates the very opposite ensues, and light or fruit foods are quite sufficient ; or in other words it takes 80 per cent. of carbon, contained in blubber, to keep up the balance in one latitude, whilst 10 per cent. in fruits can keep it up in the other. It is, then, not wholly a qucstion of fruits or vegetables, but



Kniphofia aloides.

warmth ; for if we begin to pinch Nature's demand she will inevitably pinch us. Still I believe there is plenty of room for us as consumers of fruit and vegetables, and that Nature will also demand the rearing of poultry. Dairy farm and other heat-producing foods commensurate to our latitudes will also be required.—*B. L., September 3rd.*

HARDY FERNS.

It is to be regretted that such a beautiful class of hardy plants as the British Ferns do not find a larger number of cultivators in this country than they do at present. Some twenty or more years ago such an enthusiasm was awakeued for them all over the country, that many amateurs and private growers vied with each other as to who would have the largest collection. Not ouly were hardy ferneries created for them, but houses were built in which the more select of them could be grown, together with such hardy or half-hardy exotics as could be associated with them. What is wanted now is that a younger set of enthusiasts should take the place of those who have died, or who are no longer able to attend to their cherished hobbies, and thus give the cultivation of British Ferns a wider scope than they enjoy at present.

In the neighbourhood of London it is almost necessary to grow the more select kinds in pots, except the surroundings are unusually favourable with regard to shade and moisture. At Kew the conveniences are great, so that, in the matter of moisture, what is lacking naturally can, to a great extent, be applied artificially ; although in such a summer as the one we have just passed through comparatively little watering would be required. Since the addition of the Carbonell collection to that of Kew, the old rockery by the ice-well has been greatly extended on both sides of the walk that used to run through it, and, besides swallowing up that portion which was formerly devoted to the cultivation of Alpine plants, it also extends all round the mound, where shade is afforded the Ferns on the south side by tall trees. The wet season has been very favourable to the establishment of the newly planted Ferns, and at present the greater number of them are in fine condition, although not so tall, in many cases, as we may yet expect them to be when they have taken firm hold of the soil.

In looking over the collection, one of the old school, who used to be guided by the writings and books of the late Mr. Moore, of Chelsea, would find himself at sea as far as the names are concerned, if he has not recently been studying the subject or watching the doings in the Fern world, which unhappily are confined to a few scattered workers. The great mass of the garden forms are, however, still confined to a few of the more favoured British species, such as Asplenium Filix-fœmina, Polystichum aculeatum, but morc especially to its sub-species, P. angulare, also Scolopendrium vulgare, and in a lesser degree to Polypodium vulgare, of which there are now many beautiful forms, Lastria Filix-mas and L. spinulosa dilatata. The crested and other forms of the smaller-growing species, such as Lomaria spicaut and Asplenium trichomanes, are more suitable for cultivation in pots in the dry atmosphere of the southern counties. Of the leading kinds we noted some of the finest and most distinct forms. The distinguishing characteristics of many really good things require careful discrimination, as might be expected, to determine them ; but in this the connoisseur generally takes much delight, and he is no more to blame than is the florist with his favourite flowers.

The greatest number of varieties belonging to any one species in the collection under notice, consists of forms of Asplenium Filix-fœmina. The leaves of A. F-f. cristatum densum are elliptic in outline, 2-3 times pinnatifid, with red petioles, and finely crested. As is well known, A. F-f. plumosum is notable for the finely-divided feathery appearance of its leaves, and they are even finer in A. F-f. p. elegans. A very graceful and much crested variety is A. F-f. Craigii, also having red petioles. A. F-f. nodosum multifidum is much in the way of the old form Frizelliæ, but has longer arching fronds, while A. F-f. Frizelliæ nanum has thong-like leaves, ranging from 6 ins. to 12 ins. in length, and only ½-in. wide. It is suitable for pot-work, as are A. F-f. crispum cristatum, A. F-f. cristatum nanum, and A. F-f. Veroniæ, which was originally picked up in a wild state, and has all the pinnæ abnormal and densely crested. A. F-f. Victoria is another old variety, having the basal pair of pinnules only greatly elongated in a cruciate manner, and narrow, while all the rest of each pinnæ is entirely aborted or wanting. It is a very elegant variety, suitable for pot purposes, and a large number of beautiful forms have now cruciate pinnules, but differ from each other by these same parts being longer, shorter, or broader than the parent type, and in being crested or not.

Amongst these forms are A. F.-f. cruciatum cristatum, with leaves 2½ ft. long, A. F.-f. proteroides and A. F.-f. grammicon, most of which are of dwarf habit, and suitable for pot work. A handsome and much crested form with crested pinnæ, a tasselled apex and red petioles grows about 18 ins. high and is very graceful. The old A. F.-f. reflexum, otherwise known as A. F.-f. rhœticum, has very graceful fronds, and owes its characteristic appearance to the recurved pinnules and their revolute segments, which give all parts a very light and airy appearance. A. F.-f. grandiceps is an old variety, and well knowu for the large dense crested head which it produces at the apex of the frond ; a variety named A. F.-f. Tyermanni resembles it very closely, but the mid-rib below the crest is furnished with short pinnæ resembling those of A. F.-f. Frizelliæ, whereas those of the first-named variety are considerably elongated.

A large number of the Polystichums are really beautiful and distinct, especially of the sub-species known as P. angulare, which is well characterised by its arching finely divided fronds covered with rusty scales. P. angulare divisiloba-plumosum laxum has very broad, much divided, pale green fronds, with angular or jagged segments, and much imbricated pinnæ. The segments of P. a. multifidum densum are more normal in shape, but finely divided, and the fronds have a feathery appearance. P. a. proliferum is a handsome and old variety well known for its feathery appearance, and the profusion of young plants borne by old fronds along their mid-ribs. Very similar in general appearance is P. a. tripinnatifidum densum, but the lower half of the mid-rib is blackish brown, not rusty. The leaves of P. a. pulchellum are sub-erect, and already 3 ft. to 3½ ft. long. It has also dark brown scales on the mid-rib and petioles. Very distinct is P. a caudatum, with long linear fronds, which owe their contracted appearance to the shortening of the pinnæ, while the pinnules are wedge-shaped, and deeply toothed. A well-known plant either for pot-work or the hardy Fernery is P. a. lineare, characterised by the excessive narrowness of its pinnules.

There are a few fine forms of the Male Fern (Lastrea Filix-mas), but none of them excel L. F.-m. cristata for beauty and general usefulness in the decorative way. L. F.-m. cristata intermedia is intermediate in form between the latter and the beautiful old variety named L. F.-m. cristata angustata. Of the other species of Lastrea there is a very distinct dark green form with much crowded and crisped pinnæ, namely,

Kniphofia aloides : showing habit of plant.

L. spinulosa dilatata crispa, which is both dwarf and compact in habit. Of the other species it is unnecessary to speak where there is as yet but little variation from the typical forms, and those interested in them would do well to visit and inspect the collection. As most cultivators know there is an immense number of forms of Scolopendrium vulgare ; but a great number of them are merely objects of curiosity.

COMMON FLAME FLOWER.

Of the various species of Kniphofia that have been introduced from South Africa, none are more universally cultivated than K. aloides, better known as Tritoma uvaria, or the Red-hot Poker. It proves perfectly hardy over the greater part of Britain, and as far north as the Murray Firth, if the roots are planted in a tolerably dry situation. Damp is a greater enemy to the leaves and crowns than is the cold. Everywhere in the south at the preseut time gardens are resplendent with the brilliancy of the dense and massive spikes of scarlet flowers, while a week or so later the plant will be in full bloom in the colder and more northern counties. Those experiencing any difficulty in its preservation there would do well to place a covering of dry Beech or Oak leaves round the collar of the plant, and which the long drooping leaves of the plant will prevent from being blown about by the wind. A fully-exposed position is most favourable to the well-being of the plant, while the roots should enjoy perfect drainage. There are several magnificent varieties of it in cultivation, including K. aloides maxima, which grows taller, and has much stouter spikes of flower. It is often cultivated under the name of K. a. grandis. Our illustrations exhibit a spike of bloom and a plant to show the natural habit.

GARDENING NOTES FROM IRELAND.

BROOKVILLE, CO. DUBLIN.

THIS is the residence of G. McMasters, Esq., M.A., and although a small place as regards the extent of the garden, it has for many years past been noted for the many good things sent in from it for competition at the various shows held by the Royal Horticultural Society of Ireland. As a grower of Hyacinths, Mr. Hatton, the experienced gardener, holds first place in Ireland, and is, I believe, the winner of several prizes for these, including two valuable cups. When it is borne in mind that Hyacinths are never exhibited in Dublin until the last week in April (it was on the 26th this year), it can be easily understood how great must be the experience of the grower, and the many shifts he must be put to in order to bring his plants at that late season on to the exhibition table with the necessary prize-taking qualities; yet this is just what Mr. Hatton has been contriving to do, and freshness and stoutness of growth are two points which always characterise his exhibition Hyacinths.

FUCHSIAS.

THESE are also grown for exhibition, and in my notes last week on the late show, I referred to a lot of six plants from this place as having taken a first prize. But a point in connection with this lot of Fuchsias, which I think reflects much credit on Mr. Hatton's management, was that they obtained the first prize at the summer show, as well as at the late one. On both occasions they presented the appearance of having been well handled, and were splendidly bloomed from below the pot rims to the tops of the plants; the names of these show plants are Electric Light, Wave of Life, Madame Cornelissen, Grand Duchess, Elegance and Penelope. Besides these there are some fine grown plants of Lord Beaconsfield, Rose of Castile and other varieties.

ROSES.

THESE are always exhibited as cut blooms, but there is a fine collection of Tea Roses in pots, and various others trained as climbers. Among those grown in pots I noticed a very fine free-growing Rose, named Countess de Nalladas, and which, I understand, is a comparatively new Rose, being in the hands of growers only for the past two years. It is somewhat after the manner of Homère in growth, and is to all appearance quite as free a bloomer. In a house about 70 ft. or 80 ft. long, and of considerable breadth, there are planted out in a border two climbing Devoniensis, and these have covered nearly half the upper portion of the roof for the whole length of the house. Immense quantities of flowers are cut from these during the season, and are found to be more satisfactory in that respect than a large Maréchal Niel, which formerly occupied the same space. From the base of each of the Devoniensis a very strong shoot has started this year, and as there is already top growth enough, instead of training these up, they are about being utilised to form plants either for pot or open cultivation. The plan of preparing them was to notch them near the base, and afterwards to place a good thickness of soil round the cuts; this was done about a month ago, and already the young shoots are pushing out roots strongly, and they may be relied on for producing large flowers for exhibition purposes, for the next two or three years. The lower portion of the roof of this house is occupied with Vines, and there is a remarkably good crop of

GRAPES

On them. There are three kinds grown—namely, Black Hamburgh, Madresfield Court and Black Alicante. The strange thing about this house is that it has no sun on it after mid-day, and there is no means of giving fire-heat; yet the crop is always well coloured and the berries of fine flavour. At present they are commencing to turn, and as Mr. Hatton is a believer in the admission of plenty of air during the ripening process, I have no doubt he will make them turn in satisfactorily, late as the season is. All the structures devoted to plant growing are designed on the lean-to pattern, and are well adapted for subjects which require to be kept dwarf, as well as those to be grown to a moderate height. In the centre of one of these, which is attached to the dwelling-house and treated as a conservatory, there is planted out in a small bit of rockwork a fine specimen of Begonia erecta multiflora. On account of the large number of flowers produced by this plant throughout the year it is a great favourite, especially during the winter months, when the blooms are much more valuable than at any other time.

CLEMATIS JACKMANNI.

I HAVE noticed this climber flowering very freely in some places this year, but I have not seen it anywhere to better advantage than it was here. It was trained over arches at each end of a walk, and the enormous mass of flowers made them, when viewed from either end of the walk, look, when stationary, like solid lines of blue. It was not from one side alone this appearance was presented, but from both sides. The effect of the colouring was still more beautiful when the arched line became agitated or rippled with the wind, as then the resting breadth of lovely colour became inflated to double its size.

HEDERA HELIX RÆGNERIANA.

THIS Ivy is one that is not often met with, but it appears to have found a place here suitable to its growth. Covering some fencing at the northern end of the garden, and trailing its way among Ivies of smaller growth, it looked very remarkable indeed. This will be easily understood when it is stated that the leaf with its footstalk attached measured 16 ins. in length, and that, without the footstalk, it was 9½ ins. in length and 7½ ins. in breadth. I have seen this Ivy treated as a shrub, but I have never met with it under such conditions producing foliage of the dimensions here given, although it might be reasonably supposed such a mode of growth would be more favourable to foliage development than where it was fighting its way through plants of kindred growth.

A VICTORIA PLUM TREE.

IN a year like the present, when there is a general complaint as to a thin set of Plums, it comes almost as a surprise to one to meet with a downright good crop of them. On a wall here is a Victoria tree, laden down both right, left, and centre. Of course, I daresay there are many who will turn up their noses at the mention of Victoria Plums. "They are always sure, sir, because they are of little use!" Well, I do not think that is a good reason for not having them. Though not accounted good for dessert, the cook will not refuse them, and besides, there is a very strong opinion that even dessert Plums are much more wholesome to eat after undergoing the cooking or preserving process than when used in the usual way. However, be that as it may, the crop on this tree was a very heavy one. I think I have touched on most of the points likely to interest the gardening reader; but there is one thing in connection with these small places which comes strongly to my mind when visiting them, and that is, the good examples of plant cultivation to be met with, and where the other odds and ends are equally well cared for.—*W. D.*

PACKING FRUIT FOR MARKET.

By JAMES WEBBER, COVENT GARDEN.*

IGNORANCE displayed in packing and want of knowledge of the condition in which fruit should be sent to market are the principal causes of loss to the fruit grower in this country. In packing we are far behind our continental brethren, for while they study not only the condition most suitable for travelling, but even the package in which the fruit is to be sent, we frequently send it too ripe, and make use of any package that may come to hand, with little regard as to whether it is too deep or too shallow, or will hold such quantities as are ordinarily marketable.

Packing is such an important factor in the attainment of good prices for market produce that it ought to be one of the essential points in the education of a gardener; for what is the use of growing the best fruit in the world if it be spoiled in transit? At least one-third of the hot-house fruit sent to market is depreciated in value, and sometimes rendered worthless, by bad packing; whereas, if all came in marketable condition the price would be lower to the consumer, the supply being larger, and a better result all round would accrue to the grower. Bearing this in mind, I beg to submit the following remarks as applying to London markets.

GOLDEN RULES.

There are three golden rules to be observed in sending fruit to markets.

1.—Never send it too ripe. Peaches especially should be packed hard, as they travel better in that condition, and are rarely used by the shopkeeper till two or three days after purchase.

2.—Never, if possible, send it for Saturday's market, as with the exception of Strawberries the retailer invariably provides himself beforehand with what he requires: Monday and Tuesday for the first part of the week, Wednesday and Thursday for the latter part. In hot weather, when fruit ripens fast, small consignments may be sent on Friday.

3.—All fruit should be sorted into bests and seconds, and in some cases into thirds, as there are always buyers of bests, and buyers of seconds and thirds, but seldom buyers of mixed.

GRAPES.

Among hothouse fruits, Grapes being most important, as growing all the year round, claim our first attention. There are two sorts of baskets in which Grapes may be sent to market—viz., the "handle" and the "baby." The former is more useful for ordinary work and is safer, as the handle is used for lifting, and to a certain extent is a protection to the fruit in preventing other goods being placed on the top. A little packing should be laid in the bottom of the basket, then a lining of white paper. The bunches should be packed close together, shoulder upwards, and the basket tied over with a sheet of stiff paper with a label "Grapes with care" on it. Grapes packed this way will travel any distance. Special bunches travel in "handles," each bunch tied to the basket, without the centre being filled up. The latter mode is recommended in the case of special fruit only. The "baby" basket should only be used for short distances, and where a regular supply is sent, and where the railway porters are accustomed to them. It is more convenient than the "handle" for displaying in the shop windows, and shows off the fruit better. The basket should be lined with white paper and a little packing placed in the bottom, the bunches being simply laid in close together. The whole fits nicely into a hamper known as a "flat," and with the ordinary Grape label invariably arrives in good condition.

PEACHES AND NECTARINES.

Peaches should be packed in shallow boxes of sufficient depth to allow a good bed to lay upon and a slight layer of packing on the top. The box should contain only twenty-four best or thirty-six seconds. Each fruit should be wrapped in soft paper. A very effective way of packing Peaches, so as when the box is opened the class of fruit can be seen at once by the buyer, is to roll a double slip of tissue paper round each fruit, leaving the crown exposed. This requires a sheet of paper to be placed over the fruit before finally filling up with the packing. I know of no packing better than moss, which should be properly dried and cleansed from all grit. It is cooler and more elastic than any other substance. Each fruit should be completely surrounded with it. Next to moss is bran, but care should be taken to shake it down well and refill the box before fastening the lid, as it settles down with the oscillation of travelling, leaving part of the fruit exposed and liable to injury. Wadding is not elastic, and is too heating.

STRAWBERRIES.

Strawberries should be packed in boxes in single layers containing from 1 lb. to 1½ lb., according to size, each Strawberry being placed in a Strawberry leaf on a thin layer of moss with only a light layer of leaves on the top. Each package of, say five or six boxes, should have a label "Strawberries with care, this side up" on the top of it. When the season is full on they lose value if delivered after 8 a.m., as the trade then supply themselves from the "morning gathered," delivered by the growers themselves.

TOMATOS AND OUTDOOR FRUIT.

Tomatos should be packed in "handle" baskets containing from 18 lbs. to 20 lbs., and should be well coloured, but not too ripe, otherwise they are apt to split.

Suitable baskets for sending outdoor fruit to market can always be obtained of the salesmen. These consist of quarter sieves, half sieves, and sieves. The former hold 12 lbs., and are used for best samples of all kinds of soft fruit. Half sieves are used for Cherries, Currants, Plums, Pears, and Apples. Sieves are used mainly for Apples. A half sieve of soft fruit should contain 24 lbs., of Plums 28 lbs., of Apples from 21 lbs. to 24 lbs. Soft fruit should be simply stuck down with a sheet of paper. Hard fruit should be stuck down with dry packing, such as hay or straw. All fruit opens better with a sheet of paper covered over.

PEARS.

Pears, especially early varieties, should be sent directly they can be removed from the trees. On no account should they be allowed to get ripe. The system in vogue in France is well worthy of imitation by growers in this country. The fruit is carefully sorted, in many instances into four sizes. Cases are made to contain two tiers, each tier consisting of twenty, twenty-four,

* A paper read at the Crystal Palace Fruit Conference, on September 7th.

thirty, and thirty-six fruits. A layer of paper shavings is placed between each tier, and one top and bottom. When the fruit is extra large and kept late in the season, cases to contain a single layer of twelve and fifteen are used. If packed in half sieves, the better sorts should be placed in layers with a little packing between.

CARRIAGE.

With regard to the cost of carriage little can be said here except that the rates, as we all know, are very unsatisfactory, little or no inducement being held out by the great carriers for the development of produce on a small scale. Special rates may sometimes be secured for regular consiguments over 28 lbs., but even then there is often a difficulty in keeping the railway company to their contract. All goods by passenger trains should reach the markets by 7 p.m., so as to be ready for the next morning's trade, as if not they are seldom delivered till after the market is over, and therefore lose in value.

THE SEASON AND THE CROPS.

THE present summer will long be remembered by many, and characterised by them as the most unpropitious within their experience in its influence on their fruit crops. We can well believe that many in less favoured districts than our own will hardly lend an ear to anything that can be advanced as to its redeeming features, which we think it quite possible to prove. For instance, look at the large trees and shrubs —how they are luxuriating in the abundant supply of moisture in the earth and atmosphere, and of which for a succession of seasons they have had a very short supply. The soil for a length of time has not had sufficient rain to penetrate down to the roots of very many trees and shrubs; in naturally dry soils many of them have had a struggle for life in an almost dust-dry medium.

For several years we have noticed Oaks, Beeches, and Chestnuts very much crippled from this cause, and had it continued in operation a few seasons longer, combined with the depredations of insect pests, the consequences to many large trees would have been serious. The dry summers of late years have been favourable to the propagation of roller caterpillars, which have partially and in some cases wholly denuded the fruit trees of our orchards, and the Oaks and other trees in our parks, of foliage, rendering them unsightly and unproductive. We hope that the drenching rains of this summer will do much to check the spread of these pests by washing them out of their haunts, and that the losses of this season will be recouped in the next, owing to the increased fruitfulness of our trees, from the comparative absence of these pests.

We hear from some localities of a falling off in the vegetable supply this summer, owing to the long-continued cold and wet weather. This report comes from clayey districts, and applies to private gardens we presume, as is frequently the case. The space at command in those places from whence the bad reports came, is generally much enclosed and shaded by fruit and other trees. Those who have charge of kitchen gardens so circumstanced are much to be pitied, and we can well believe that by reason of the Peas not filling properly, and other crops not progressing as they should, they have had more than enough to contend with. Our friends so situated have perchance had the best of it during the past dry season, when on our shallow dry soils our crops of Peas and Beans have been cleared off in rapid succession, and plantations of Cabbage were so dried up that to burn them as they stood on the ground would not have been a very difficult feat to accomplish. All root crops were deficient in size. Now, for once, we have a season that has suited most of our kitchen garden crops admirably, with the exception of Potatos and Tomatos. The first of these, were it not for the disease, would have been good in quality and quantity.

We find that the cottagers, most of whose gardens are much confined, are the greatest sufferers, and many of them will persist in growing Early Rose. Where this has been the case they have lost almost the whole of their crop. Beauty of Hebron is badly affected, the sort most free from disease at present being Champion. Tomatos, from the long continuance of wet weather, have set badly, making very slow progress, and have at least three distinct diseases to battle with, two affecting the fruit and one the foliage. Last season we gathered over 1,200 lbs. from a smaller number of plants than we have planted this year, and we shall have to content ourselves as best we can with less than a third of that weight this time. Peas were rather late in filling, but from the first gathering onwards till now the supply has been first-rate—in fact, exceptionally good.

We prepared for a dry season and mulched heavily, a provision which has helped to keep the weeds in check, and has made the task of gathering in wet weather a more cleanly one than it would otherwise have been, the men going in and out among the rows without soiling their boots. We have noticed several growths bearing double flowers of the character commented on by you in your report of Peas at the Royal Horticultural Society's Gardens, Chiswick. Our earlier crops of Broad Beans flowered the second time, and we hope very soon to gather some nice young beans from them. This, with us, is a very unusual occurrence. Parsnips, Beet, Carrots, and Onions are all good, and the rows of Scarlet Runners are simply grand. You made some remarks respecting the setting of these at p. 4, contrasting the difference in their doing it during the last dry season, when insects were abundant and could work freely among the flowers; and this we have found despite the insects in dry seasons, that they do not set well if very dry at the root, and that when this has been the case, a copious watering at once corrected the evil.

Small fruits were most plentiful, and the season for Strawberries was for us a very prolonged one, as they ripened so slowly. Apples are a very irregular crop, some few trees being loaded, while most have next to none on them; some of the trees which are most exposed are bearing best. Pears are a more even crop. Peaches are moderate; and we gathered Early Beatrice outside on a west wall three weeks ago. The older and later kinds are a long way behind, and if they are to ripen at all, the weather must take a very decided turn in their favour before long.—*W. B. G.*

NOTES FROM SCOTLAND.

The Gardeners' Conference at Dunkeld.—To the brief particulars, given in our last, of the conference held in Dunkeld Gardens on the 31st ult., we may now add that among the company present were Messrs. M. Dunn, Dalkeith Palace Gardens, chairman of committee; J. Alexander and W. Welsh, of Messrs. Dicksons & Co., Edinburgh; A. Mackenzie, of Messrs. Thomas Methven & Sons, Edinburgh; A. Milne, Edinburgh; D. P. Laird, Edinburgh; R. B. Laird, Dundee; W. S. Bissett, Moncreiffe House; W. Smith, Oxenford Castle; R. Lindsay, Curator, Royal Botanic Gardens, Edinburgh; W. M'Kelvie, Broxmouth Park; A. Crombie, Edinburgh; W. Temple, Carron House; J. W. Machattie, Newbattle Abbey; D. Murray, Culzeon Castle; J. Laurie, Murthly Castle; R. Grossart, Edinburgh; T. Boyd, Falkirk; W. E. Dixon, Edinburgh; G. Goodfellow, Kinfauns Castle; G. Croucher, Ochtertyre; J. Davidson, Edinburgh; R. Gossip, Inverness; D. Mathison, Meikleour; A. M'Kinnon, Scone Palace; and W. Henderson, Balbirnie, Fife.

Having regard to the reputation of the gardens, the party no doubt expected—the season notwithstanding —to see fruit-growing carried on in a skilled and successful way; but they were scarcely prepared for the crops brought under their notice. Very few indeed of the party could have realised that, in the face of the past trying season, fruit could have been cultivated to such perfection in the open, and on all hands comment was made upon the energy no less than the skill which, combined with the personal interest of the Dowager-Duchess of Athole, had enabled Mr. Fairgrieve to bring about such a state of things. As the party went along, Mr. Fairgrieve pointed out the salient characteristics of the different varieties encountered, and paved the way for running commentary by different gentlemen present upon the general subject of fruit cultivation, in respect to aspect, selection of sorts, and suitability and treatment of borders. The Apricots and Peaches were especially admired. From one Large Early tree an Apricot weighing about a quarter of a pound was taken; while another tree, also of the Large Early variety, showed such quantity and quality of fruit as to elicit from a member of the company the remark that such another tree was probably not to be found within 200 miles of the spot. The best Peach tree in the garden was of the Royal George variety; it measured 30 ft. from tip to tip, and bore 170 fruits. A tree of Hale's Early variety of Peach Mr. Fairgrieve declared to be better coloured than any Peach grown indoors could possibly be. Some very fine Plum trees were pointed out; but here, as elsewhere, the 28° of frost experienced on the 17th March had in various instances operated most injuriously. Among Nectarines, attention was particularly directed to splendid examples of the Pine Apple and Lord Napier varieties; whilst among the Cherries, the Morello, Kentish, and Late Duke sorts were most favourably mentioned. After having inspected the various objects of interest in the gardens, the company proceeded to view the grounds, and, in passing round to visit the conservatory, had an opportunity of examining the two historic Larches, which are believed to have been the first introduced into Scotland, a century and a half ago.

After partaking of luncheon, Mr. Dunn, of Dalkeith, described the circumstances that had led up to the conference, and expressed the gratification which all present must feel at the success which had attended it. In these days, he said, the culture of fruit and the profits derivable from it formed a very interesting topic of public conversation, and a very interesting branch of the rural economy of the country. They had seen a good deal of bad times lately, and it was quite likely that farmers would in the future devote more attention to gardens and gardening, to fruit and fruit culture, than they had ever done in the past. He did not say he should like to see all farmers growing, but he should like to see a larger number taking it up than had yet done so, for a greater variety of fruit might be cultivated with advantage in this country. From what he had seen that day, he felt there was a much brighter future before fruit growing throughout the country; and he did not see what was to prevent those present from learning valuable lessons from what had just been brought under their notice, especially when they kept in view the character of the season which Mr. Fairgrieve's exhibits had had to encounter.

Mr. Machattie, Newbattle Abbey, originated a brief discussion on the Apricot by asking from Mr. Fairgrieve certain information as to his method. Mr. Temple, Carron House, commented upon the freedom from disease which characterised Mr. Fairgrieve's trees, and he also asked for information. Mr. Fairgrieve said he was sometimes inclined to think that Apricots could be well enough grown on any ordinary soil if attention were paid to drainage, to the thinning of the wood, and to the protection of the trees. He explained that regularly every night he protected his trees from the frost, and that if the weather were distinctly unfavourable he sometimes allowed the protection to remain on the trees throughout the whole day.

Mr. M'Kelvie, Broxmouth Park, started a discussion on Peach culture; while Mr. Laurie, Murthly Castle, addressed himself briefly to the growing of Nectarines. Mr. Boyd, Falkirk, thought the great secret of Mr. Fairgrieve's success lay in the measures he took for protecting his trees. Mr. Fairgrieve said that, in his opinion, the best thing to do in the growing of Peaches was to give them a soil in which no Peaches or Nectarines, or any kindred crops, had ever had their roots before. He believed also in keeping the roots very near the surface.

Mr. A. Milne, Edinburgh, in speaking upon Plum culture, said that, in view of all they read about the great quantities of foreign fruit annually imported into this country, it occurred to him that they might very well enlarge their home produce. In order to do that, they required greater skill in culture and greater economy in production. He hoped one of the results of the present conference would be to stimulate growers in this direction. Mr. Bissett, Moncreiffe, directed attention to how much depended upon aspects in fruit culture, and referred to the advantageous situation of the Dunkeld gardens in this respect.

Mr. Temple, Carron House, in taking up the subject of Cherry-growing, likewise pointed out how well the Dunkeld gardens were circumstanced in regard to being sheltered from east and north winds. Mr. Machattie asked for information as to Cherries being grown as standards. Mr. Davidson, Edinburgh, touched on the same question, and advocated greater attention being paid to the Morello variety by market gardeners. Mr. Fairgrieve said he had been thinking for the last six years of this question of standards, but he had felt that the enormous number of blackbirds in the locality constituted a difficulty. Mr. A. Mackenzie, Edinburgh, spoke of the company's indebtedness to Mr. Fairgrieve, and expressed the opinion that the necessity and advantages of such conferences had been made clear. He thought that similar conferences might with profit be held in every county in Scotland, and suggested that a society, to be specially established, or one of their already existing organisations, might carry on this sort of work successfully. Mr. R. B. Laird rather concurred with Mr. Mackenzie in thinking that the work that day inaugurated should continue to be carried on by some organisation. He never in his life had seen such a gathering as that. Mr. Milne formally proposed a vote of thanks to Mr. Fairgrieve, and it was enthusiastically responded to. Mr. Fairgrieve returned thanks, and in his turn proposed that the thanks of the meeting be awarded to the chairman, and this also was warmly agreed to.

FLORICULTURE.

The Florists' Laced Pinks.

By James Thurstan.

It was not my intention to have again, so soon, encroached upon the pages of this journal by further remarks upon my favourite flower, "The Florists' Laced Pink," but finding that the views recently expressed by Mr. Barlow and myself have had some good effect by bringing forth valuable suggestions, and evidence of support in favour of our object from Mr. Arthur R. Brown, of Handsworth, Birmingham, a young and practical florist of the highest type, I feel anxious to lose no time in stating that I fully concur in the very practical suggestions his letter, which appeared in last week's issue, contains in regard to holding a Pink show. There is no doubt in my mind that if an exhibition of Pinks could be arranged to take place in conjunction with the Provincial Show of the National Rose Society, that lovely florists' flower would once more establish itself in the eyes and hearts of many hundreds of persons who would be visitors to the Rose Show, and numbers of such visitors would probably be seen congregating around the "Pink" exhibits (as in former times) in fond admiration.

Now comes the question, how is the secretary or committee of the said Rose show to be approached, and permission to be obtained for the Pinks to be exhibited in July next year. Perhaps the good editor, and that indefatigable searcher and provider of floricultural information, Mr. Richard Dean, of Ealing, will render their valuable aid in this respect.

As there will, doubtless, be many suggestions made by other persons interested in the Pink and its future prospects, I will not occupy the reader's time further, except by saying that I shall at some future period fulfil my former promise, in regard to expressing my views as to the properties of a really good exhibition Pink.—*Finsbury House, Richmond Road, Cardiff.*

Split-pod Carnations.

There seems to be no doubt but that the season has been productive of burst flower-sheaths in Carnations outdoors, as I have found such to be the case with varieties which last year were quite correct in their behaviour. Probably an excess of moisture conduced to the too crowded nature of the petals in the buds, this feature having been peculiarly marked. At the same time, it is evident that there are many sorts which no kind of culture can prevent from displaying this defect, for the calyx or sheath seems unable to contain all the material which nature has crowded into it. As a result, it bursts and splits, becoming ragged and ungainly later on. Perhaps the desire to have large flowers with a lot of stuff in them conduces to this splitting defect; but it does seem to be a fact that many of these crowded flowers have perfume in them in a high degree, and for the sake of that perfume much may be endured. Yet there is no reason whatever otherwise for tolerating these coarse broken-podded flowers, because we have plenty of really good forms—literally myriads—which do not break their pods sideways, but open evenly and properly. If seed were saved from these, and only such propagated by cuttings and layers, the coarser-flowered kinds would soon become extinct. It seems probable that the introduction of that huge-flowered Carnation, Souvenir de la Malmaison, has had something to do with this anxiety to obtain large flowers; but whilst it is far from being a free bloomer, it is also a very ungainly flower. We see sometimes the Old Crimson Clove written of in terms of high admiration. It is certainly a richly-perfumed kind, and is fairly stout-habited; but relatively it is far from being free-flowering, and the blooms are unshapely. There are plenty of good crimson border Carnations which will excel the Old Crimson Clove. It is noteworthy that the French strain of Carnations, whilst giving great variety in colour and perfect form in flowers, never produces large ones or split pods. If size be wanting, it is made up for in the wonderful quantity of flowers—fully three times as many as our border kinds produce.—*Leo.*

Fuchsia "Countess of Aberdeen."

At p. 792 of your last volume you give a description of this new variety, which attracted my attention at once, inasmuch as that I have for years past, as a raiser of seedling Fuchsias, been anxious to get one entirely white, but without success Nevertheless I have, I assure you, an almost equal pleasure in becoming the possessor of such a distinct novelty, although it was raised by someone else. I obtained a very nice blooming plant from Mr. B. S. Williams, and I have just received a bonnie wee plant from the Messrs. Cocker, of Aberdeen, who sent it out. Although this plant had travelled so many miles it reached me in excellent condition, as if it had come only so many yards, the plant being covered with a profusion of bloom. As you observe, the flowers are of a "medium size but extremely pretty," which remark I with much pleasure most unhesitatingly endorse, as in my estimation so distinct a novelty has not been introduced to our notice since the time—upwards of thirty years ago—when Mr. Storey, of Newton Abbott, succeeded in raising those most striking and distinct novelties, the double and single varieties with white corollas, which were sent out by the Messrs. Henderson, of the Wellington Road Nursery, St. John's Wood.—*Geo. Fry, Lewisham.*

Carnation, Mademoiselle Carle.

The stems of this new tree variety are dwarf when grown in pots, not exceeding 15 ins. to 18 ins. high, branching and flowering freely. The flowers are pure white and delightfully fragrant, while they are fully double, and have the petals crenate at the apex. The foliage is glaucous and vigorous, with a healthy appearance. It was exhibited before the Floral Committee on Tuesday by Mr. H. B. May, Upper Edmonton, and received a First Class Certificate.

Dianthus, Splendour.

In this we have a hybrid of great brilliancy, with flowers of moderate size, and which are produced in great abundance. They are of an intense fiery red, with a large crimson blotch at the base of each petal, forming collectively a zone round the eye. The petals are toothed at the apex, and the blooms are produced in lax or sometimes clustered cymes on stems about 1 ft. high well furnished with foliage. The parents were Dianthus sinensis Heddewigi Brilliant and D. barbatus. It is one of the good novelties introduced from time to time by Mr. R. Dean, Ealing, and received a First Class Certificate from the Floral Committee on Tuesday.

Chrysanthemum, Mrs. Hawkins.

The flower heads of this early-flowering Chrysanthemum are large and of a much darker yellow than G. Wermig, from which it is a sport. The stems are about 30 ins. high and very stout; while the leaves are also large, coarsely lobed, dark green and of great substance. It was exhibited by Messrs. Hawkins & Bennett, Twickenham, at the Floral Committee meeting, on Tuesday, and received a First Class Certificate.

New Gladioli.

Messrs. Kelway & Son again showed a grand lot of Gladioli, in the Drill Hall, on Tuesday, and received First Class Certificates for the two following varieties: Castro.—There were about eighteen flowers and buds, the former of large size, and closely arranged on the spike. They are of a rosy salmon colour suffused with scarlet, especially towards the edges, and there is a broad white band down the centre of each segment with a purple line in the centre of it. Besler.—The flowers of this variety are nearly, if not equally, as large as those of the above, and scarlet with crimson flakes towards the margin of each segment. There is also a large purple blotch on the middle of the lower segment of the inner series, in the throat of the flower.

Dahlia, Mikado.

The flower heads of this new single Dahlia, exhibited by Mr. T. W. Girdlestone, of Sunningdale, at the meeting of the Floral Committee on Tuesday, are of large size, and distinct in appearance. They are scarlet, with a central yellow zone surrounding the disk, and the tips, as well as the midrib, are also yellow, or the latter only occasionally. The florets are very broad and overlapping. It was awarded a First Class Certificate.

ESCHSCHOLTZIAS.

Let anyone who admires the superb beauty of the Eschscholtzias, try the effect of autumn sowing. Spring-sown plants rarely afford an adequate idea of the magnificence of the flower. It is a great favourite with Mr. Anthony Waterer, of Knap Hill. He sows in autumn, and in the light soil of the Knap Hill Nurseries the plant roots deeply, grows freely, and bloom in wondrous and striking perfection in spring, producing flowers of unusual size. The late Mr. C. J. Perry, of Birmingham, so well known as an amateur florist and raiser of Verbenas, was a great lover of Eschscholtzias, especially of the glorious brilliant orange E. crocea, and he used to cultivate them among his standard Roses. He held that it was peculiarly adapted for this purpose, because being tap-rooted—striking a main root down deeply into the soil, it did little injury to it, and the plants grew high enough to hide the naked stems of the standard Roses. He held also that during a dry summer, and in the case of light land, a covering of this kind over the roots benefited the Roses, and he liked his Eschscholtzias better than a dreary-looking mulching of manure. Of all the annuals he grew, he thought none so brilliant, graceful and lasting as the Eschscholtzias.

Two species came to us years ago from California—one named Californica, in 1790, orange with an edging of yellow; and Crocea, in 1833, rich orange, the latter the largest and finest of the two, from which has come a white variety, and the white eventually developed into a rose-coloured form, known as Rosea; but the two grandest of the later selections are Carter's Mandarin and Carter's Rose Cardinal. Both these came from the pretty E. crocea rosea. The former is of a rich crimson-orange colour, the latter is Rosea deepened into a clear rose. Both are remarkably showy and striking—the former especially, and they are great acquisitions to our decorative hardy annuals.

But to have fine blooms on plants of Eschscholtzias, the seedlings, when about 2 ins. high, should be thinned out, and left about 15 ins. from each other, thus affording them space in which to develop. Coming into bloom with the Roses, they will continue gay until September, when an early pod or two of seed can be gathered and the plants cleared away, so that the Rose beds may have the benefit of the autumn rains. That is if the plan of Mr. Perry be followed. Mr. Perry always recommended that the seeds be sown where the plants are to bloom, so as to avoid unnecessary transplantation. I have named the best varieties above; the striped and double forms are scarcely worth growing. They are novelties in their way, but no one can say they are as effective and striking as the varieties composing the list I have given.—*R. D.*

THE PERRY VALE NURSERY.

One of the leading features for some weeks past in Messrs. James Carter & Co.'s nursery, has consisted of a houseful of Petunias in full flower. The range of colouring is something remarkable, and the outcome of long perseverance and close attention in the matter of cross-breeding the different kinds with the view of obtaining certain results. The Petunia, it may be observed, has been a specialty with the Messrs. Carter for many years, and they have now numerous distinct colours and different races or strains. They come wonderfully true from seed, and not the least important and interesting point is the process of raising double varieties from seed.

Single Petunias.

A showy and pleasing kind is Queen of Roses, which bears a great profusion of clear soft rose flowers, the segments of which are beautifully toothed at the margin. Being of dwarf habit, it is a suitable sort for bedding purposes. Very curious is Duchess of Connaught, which has purple and blue flowers, closely striated with darker veins, and having a broad pea-green margin. The latter colour is as decided in tone as that of a green-edged Auricula, or even more so, while it is brighter. King of Crimsons is of a crimson-purple hue, with darker, almost black veins. Another variety suitable for bedding purposes is White Pearl, on account of its dwarf habit and pure white flowers. Purple Prince is purple for some time after expansion, but ultimately fades or rather changes to a violet almost blue colour. That named Danish Flag has a purple ground colour, with five white stripes running from the throat of the corolla down the segments; the white bands vary greatly in breadth. A distinct and very singular selection from this is known as the tattooed variety. On a ground colour of purple are numerous spots, rings, ziz-zag, and other tracings of white. Blue Vein is characterised by being richly reticulated—that is, netted with violet or black on a lilac, purple, or violet groundwork. A decorative and showy kind is Maltese Lace, which is crimson and much netted with darker veins. The distinguishing feature is, however, the broad rose-coloured margin, which is undulated, crisped, and toothed in a striking way.

Double Petunias.

It is surprising how readily these are raised from seed, although the double varieties themselves are entirely seedless owing to the derangement of the pistil. The

filaments of the stamens are in many cases altered or shortened; but they produce an abundance of pollen, with which the single varieties are crossed, so that fresh ones are obtained in this way. The stamens are, however, so deeply seated in the tube that more than half of the flower has to be cut away in order to expose them, and cause them to shed their pollen, which they do in a comparatively short time. The doubles are spoken of as double rosettes, and 60 per cent. of them are obtained from seeds by the above method of cross-breeding. A very striking variety attracted our attention on account of its size and fullness, and from the fact that the flowers were equally variegated with purple and white in large blotches. Others were purple, crimson and white, self-purple, or light Cambridge blue, and fully double. Yellow, orange, or scarlet colours do not seem to exist as yet, any more than does blue amongst Dahlias.

BALSAMS.

A large collection of many kinds of Balsams was being grown in cold frames, in which they made fairly satisfactory growth for some time, till the main spikes had reached the flowering period, when the continued cold, sunless, and wet weather destroyed the central spike in a very singular way, causing it to rot. After this the plants were removed to a span-roofed house, where they are now flowering freely. They exhibit a great range and variety of colouring in purple, white, rose, blush, white spotted with purple, and other shades. There are also Camellia and Carnation-flowered sections or strains, in which those flowers are mimicked in a most remarkable manner. In the Camellia strain are white mottled and striped with red as well as blotched with scarlet. There are also mauve, crimson, and scarlet forms, coloured in such a way as to resemble striped and bizarre Carnations.

ROLLISSON'S TELEGRAPH CUCUMBER.

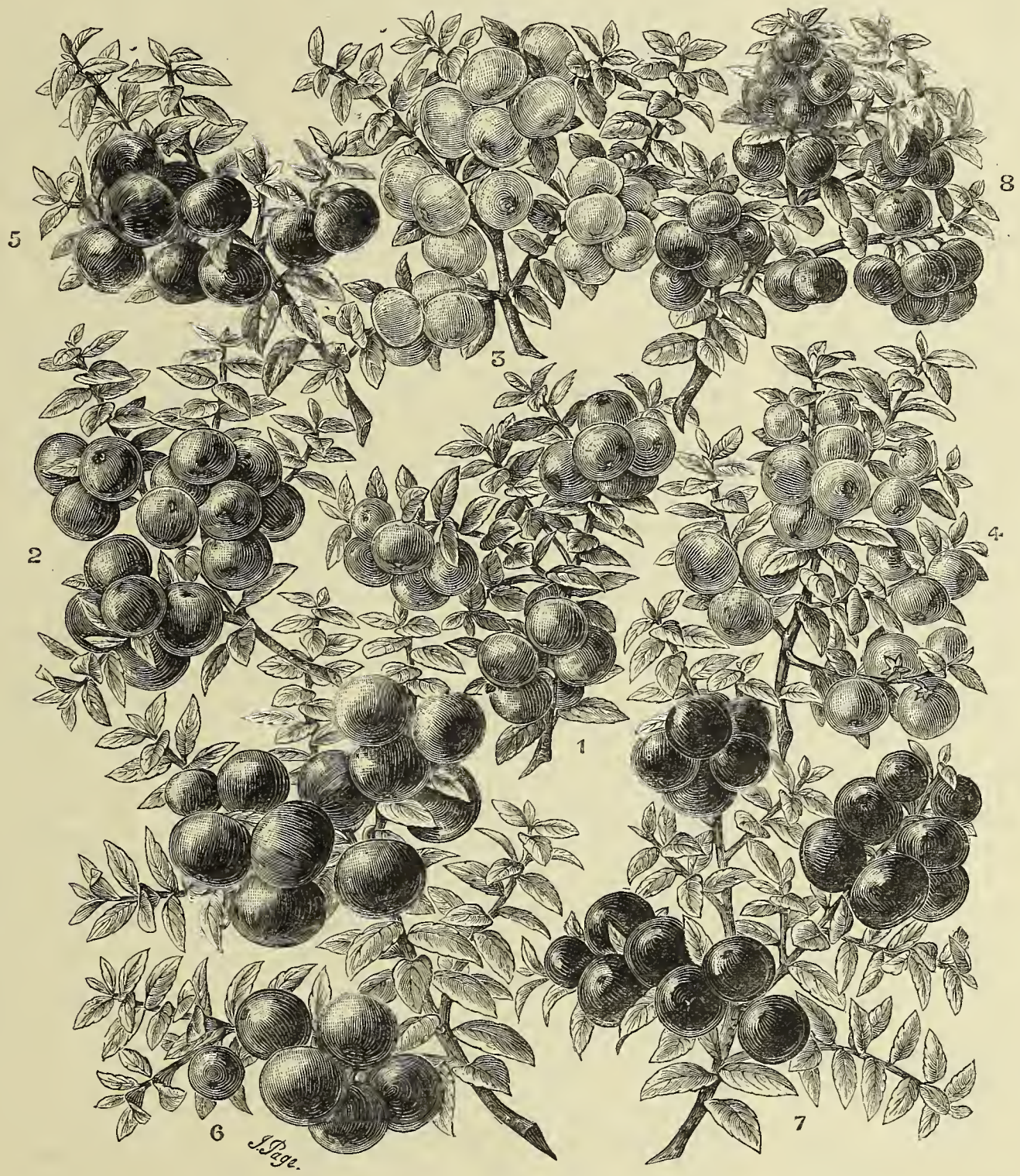
A span-roofed house similar to that which contains the Balsams is devoted to the cultivation of this old variety, which would yet be hard to beat for general purposes by any other sort; while for winter culture it is still of the greatest importance to gardeners. The plants are grown in boxes stood on staging, and are intended for seed. Each plant is furnished with from nine to eighteen fruits ranging from 18 ins. to 22 ins. in length, or even more. They have made a wonderfully free and robust growth, while the fruits are rapidly changing colour as they mature. A remarkable fact about the true Telegraph is the small quantity of seeds a large fruit contains, and that near its apex. When it has been properly set it soon gives an indication of the fact by becoming somewhat club-shaped, that is, bulged out or thickened at the apex.

BEGONIAS.

Until quite recently the tuberous Begonia has not been a feature of this place; but an effort is now being made to get up a collection. At present a houseful of single varieties, in all the varied colours for which this class of plants is noted, is bearing a good crop of seed pods which tells greatly against their flowering powers, although there is still a sufficient display to show their true characters.

THE PERNETTYA.

SINCE its introduction in 1828, great improvements, from a garden point of view, have been effected in Pernettya mucronata. These improvements have, moreover, been effected within the last thirty years, mainly by an Irish nurseryman, and the wonder is, that lovers of hardy shrubs do not grow the varieties more extensively for the sake of the variously-coloured berries in which the changes have mostly been effected. The fruit of the typical plant found at Cape Horn, in South America, is red, and now we have white, pink, rose, red, crimson, purple and other shades, some of them being almost black. The fruits also vary greatly in size from that of a Pea to twice that size in the variety named P. m. macrocarpa. Eight varieties are extensively grown by Messrs. Cutbush & Son, Highgate, with whom they berry most freely, and the colous are generally indicated by the names, such as P. m. lilacina (lilac), P. m. atropurpurea (dark purple), &c. The uses to which the Pernettyas may be put are endless. Being perfectly hardy, they can be grown out of doors in the reserve garden, and when well fruited, potted up and used for window or conservatory decoration, or for other purposes as fancy may direct. They are invaluable for the adornment of the rockery, forming dwarf, compact bushes with evergreen almost Heath-like foliage. The fruit hangs on till June, while the Lily of the Valley-like flowers open in May. The berries set in great profusion when the plants are grown in a fully-exposed and sunny position, but sheltered from north and east winds.



VARIETIES OF PERNETTYA MUCRONATA: 1. LILACINA; 2. ELEGANS; 3. ALBA; 4. ROSEA; 5. PURPUREA; 6. MACROCARPA; 7. ATROPURPUREA; 8. ROSEA MACROCARPA.

The Amateurs' Garden.

Vines on Walls.

Owing to the cold, sunless and wet condition of the summer just ended Vines on open walls in most parts of the country will be a failure this season as far as fruit is concerned. Although such is the case, those who value a crop of Grapes will not allow the Vines to run entirely wild merely because they look beautiful. In order to ripen the wood thoroughly, all the rampant and useless shoots should be cut away, or, at least, considerably shortened back. Without a free play of air amongst the shoots, and as much exposure to the autumn sun as possible, it is useless to expect a crop next year, even should the summer prove a propitious one. The leading shoots may be allowed full play, to encourage good root development and give vigour to the Vine in general. These shoots should be nailed to the wall, and not permitted to play about loosely, to the danger of their being broken, as well as hindering the wood on the lower part of the Vine from attaining maturity.

Apple and Pear Trees.

Many of the trees have started into growth again where they received summer pruning, making vigorous shoots that are not only altogether unnecessary, but which cannot now be expected to ripen properly. These should be pruned back, and where the trees are inclined to grow vigorously in ordinary seasons without producing a satisfactory crop they should be root-pruned to repress their vigour, and throw them into a more fruitful state. Dig out a trench, in the case of trees upon walls, about 2½ ft. deep and 3 ft. from the bole of the tree; when this is done, dig beneath the ball of soil in order to get at the tap root and all other vigorous ones that strike downwards into the subsoil. These are the roots that encourage the excessive growth and prevent the tree from becoming productive. Even if large roots are cut through the tree will suffer little or no harm if the long and useless shoots have been cut away. Leading shoots of course should be nailed to the wall in their proper places and shortened back at the winter pruning. If they are nailed straight and regularly now, they will occasion little or no trouble at the winter pruning, because by that time they will have become fixed and straight, owing to a deposition of woody matter before the fall of the leaf. Useless wood cut away now will allow of the wounds being healed before winter, whereas if left till then, there is always a danger of frost splitting the spurs that are left, and healing takes place but imperfectly or not at all. Standard trees may be treated in the same way, but if they are large a distance of 3½ ft. may be allowed from the bole of the tree to the trench that is taken out.

Dahlias.

Considerable pruning will be required in order to prevent the plants, as far as possible, from becoming top heavy and liable to be broken down by the wind, and to induce a greater amount of bloom than would otherwise be the case. The size of the heads will be improved by using liquid manure occasionally. For some time past the earwigs have been very destructive to both foliage and flower heads, which, in many cases, quite disfigure the latter. They even attack the roots where they can get at them, when the ground is cracked or open about them. Hollow Bean-stalks laid about and amongst the foliage of the plants will entrap a great many of them, as they crawl in for shelter and concealment. They may be blown out into a pail of water in the morning. A better method, even, is to place a small quantity of dry moss into the bottom of a small pot, which should then be inverted and placed on to the top of the stake supporting the plant. The earwigs crawl in amongst the moss during the night, and may be caught in large numbers in this way, and shaken into a vessel of water, and afterwards destroyed when the whole of the plants have been gone over. The operation should be repeated every morning till the pest is diminished.

Gathering Ripe Fruit.

Fruit that is intended to be kept in the fruit-room, or, in the absence of such, in some convenient place for any length of time, should be gathered with the greatest care, with the view of keeping it fresh and sound as long as possible. Apples and Pears should part readily from the tree when lifted into a horizontal position by the hand; and fruits not thus easily severed should be gone over again some days later on. Each fruit should be placed in a basket by the hand, not thrown down, as the skin gets bruised, thereby causing decay in a short time. Another means of judging of the ripeness of the fruit is by its odour; and when one is cut open the seeds should be black. When picked lay them as carefully in a single layer upon a table, or on shelves in a dark room. Heaping them up is to be deprecated under any circumstances in the fruit room; and each kind should be put by itself with a label attached, so that later gatherings of the same variety may be added to those already stored away. Different kinds become ripe at particular periods, and all should be used when at their best.

The Japan Anemone.

There can be no doubt about the beauty of this grand autumn flower, and what is more important, it is perfectly adapted for general cultivation in our climate. The present season, although cold, has merely had the effect of retarding the flowering period, and the beds and borders planted with it are now masses of red, rose, or white, according to the varieties grown. It is essential to success in the cultivation of this plant, that the bed should be trenched or very deeply dug, manuring it well at the same time. Insert the roots or creeping rhizomes in spring, placing the pieces about 1 ft. apart each way. Mulch the bed with old hot-bed manure, or that which has been fermented and is partly decayed, being careful not to cover the young crowns till they have established themselves, and become strong. This mulching will retain the moisture should the summer prove a dry one.

FIGS AT CHISWICK.

Two houses that used to be devoted to plant growing are this year occupied with Figs, which seem to like their new quarters, judging from the fine crop of fruit in all stages of advancement towards maturity. No. 1 was at one time used as an Orchid house, and is well adapted to retain moisture in the atmosphere, and the stages being high, the plants are kept near the light. About fifty kinds are grown, furnishing a great variety, both as to shape, size, colour, and diversified qualities. The plants vary greatly in size, but with the exception of Monstreuse, which is fruitless, or almost so, the others all bear a crop, which in the great majority of cases is heavy.

Short or Top-shaped Fruits.

De l'Archipel has large fruits, which when ripe are green on the lower part, and brown upwards. That of Grosse Verte is also large, shallowly ribbed, and pale yellowish green when mature. Another having similar characters, named Negro Largo, has medium-sized fruits of a greenish yellow colour, and similar in size is Grise Servantine Bifere or Black Provence, which has a brown top-shaped fruit, much the darker on the exposed side, and cracking, with numerous white lines when mature. Better known is the Green Ischia, of which there are black, brown and white varieties in cultivation, and the black variety is also grown here. It is a very fruitful variety, with large turbinate, greenish yellow fruits when ripe. A large plant of Trois Recoltes bears rather small fruits of a greenish colour, suffused with dark brown.

A very fruitful sort is De Grasse, and a large plant is now laden with a crop of fruits above the average size. The flesh is of a dark red colour, thick, syrupy and deliciously flavoured when matured. A good crop is also borne by Trifer, a greenish yellow variety which often splits at the eye when mature, showing a pale-coloured flesh. Large, turbinate, slightly ribbed, yellowish green fruit, suffused with pale brown, is borne in abundance by Pied de Bœuf. A heavy crop is borne by Bourjassotte Grise, the fruit of which is glabrous or nearly so, and greenish, suffused with brown on the exposed side. A pretty little Fig is Œil de Perdrix, which often splits at the apex, showing a red flesh; the skin is of a dark chestnut-brown where fully exposed, and the qualities of the fruit for dessert purposes are worthy of attention. A medium-sized fruit is Osborn's Prolific, of a yellowish colour, but heavily suffused with brown, especially on the ribs.

Long, Obovate, or Pear-shaped Fruits.

Many of the above-mentioned are seldom seen in cultivation in this country except where special collections are kept, as at Chiswick; but had the nature of our climate been more favourable more of them would, undoubtedly, be grown in the open air. Those under notice are grown in pots. In the more favoured parts much might be done with the Fig than is at present the case. The subjoined varieties vary considerably in shape and size, and no doubt they vary in hardiness also; but while they are all grown under precisely the same conditions as to temperature, their hardiness is much less evident.

A very distinct sort is Reculver, which has brownish black fruit marked with white dots and having a closed red eye. A distinct and singular-looking sort is Boughton, on account of the lower portion of the fruit being drawn out into a long neck. When mature it is of a pale yellowish colour suffused with brown on the exposed side. Several plants of Panachée are grown, and are characterised by the fruits being striped with green on a pale yellow ground. The fruit is agreeably flavoured, but not of first-class quality compared with many others. Very fruitful is Dr. Hogg, bearing large, greenish yellow-ribbed fruits that split at the eye when mature. Peau Dure has large, pear-shaped, pale yellow, copiously-ribbed fruits, with a rose-coloured and rich flesh. It is described as a very useful sort for drying. A strikingly dark purple-black fruit is borne by Grosse Violette; it is of medium or large size, and ribbed. Negronne is similar in colour and size, and is pyriform, tapering gradually to the base. A large plant is now laden with fruit in various stages of ripeness. The popularity of Brown Turkey is evidenced in some seventeen or more synonyms that are used both here and on the Continent. It is hardy, prolific, and more suitable for outdoor cultivation in this country than any other. Another fruitful sort is Dorée, which bears large, obovate, much-ribbed fruits; the skin is yellowish suffused with reddish brown. The fruits of Toulousienne are shortly-obovate, frequently oblique at the eye, heavily suffused with chestnut-brown, and are produced in great abundance. Lee's Perpetual is similar in shape to the last, but more distinctly ribbed, and is equally, if not more, prolific. A large plant of Gouraud Rouge is also well furnished with fruits that are of medium size, yellow, and heavily suffused with red on the exposed side when mature. The eye is closed, with pink scales.

The above list includes only those that have been ripening their fruits for some time past. Many small-fruiting kinds have also been omitted which, from their prolific character, would no doubt be very useful for outdoor culture where climatic conditions are favourable. The collection affords an excellent opportunity for intending cultivators to select sorts with suitable qualifications for home culture, or for increasing the number of those already well known and grown in private establishments. A great curiosity presented itself in the case of a sort named Angelique Noire, and one or two others having proliferated fruits. From the eye at the apex of the fruit another projects at right angles, and though smaller, appears to be quite perfect.

HARDY PLANTS IN FLOWER AT GLENSTAL CASTLE.

Although too late to see the full beauty of the fine herbaceous border at Glenstal Castle, the following were especially noticeable at the time of my visit; and although I only made notes of the few now noticed, it was not through lack of subjects of interest for that purpose. Before concluding these few remarks, allow me to say that the gardens and houses one and all reflect the highest credit on Sir Croker Barrington's able head gardener, Mr. R. Weller, who evidently spares no pains to ensure success in the various departments.

Aster alpinus.

This lovely Alpine subject is now well established after repeated failures, and forms an attractive object, its lilac flowers being borne on stems about 6 ins. in height, thus rendering it a capital plant for the front of herbaceous borders. It is the dwarfest of the Michaelmas Daisies.

Calystegia pubescens fl. pl.

What a pretty plant this is, and how seldom met with! It is worthy of cultivation in the most select collection. It requires sticks to climb over, and when once well established is a perfect monopoliser of the ground, which may account for its not being more generally grown. Its double pink flowers are produced in great abundance, and continue to succeed each other for a long time.

Crucianella stylosa.

This pretty trailing Crosswort, with its pale rose flowers, growing amidst rockwork, looks very pretty. Although the individual flower-heads are not large, a mass of them together is attractive.

Chrysanthemum maximum.

This strong-growing variety is grown in quantity because extremely showy, and also very useful for cutting purposes, producing an abundance of its large white flowers at a time when many things are on the

wane. Large clumps as here grown are most striking, and will thrive in almost any aspect, as it does here in many situations.

CONVOLVULUS MAURITANICUS.

Although more frequently grown as a basket plant for the greenhouse, this lovely light blue Convolvulus makes a very showy subject on the front of the herbaceous border. I am not sure of its hardiness in all situations, but here it is making a nice spreading plant close to the ground. Being a native of North Africa it is well worth trying.

SOLIDAGO VILLOSA NANUS.

The Golden Rods, although old inhabitants of our gardens, are yet worthy of general cultivation. The subject under notice being a dwarf-growing variety, about 2 ft. in height, may perhaps commend itself to those who do not care for the taller-growing forms, such as S. gigantea and S. sempervirens. The previously mentioned is also just commencing to flower.

MONARDA DIDYMA.

This showy Labiate ought not to be forgotten, its whorls of scarlet flowers being produced in succession for fully two months, and it thrives in any situation. Although not so useful as many things, its distinct appearance adds variety and beauty to the herbaceous border.

CHRYSANTHEMUM FRUTESCENS L'ETOILE D'OR.

On a previous occasion, when writing an account of Glenstal, I stated that it was the plan to have whole beds of one kind of flower. A round bed of this yellow Marguerite, about 8 ft. in diameter, looked remarkably attractive; its pale yellow flowers show off to advantage when on a lawn and backed by green foliage. Thus placed, the effect from a distance is charming; nice young plants were used for the purpose, as is to be seen by the luxuriant manner in which the plants are doing. I think the idea of keeping to one thing for each bed, if once tried would commend itself to most people.

ANEMONE JAPONICA RUBRA.

Whether forming clumps in the herbaceous border or the fronts of shrubberies, this Anemone in all its forms is at present a plant not likely to be missed. A bed or rather huge clump in the flower garden at Glenstal Castle is finely in flower at the present time. Anyone seeing a single bed of this, say 8 ft. or 10 ft. in diameter, will fully appreciate the idea as here carried out so successfully. The only thing against it that I can see in small places is that there would not be sufficient space to spare for its general adoption.

AGROSTIS NEBULOSA.

Amongst a collection of ornamental grasses the subject of this note is particularly light in its appearance, and should be grown by those who like grasses intermingled with cut flowers, and is another plant of interest in the beautiful gardens of Glenstal Castle.

ROSA RUGOSA.

In an odd corner I came upon a bush of this very full of hips, that looked, if a favourable autumn follow, likely to give an abundance of seed. It is being planted in quantity as game coverts, being proof against the attacks of rabbits. Now that single Roses find so many admirers, this should not be forgotten, as there are both flowers and afterwards seed hips to enliven the surroundings.

GARDENING MISCELLANY.

Allotment Gardens in England and Ireland.

I NOTE the interesting article (p. 9) on this subject, contributed by "E. W.", and send you this line suggesting that he withhold his approval of the contention that "a quarter of an acre"—the amount set apart by the Duke of Westminster in Cheshire—is too much for a person working ten hours a day otherwise. The ten hours would more than cover the time of light in winter, but not so for the other three seasons. In winter, except trenching or sub-soiling, there is no spade labour of moment in allotment gardens, and no crop is usually got in. There are thousands of labourers' cottages erected, or in process thereof, all over Ireland, under the supervision of the Board of Guardians and the Local Government Board, and in no case is there less than half an acre of land attached. I have heard no person say, on any pretext, that this was too much. I look on this as essentially a conservative movement in the best sense, and likely to have far-reaching and beneficial effects. The growth of better vegetables, and then better cookery, civilisation and refinement will all follow in due course, and possibly stem the depopulation exodus.—*W. J. Murphy, Clonmel.*

Chrysanthemums in Small Pots at Dalkeith Gardens.

AFTER returning from a holiday run through Ireland north and south, and much of Scotland, including the splendidly maintained gardens of the Duke of Buccleuch attached to Dalkeith Palace, there are few of my many notes made *en route* that recur more frequently to my mind than the really fine collection of upwards of 1,000 Chrysanthemums in the various sections—very pictures of health—shown me by Mr. Malcolm Dunn and his intelligent foreman, Mr. Brough. I noticed none in pots exceeding 6 ins. in diameter, and many were in 3½-in. and 4½-in. pots. I understand a party of Yorkshire gardeners the previous day had a similar surprise. Of course, the plants were regularly fed with different manures and stimulants, but still this is a new departure—a very important consideration at housing time next October.—*W. J. Murphy, Clonmel.*

Seedling Gaillardia.

A NEW Gaillardia, a seedling of the G. aristata grandiflora type, has been sent us by Mr. Wm. Caudwell, The Ivies, Wantage. Some idea of the vigour of the plant may be gleaned from the fact that the stems attain the height of 5 ft., which for a Gaillardia is rather extraordinary. Of course, for bedding purposes it would be out of the question, but for isolated clumps on the lawn, or even for the back line in an herbaceous border its effect would be grand when covered with its flower-heads, as Gaillardias are, for the greater part of the season. We are assured also that it flowers with great freedom, notwithstanding its gigantic size. The flower-heads measure from 3½ ins. to 4½ ins. in diameter, thus showing that although the stems have attained such unusual dimensions the heads have in no way suffered a diminution in size. The disk is of a dark chestnut-brown, while the greater portion of the broad ray is of a deep crimson-red, the tips being bright yellow. The foliage also seems to be ample and good.

The Botanical Syllabus of the Department of Science and Art.

YOUR correspondent, "J. W. O.," p. 11, speaks truly when he says that considerable improvements have been effected in the syllabus in question, which deals with the question of what natural orders students in the elementary stage of botany are required to make themselves familiar with. The Chenopods are not only difficult to examine on account of the small size and crowded nature of the flowers, but few, if any, of them are to be found in flower before the examination in May. Although this latter complaint cannot be made with regard to the grasses, yet they are even less popular with students, not only in the elementary, but also in the advanced stage of botany on account of the difficulty experienced in the examination of the flowers and their minute organs. With the exception of Orchis mascula and O. Morio, few, if any, others of the British Orchids are in flower by May, and they are generally very inaccessible, especially to town students. Nor is it desirable to encourage them in this wholesale fashion to despoil the meadows and pastures of such choice and important members of the British flora. In view of the importance of a knowledge of botany to gardeners as a class your correspondent does not mention the comparative indifference with which young gardeners generally regard the whole subject of botany. Systematic botany is on the whole the most favourably received; but important branches such as morphology, histology, and physiology, they almost ignore. The per-centage who avail themselves of the opportunities afforded by evening classes of gaining a knowledge of the subject is deplorably small, and greater enthusiasm is exhibited by clerks, carpenters, painters, and others of a nondescript class in the matter than by gardeners.—*Gardener.*

A Monstrous Sunflower.

IT would appear that the season must be answerable for many and curious anomalies in the vegetable world. A specimen has been sent us by Mr. Charles B. Green, Acton, who does not say whether the seed from which it was grown was collected from a plant bearing so-called double flowers or not. It would seem to have been meant for a single flower, as the outer and ray florets are quite normal. Inside these there is a zone of yellow and tubular florets, but all beyond them towards the centre of the head the bracts have grown so excessively as to entirely conceal the florets in their axils. About half-way between the ray florets and the centre the bracts are the largest, and bear, not a single floret in their axils, but a bundle of them, so that really we have a series of short branches in their axils. The central portion of the head, measuring about 2 ins. in diameter, is quite bald, fleshy, and pale yellow in colour, resembling a Polyporus or some other fungus. The whole resembles a cushion of green moss surrounded by a yellow fringe, and having the fungus-like portion in the centre. If the peculiarity could be perpetuated, it might well be named Helianthus annuus viridiflora, and grown as a curiosity like the green Dahlia.

Crinum Powelli.

THIS showy Crinum is flowering here in the herbaceou border, with us, having stood 17° of frost without injury. As the plants die back I cover them over with ashes or tan, as a protection from frost. It fully deserves everything that has been written in its favour. On one occasion a good illustration was made of it in THE GARDENING WORLD, which, doubtless, many of your readers remember. The present summer having been so unfavourable, one is all the more pleased to be able to bear their humble testimony in support of so good a thing. Being so pleasantly scented the individual flowers are appreciated in a cut state. The colour is pale rose, and to those who do not know it I may say it reminds one very much of the lovely Belladonna Lily.—*E. Dumper, Limerick.*

Yucca filamentosa.

THIS dwarf-growing Adam's Needle at the present time forms a handsome subject; where flowering, its large showy spikes of 4 ft. to 5 ft. in height are attractive objects amongst the most select of hardy blooming plants. I was very much struck with a clump of it in the old-fashioned flower garden of E. Hosford, Esq., Eglantine, Corbally, Limerick, bearing six medium-sized spikes, a good example of what may be done by leaving this semi-arborescent plant alone, as it had evidently not been disturbed for some years. The somewhat shy-flowering propensities of the members of the Yucca family keep them from general cultivation in the herbaceous border, but considering we have to wait for the flowers they amply repay our patience when they do flower. They make suitable plants for rockwork, or for planting on a lawn, or even the front of a shrubbery.—*E. Dumper, Limerick.*

Lasiandra macrantha floribunda.

THE most healthy plant of this fine Melastomad I have yet met with in this country is at the present time in fine flower, and likely to be so for some time to come in a greenhouse at Glenstal Castle. In this case the plant is grown as a climber under the roof. I was surprised to see how well adapted it is for the purpose, never having previously to my knowledge thus seen it. By keeping it loosely tied in, the flowers show to advantage. I have never seen it in a more luxuriant state than this. Having always grown it as an intermediate or stove plant, it was somewhat of a novelty to me. As a stove subject, it is often met with in a shabby state; its somewhat straggling habit not being very amenable to training may, perhaps, have caused it to be neglected to a certain extent. I can plainly see that the extra heat afforded it in many places is unnecessary, if not positively harmful. I am afraid that I envied Mr. Weller's possession of this showy plant.—*E. Dumper.*

Plumbago capensis alba.

IN an opposite corner to the subject above referred to is a good plant of this pretty Leadwort, also tied loosely to the roof so as to show off its straggling habit of growth to the fullest advantage. The older P. capensis is also grown close by, and the plants are so trained that next season they will be thoroughly intermixed with each other. They are just commencing to interlace, thus enhancing the beauty of each. Mr. Weller grows both the plants in large pots, and right well they do, as present results abundantly prove, thus practising what he recommended in the pages of THE GARDENING WORLD a year or so ago. I may here be allowed, without digressing too much, to say that I have grown it in pots 5 ins. to 8 ins. in diameter for house decoration, and for which purpose it is much appreciated. I am now referring to the type P. capensis.—*E. Dumper.*

ORCHID NOTES AND GLEANINGS.

Cattleya Eldorado varieties.

In the rich collection of Orchids belonging to Reginald Young, Esq., Liverpool, are fine forms of the above. Some time since I sent you a description of a lovely Cattleya Eldorado splendens, but now there are two distinct light forms, one having the sepals and petals pure white, and the labellum a deep orange, margined with white. Another differs from the one mentioned, in having a distinct very broad margin. Both are, however, fine distinct varieties. Catasetum Bungerothii is flowering with a second spike from the same bulb that recently flowered. The beautiful Vanda cœrulea is represented by a pale form, but a fine large flower, and Odontoglossum Harryanum is flowering freely. The old Maxillaria venusta is doing the same; a fine mass with fifty flowers just getting over, has been a perfect gem.—*A. O.*

Cycnoches chlorochilon.

A grand form of this, having a spike with six enormous flowers, is just now in perfection in the Botanic Gardens, Liverpool; it is a quaint but very distinct Orchid. The lovely fairy-like Ionopsis paniculata is also beautiful now.—*A. O.*

Odontoglossum Harryanum.

At the present time our cool house is enlivened with a spike of this attractive and showy Odontoglot. For some time I have been watching its gradual opening, and now that it is fully out it amply rewards one's patience. It has, however, a drawback in not opening back its petals, but a writer in a contemporary thinks that as the plants become stronger, that objection will disappear, and I hope it may be so. I see that Mr. Sander, in *Reichenbachia*, advises it to be grown with Odontoglossum vexillarium in the winter. Our plants have been in a cool house since we received them as imported pieces rather more than a year ago, and nothing could possibly look healthier. It would be interesting to others as well as myself to know in what temperature other of your correspondents have best succeeded with it, as it is too showy a thing not to endeavour to do all we can in its culture.—*E. Dumper, Limerick.*

New Orchids Certificated.

Disa graminifolia.—The stems of this blue Disa are about 15 ins. or 18 ins. high, bearing numerous flowers in a raceme on its upper part. The sepals are blue, while the upper one, which is large, spurred and hooded like that of an Aconite, is more or less shaded with violet. The lip is small, short and tongue-like, while the petals are curiously lobed, and all are deeply tinged with violet. It was exhibited by F. G. Tautz, Esq., Studley House, Hammersmith, at the Royal Horticultural Society's meeting on Tuesday, and was awarded a Botanical Certificate. Lælia monophylla.—The leaves of this species are lance-shaped and solitary, as the specific name implies, and terminate short, erect, slender terete pseudo-bulbs. The flower-stalk is terminal, and bore a solitary flower of small size for a Lælia. The plant, moreover, is rare in cultivation. The flowers are orange-scarlet or cinnabar, with spreading sepals and petals and a small lip with a triangular opening to the tube. It was exhibited by Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, on Tuesday, and received a First Class Certificate. Oncidium ornithorhynchum album.—The flowers of this variety are borne in arching panicles, as in the type, and are of a pure white with the exception of the disk, which is bright yellow and much tubercled or lobed. It is as floriferous, and no doubt will be as popular as the typical form for autumn flowering. This was also exhibited on Tnesday by Mr. B. S. Williams, and received a First Class Certificate.

THE GARDENERS' CALENDAR.

THE GREENHOUSE.

Zonal Pelargoniums.—Where the stock of these plants intended for winter-flowering is still unprotected in the open, no time should now be lost in putting them under cover. The intermittent and heavy showers that fall from time to time will act prejudicially on plants exposed to them in causing a succulent and soft growth, which is but ill adapted to flower during the dull winter months. In order to ripen the wood to some extent, put the plants under cover in some frame or greenhouse where a free circulation of air can at all times be admitted, to induce a close, dwarf and sturdy habit. The pots should also be tolerably well filled with roots, so that when stimulants are applied flowering may be induced.

Solanums.—Where these are planted out in frames or in the open ground during summer to induce an abundant set of fruit, it is now time to make preparations for lifting them, an operation that should not be delayed beyond next week, otherwise they will be liable to lose a portion of their foliage, which should present a dark green healthy appearance for some months to come, and, indeed, almost till the plants are cut down in spring. The old S. capsicastrum is, perhaps, the most widely grown, but there are several improved forms, especially with regard to the size and colour of the berry. One of the best and largest fruited is Empress. After potting them, keep in a close moist atmosphere until they have taken fresh root. Give doses of weak liquid manure occasionally to those already in pots in order to sustain the foliage in good condition.

Deutzias and Spiræas.—Better results will be obtained from these by potting up at once, than if delayed till it is necessary to put them directly into the forcing pit, as is the custom with some growers. The foliage now on them will give an impetus to the formation of fresh roots, by which an abundant bloom can not only be produced, but brought to perfection. See that the drainage is good where old plants of Deutzias have been grown in the same pot for some years, as good supplies of water and liquid manure will have to be given before and during the flowering period on account of the ball of soil being thoroughly permeated by the roots.

Liliums.—During the ripening-off period it is well to see that the bulbs of such subjects as L. auratum, L. speciosum, L. longiflorum and its varieties, do not get sodden and injured with the wet. It is not sufficient merely to stand these in some out-of-the-way corner if good results are expected from them next year. An open shed, pit, or other glass structure would be of material advantage in keeping off wet, while the bulbs gradually ripen off.

Schizostylis coccinea.—This beautiful scarlet South African Iridaceous plant makes splendid growth if planted out in a peaty bed during summer, and kept well watered during dry weather. Although peat is so useful in the southern counties for preserving moisture, and in preventing the plant from getting baked in summer, yet it is not absolutely essential, especially in the north, where the atmosphere is naturally cooler and moister. There it will thrive admirably in a good stiff loam. Where plants have been grown under any of these conditions, it will be a good plan now to lift a quantity, potting them up, and placing in a cool frame, where by-and-bye, according to the mildness of the weather, they will throw up strong flower spikes. If the weather proves severe, have them removed to a greenhouse where the foliage and flowers, when they appear, will be kept cool and dry. The roots must not be overlooked in the matter of moisture, as the foliage is evergreen.

THE FRUIT HOUSES.

Peaches.—These ripen too rapidly during the time that such mid-season varieties as Royal George, Bellegarde, Grosse Mignonne, and Noblesse reach maturity. In order to prolong their keeping qualities as long as possible, they should be collected before they fall from the trees into a net, and be placed in a cool dry airy room, where they will remain in good condition for at least ten days. Like Pears, Apples, and other fruits, Peaches lose greatly in flavour if allowed to hang too long on the trees. As trees in the succession houses become cleared of fruits, give them a thorough washing with the hose or garden engine so as to rid them of red-spider and other insect pests. If there are trees that grow too strongly to bear fruit and require root-pruning, let the operation be completed while the leaves on the trees are still fresh and good, so that fresh root action may take place during the autumn.

THE KITCHEN GARDEN.

Hardy Fruits.—These should be gone over at frequent intervals, so that the fruits may be collected as they become ripe, to prevent their being injured by falling, as well as to keep the birds from destroying them. The more important Pears that require looking after now are Jersey Gratioli, Beurré Giffard, Beurré de l'Assomption, Windsor, Madame Treyve, White Doyenné, and Beurré d'Amanlis. Apples include Devonshire Quarrenden, Irish Peach, Red Astrachan, Keswick Codlin, Lord Suffield, Mank's Codlin, and Nonesuch. Some of these, in ordinary seasons, ripen in August. One of the burning topics of the day is the fruit question, which is engaging attention all over the country. The careful cultivator should not be lax in his attention as to what particular sorts are best adapted for his soil and locality. Those which bear best in average seasons should receive due attention, provided their other qualities recommend them, and no varieties should be ordered in quantity that do not give general satisfaction. Notes should be made both at home and also in neighbouring gardens to which the grower may have access.

HORTICULTURAL SOCIETIES.

National Dahlia Society's Show.—

September 7th and 8th.

The annual exhibition of Dahlias by this society was again held in the Crystal Palace, when a large number of exhibits were brought together. They were of better substance than last year, yet the dry, airy atmosphere of the Palace began to tell strongly upon them the second day. There can be no doubt about the grand massive appearance of the show and fancy varieties; but there is something fascinating about the Pompons and Cactus Dahlias, but more especially the single varieties, among which there are so many charming colours now in cultivation.

Messrs. Keynes, Williams & Co., Salisbury, won the first prize for a collection of seventy-two blooms, which included Duchess of Albany, Mrs. Gladstone, Royal Queen, Beauty, General Gordon, Mr. Glasscock, King of Crimsons, &c. Mr. Chas. Turner, Slough, was second; but the conditions were exactly reversed in the class for forty-eight blooms. The best thirty-six were shown by Mr. J. Walker, Thame, Oxon, and he was followed by Messrs. Saltmarsh & Son, Chelmsford. The latter were first with a collection of twenty-four blooms. Messrs. Rawlings Bros., Romford, had the best stand of twelve. In the amateurs' classes Mr. Henry Glasscock, Bishop's Stortford, had the best collection of twenty-four blooms, including Prince Bismark, R. T. Rawlings, Burgundy, and Nellie Cramond. In the open classes, Mr. J. T. West, gardener to W. Keith, Esq., Brentwood, took the first prize for six blooms of any dark show Dahlia, and for six Pompon varieties. Mr. Chas. Turner had the best light-coloured Dahlias, and the best twenty-four Pompon varieties; Messrs. Keynes, Williams & Co. showed the best striped Dahlias and the best tipped sorts; the best decorative varieties were shown by Mr. Henry Glasscock; and Messrs. J. Burrell & Co., Howe House, Cambridge, had the best twelve Pompons. As already mentioned, the single Dahlias were very attractive, and Messrs. J. Cheal & Sons, Crawley, Sussex, showed the best twenty-four varieties; Messrs. Paul & Son, Cheshunt, had the best twelve; and Mr. T. W. Girdlestone had the best six sorts.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, exhibited a collection of Dahlias, and the following new single varieties were certificated—namely, R. C. Harvey, yellow with a red centre; Florry Fischer, rosy purple with a white zone; and Mrs. Ramsbottom, rose. He also had some fine forms of Lilium auratum, including L. a. macranthum, L. a. rubro-vittatum, and L. a. virginale, white. Messrs. J. Cheal & Sons had also a group of single, double, and Cactus Dahlias. A single variety named Victoria, having white florets edged with crimson-scarlet, was certificated. The following were also certificated—namely, Matthew Campbell (fancy), yellow striped with crimson, shown by Messrs. Keynes, Williams & Co.; Mikado, single crimson, with yellow zone and tip, shown by Mr. Girdlestone; and Gertrude, a single rose variety with a white zone, shown by Mr. Henry Glasscock. Mr. D. T. Fish, Bury St. Edmunds, also exhibited a stand of showy new single Dahlias.

Crystal Palace Fruit Exhibition.—

September 7th and 8th.

The first autumn show took place on Friday and Saturday last, when there was a good display in most of the classes, especially of fruit grown under glass, the Grapes presenting the greatest advance on those of last year. A number of exhibits, however, were either unripe or badly coloured. The hardy fruits, such as Apples and Pears, showed a considerable falling off in size and ripeness compared with the display of last year. Plums, Peaches and Nectarines were plentiful enough, but many of them were not very highly coloured.

There were three entries in the class for a collection of twenty dishes of different kinds of fruit, and Mr. J. H. Goodacre, Elvaston Castle, Derby, carried off the first award, showing some good examples of Muscat of Alexandria, Foster's Seedling, Alnwick Seedling, and Black Hamburgh Grapes, Oranges, Cherries, Peaches, Nectarines, Figs, Plums, &c.; Mr. H. W. Ward, gardener to The Earl of Radnor, Longford Castle, Salisbury, was a good second, showing similar fruits. For a collection of twelve dishes Mr. A. Miller, gardener to W. H. Long, Esq., M.P., Rood Ashton Park, Trowbridge, took the first award with some good Melons, Grapes, Nectarines, &c.; Mr. W. Pratt, Longleat, Warminster, took the second prize; and Mr. H. W. Ward came in third. There were six entries in the

class for eight dishes, and Mr. R. Parker, Impney, Droitwich, Worcester, secured the first prize; the second went to Mr. A. Waterman, gardener to H. A. Brassey, Esq., Preston Hall, Aylesford. The Grapes in the class for ten kinds, of two bunches each, brought two better exhibits than they did last year. Mr. W. Pratt and Mr. H. W. Ward were the prize winners in the order named; Alnwick Seedling, Foster's Seedling, Alicante, Trebbiano, and Gros Maroc were large and good. Mr. William Allan, gardener to Lord Suffield, Gunton Park, Norwich, had the best five kinds of Grapes; Mr. Thomas Osman, gardener to L. J. Baker, Esq., Ottershaw Park, Chertsey, was second. Mr. James Taverner, gardener to Sir A. K. Macdonald, Bart., Woolmer Lodge, Liphook, had the best Black Hamburgh Grapes; Mr. William Taylor, gardener to James Chaffin, Esq., Bath, the best Muscat of Alexandria and the best Madresfield Court; Mr. M. Gleeson, Clumber, Worksop, Notts, the best Gros Maroc. The best Alicante came from Mr. J. Hollingworth, gardener to J. F. Campbell, Esq.; the best of any other white was Buckland Sweetwater, shown by Mr. F. Lee, gardener to Mrs. Lyne Stephens, Lynford Hall; and the best of any other black was shown by Mr. J. H. Goodacre, who had Alnwick Seedling. Mr. W. H. Divers, gardener to J. T. Hopwood, Esq., Ketton Hall, Stamford, had the best Peaches, and Nectarines, and also the best collections of those fruits. Out of twelve entries for a single dish of Peaches, Mr. George Goldsmith, gardener to E. G. Loder, Esq., Floore, Weedon, secured the first prize. Mr. James Douglas, gardener to Mrs. Whitbourne, Great Gearies, Ilford, had the best dish of Nectarines out of twelve entries. The best green-fleshed Melon came from Mr. J. H. Goodacre, who had the Royal Horticultural Prize Melon. Mr. C. J. Waite, gardener to Col. the Hon. W. P. Talbot, Glenhurst, Esher, had the best scarlet-fleshed Melon. Out of nine entries Mr. J. Bury, Tewkesbury Lodge, Forest Hill, took the first prize for a basket of black Grapes of not less than 12 lbs., showing well-finished Alnwick Seedling. For a similar basket of white Grapes, Mr. G. Duncan, gardener to C. T. Lucas, Esq., Warnham Court, Horsham, showed fine yellow-coloured specimens of Muscat of Alexandria, taking the first prize. Mr. C. Ross, gardener to G. B. Eyre, Esq., Welford Park, Newbury, had the best two dishes of Figs; and Mr. C. J. Waite had the best six dishes of distinct Tomatos. Mr. A. Waterman had the best red Plums; Mr. Thos. Lockie, Oakley Court, Windsor, had the best yellow and green varieties; while Mr. W. Iggulden, gardener to the Earl of Cork, Marston House, Frome, Somerset, had the best purple sorts. All consisted of four dishes, each containing nine fruits. There were seven entries for a collection of twelve dishes of Apples for table and kitchen use, and Mr. A. Waterman took the first prize, showing some good samples of Peasgood's Nonesuch, Lady Henniker, Lord Suffield, and others. There were eight entries of ten kinds of Pears, and Mr. J. McIndoe, Hutton, Guisboro', was the first-prize winner. Mr. A. Waterman took the first prize for three dishes of Apples, and Mr. James Butler was first in a similar class for Pears.

In the open classes for cut flowers, Messrs. J. Burrell & Co., Huntingdon Road, Cambridge, took the first prize for Gladioli, showing 132 spikes including many beautiful kinds. China Asters were also numerous and pretty. The first prize for quilled varieties went to Messrs. Saltmarsh & Son, Chelmsford, the first for French Asters going to Mr. J. Jones, 6, Jaffords Buildings, Larkhall, Bath. Messrs. Webb & Brand, Saffron Waldon, had the best Hollyhocks; Mr. J. Prewett, Swiss Nursery, Hammersmith, had the best collection of stove and greenhouse cut flowers; Mr. Thos. Lockie, had the best Cockscombs; and Messrs. Davis and Jones, Lilford Road, Camberwell, had the best group of early-flowering Chrysanthemums. Special prizes were offered by Messrs. J. Carter & Co., for the best dishes of Bleinheim Orange and Sandwich Island Tomatos; Mr. C. J. Waite being first, and Mr. W. Webster, Thornton Heath, being second. Special prizes were also offered by Messrs. Sutton & Sons for Sutton's Perfection Tomato: Mr. G. H. Richards, Ringwood, Hants, was first; Mr. C. J. Waite, second; Mr. J. W. Read, gardener to E. Pettet, Esq., Weybridge, third; and Mr. E. Chadwick, gardener to E. M. Nelson, Esq., Hanger Hill, Ealing, fourth.

In the miscellaneous class large and varied collections of Apples, in all the leading kinds, were shown by Messrs. Geo. Bunyard & Co., Maidstone, who also exhibited a large collection of Plums, as grown on the trees; by Messrs. J. Cheal & Sons, Crawley, Sussex, and by Messrs. J. Peed & Sons, Mitcham Road, Streatham; the latter had also single and double Dahlias, Anthurium Scherzerianum, &c. Messrs. John Laing & Sons, Forest Hill, exhibited a collection of Apple trees in baskets, including Lord Grosvenor, Cellini, Lord Suffield, Eclinville Seedling and others; they also showed a magnificent group of tuberous Begonias. Messrs. T. Rivers & Sons, Sawbridgeworth, showed a fine group of fruit trees in pots, including Peaches, Nectarines, Cherries, Pears. A fine collection of single and double Dahlias, Pompon and Cactus varieties, including Charming Bride (a beautiful new white kind, having the florets tipped with rose) and Camelliæflora (the first double white raised and sent out about sixty years ago), and Cannas were shown by Messrs. H. Cannell & Sons, Swanley, Kent. Messrs. Kelway & Sons, Langport, Somerset, exhibited Delphiniums, Gaillardias, and close upon 100 spikes of Gladioli, including some beautiful new kinds. Mr. E. F. Such, Maidenhead, showed cut flowers of herbaceous plants. Messrs. Paul & Son, Cheshunt, had also a large collection of herbaceous plants. Messrs. Dobbie & Co., Rothesay, N.B., exhibited a charming collection of Violas, with which the visitors were delighted. They had also Champion Leeks, Celery, Parsnips, Onions, and Parsley. Mr. Will Taylor, Hampton, Middlesex, staged Apples and Pears; China Asters were exhibited by Mr. F. Glasscock, Bishop's Stortford; and Dahlias, Pelargoniums, and Godetias came from Messrs. Daniels Bros., Norwich. Thames Ditton Hero Melon was shown by Mr. W. Palmer, Thames Ditton House; and Brutton Perfection Melon by Mr. W. Brutton, Yeovil, both of them being certificated.

National Chrysanthemum.—*September 12th and 13th.*

The first show of Chrysanthemums for the season was held in the Aquarium, Westminster, on Wednesday and Thursday last, when a very good commencement was made principally with the summer-flowering varieties. Dahlias and Gladioli as well as miscellaneous groups made altogether a very attractive display. There was only one group of Chrysanthemums in pots, and this was shown by Mr. William Holmes, Frampton Park Nurseries, Hackney, and he was awarded the first prize. It contained an exceedingly well-flowered lot of plants, the leading varieties being Madame Desgrange, G. Wermig, Simon Délaux, Mons. W. Holmes, and others. Mr. H. Neary, gardener to the Rev. H. Powell, Hornsey, was the only exhibitor of twelve plants in pots, and he was awarded the first prize for well-flowered specimens of Madame Desgrange and G. Wermig. Mr. T. S. Ware, Tottenham, was first for a collection of cut flowers of Chrysanthemums, with a well-staged lot; Mr. R. Owen, Maidenhead, coming in a good second. Very large blooms of Madame Desgrange were shown by Mr. J. Blackburn, gardener to J. Scott, junr., Esq., Elmstead Grange, Chislehurst, and he was awarded the first prize. For any other variety, Mr. H. Elliott, gardener to Mrs. Lawrence Harrison, Mortlake, took the first prize with fine blooms of G. Wermig. Mr. W. Scott, South Kensington, had very fine bunches of Madame Desgrange, and was awarded the first prize; while Mr. J. Doughty, gardener to Mrs. M. Tomlin, Angley Park, Cranbrook, was awarded first prize for any other variety, and he showed G. Wermig and Mons. Freeman.

Gladioli, Dahlias, and some vegetables formed the other leading features of the show. Messrs. J. Burrell & Co., Howe House, Cambridge, had about 150 spikes of Gladioli, and were deservedly awarded the first prize. A third prize was awarded to the Rev. H. H. D'Ombrain, Ashford, for a much smaller collection. In the class for forty-eight Dahlias, Mr. Charles Turner, Slough, won the first prize, being followed by Messrs. Keynes, Williams, & Co., Salisbury. The same order of merit was observed in the class for thirty-six blooms; but in the class for twenty-four, Mr. C. Turner was followed by Messrs. Saltmarsh & Co., Chelmsford. Mr. H. Glasscock, Rye Street, Bishop's Stortford, took the first prize for eighteen blooms; Mr. J. T. West, gardener to W. Keith, Esq., Brentwood, was first for twelve blooms; and Mr. Alcock, gardener to Mrs. McIntosh, Havering, Essex, had the best six blooms. Mr. Charles Turner had the best twenty-four bunches of Pompon Dahlias; and Messrs. J. Burrell & Co. had the best twelve bunches. The finest twenty-four bunches of single Dahlias came from Messrs. J. Cheal & Sons, Crawley, Sussex; while Mrs. Seal, Vine Nursery, Sevenoaks, had the best twelve bunches. The first prize lot of decorative Dahlias, shown in bunches, came from Mr. Eric V. Such, Maidenhead; the best six varieties of this class came from Mr. J. T. West. Special prizes were offered for Neal's Ne Plus Ultra Bean, and the first went to Mr. G. W. Richards, Ringwood, Hants; the second to Mr. C. J. Waite, Glenhurst, Esher; and the third to Mr. W. Pope, gardener to the Earl of Carnarvon, Highclere Castle. The last-named exhibitor also secured the first prize for a collection of vegetables, Mr. Waite again coming in second; and Mr. R. Lye, gardener to W. H. Kingsmill, Esq., Newbury, third. Several miscellaneous groups were shown by various exhibitors, and amongst them was a splendid lot of tuberous Begonias, exhibited by Messrs. John Laing & Sons, Forest Hill. A large collection of Dahlias in the single, show, fancy, Pompon, and Cactus or decorative classes, was shown by Messrs. H. Cannell & Sons, Swanley, Kent. The yellow Juarezi, Lady Kerrison and A. W. Tait were excellent sorts of the last-mentioned class. A fine collection of single Dahlias, and Pompon varieties came from Mr. T. S. Ware, who had also a group of herbaceous cut flowers. A large and handsome group of Liliums and Japan Maples was exhibited by Mr. W. Gordon, Twickenham, and Mr. R. Owen, Maidenhead, had some boxes of single and double tuberous Begonia blooms of excellent quality.

The floral committee examined a considerable number of new florists' flowers, and awarded Certificates of Merit as follows:—To Mr. H. Glasscock, for Aster Comet, the flower-heads of which are large, and the florets rose and white; and Aster Triumph, which has smaller dark purple heads with incurved florets. To Mr. R. Dean, for Mimulus moschatus ruber, of the same dwarf habit as the type, but with bronzy red instead of yellow flowers. To Messrs. Dicksons, Limited, Chester, for Carnation Mrs. Reynolds Hole, which has already been many times noticed. To Messrs. Hawkins & Bennett for Chrysanthemum Mrs. Hawkins, a fine golden yellow sport from G. Wermig. To Mr. R. Owen, for Chrysanthemum Fanchette, a Pompon variety, the florets of which are rose-coloured, closely arranged and beautifully incurved at the margin. To Mr. J. Pitcher, for Chrysanthemum Mrs. J. Pitcher, the flowers of which are white except the outer florets, which are blush. To Mr. T. W. Girdlestone for Dahlia Mikado. To Mr. J. T. West for Dahlia Beauty of Brentwood, a new decorative sort, the flower heads of which are of a large size, and of a striking rose-purple or deep magenta-purple. To Mr. H. Glasscock for Dahlia Gertrude, a single variety, with large rose-coloured flowers, with a yellow zone round the disk. To Mr. T. S. Ware for Dahlia Mrs. Ramsbottom, a new single variety of considerable merit, and of a bright rose colour. To Messrs. J. Cheal & Sons for Dahlia Victoria, a very striking single variety, the florets of which are white, with a broad crimson margin. To Messrs. Keynes, Williams & Co. for Dahlias: Panthea, a new decorative variety, of a bright scarlet colour, and striking appearance; Fairy Tale, a Pompon variety of a pale soft yellow colour, and small size; Little Ethel, a Pompon with small neat flowers, which are white, or nearly so with crimson or maroon tips; and Little Darkey, another Pompon of small dimensions, and of a deep maroon colour. To Mr. C. Turner for Dahlias: Admiration, a Pompon variety with deep crimson heads, with the central portion of the florets white; and Kathleen, a very neat Pompon of a brilliant scarlet colour. To Mr. Robert Owen for Ivy-leaved Pelargonium Robert Owen, the flowers of which are large, very double, and scarlet in colour. To Messrs. J. Burrell & Co. for Gladiolus Mrs. Lindell, the flowers of which are large, and marked with deeper coloured stripes on a rose ground; and Gladiolus Phyllis, in which a rather unusual colour is presented, the flowers being of a pale creamy yellow, suffused with blush.

Royal Horticultural.—*Sept. 11th.*

The exhibits on Tuesday last were of a mixed character, but the chief features were the hardy plants and fruit. A group of stove plants was also staged, but, undoubtedly, the hardy plants were most numerous. Orchids were by no means plentiful, and Dahlias were thinly represented, considering the season, and those shown were mostly single ones. A Silver Banksian Medal was awarded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for an admirable group of various hardy flowers, including Eremurus Olgæ, Sunflowers, Phloxes, Gladioli, Shirley and Iceland Poppies, Lilium auratum virginale, L. Neilgherrense, Gaillardias, and Romneya Coulteri. There were also some new varieties of Single Dahlias, such as Florrie Fisher, rose, with a white zone, and W. C. Harvey, yellow, with a crimson

zone. Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, exhibited a large group of Crotons, well-grown plants with healthy well-coloured foliage. They were mixed with Maidenhair Fern, and edged with Isolepis. He had also some baskets of Carnations, Mignonette, and President Cleveland Bouvardia, with a pink sport from the latter named Excelsior. He was awarded a Silver Banksian Medal. A similar award was made to Messrs. Kelway & Son, Langport, Somerset, for a large group of Gladioli, showing great variety and range of colour. A large group of cut flowers of China Asters was brought up from the gardens of the Royal Horticultural Society at Chiswick, including the various strains known as Chrysanthemum-flowered, Pæony-flowered, Hedgehog, &c. A fine basket of Hydrangea paniculata grandiflora was also shown from Chiswick. A Bronze Banksian Medal was awarded to Mr. William Gordon, Twickenham, for a large and showy group of Liliums and Japan Maples. Amongst the Liliums were L. speciosum rubrum, L. s. album, L. auratum virginale, &c.

The largest group of Orchids came from Mr. B. S. Williams, Upper Holloway. Amongst them were a fine plant of Miltonia candida, Mesospinidium vulcanicum superbum, Cattleya Eldorado alba, Catasetum tabulare, besides some that were certificated. Oncidium macranthum Williamsii was shown by F. G. Tautz, Esq. (gardener, Mr. C. Cowley), Studley House, Hammersmith, and a Cultural Commendation was awarded for the exhibit. Two plants of Lælia anceps were shown by Mr. Cook, Kingston Hill. Some Liliums, including L. auratum rubro-vittatum, L. a. platypetalum and L. tigrinum flore pleno were shown by G. F. Wilson, Esq., F.R.S., Weybridge Heath. A large bunch of Araujia albens was shown by Mr. F. Ross, gardener to Sir George Macleay, Pendell Court, Bletchingley. Some Pentstemons, Phloxes, Dianthus and Chrysanthemums came from Mr. R. Dean, Ealing. T. W. Girdlestone, Esq., Sunningdale, Berks, showed a stand of Single Dahlias, including Mikado, scarlet with a yellow zone, George Grossmith and Corney Grain, yellow, striped crimson, &c. A vote of thanks was awarded to Mr. A. Harding, The Gardens, Orton Hall, Peterborough, for a cone of Abies magnifica and fruits of Torreya myristica, about the size of a nutmeg. Some Double Dahlias were shown by Mr. G. S. P. Harris, Orpington. Carnation, Blushing Bride, was shown by Mr. T. Butcher, Croydon.

A fine collection of fruit was contributed by Messrs. J. Veitch & Sons, which contained some excellent samples of Pott's Seedling, Domino, Mank's Codlin, Warner's King, Keswick Codlin, New Hawthornden, Frogmore Prolific, Stone's and Lord Suffield Apples. Plums were also good, including fine samples of Sultan, Large Black Imperial, Victoria, Belle de Louvain, Prince Englebert and others. Beurré Giffard, Williams' Bon Peaches were also noticeable. A Cultural Commendation was awarded to the Rev. W. Wilks, Shirley, for Chrétien and Durandeau Pears; A Bec and Early Louise some splendid samples of Cox's Orange Pippin, measuring 11 ins. to 12 ins. in circumference, huge Hormead's Pearmain Apple, and the following Pears, namely, Rivers' Princess, Fondante d'Automne, Beurré Hardy and Durondeau. A similar award was made to W. Roupell, Esq., Harvey Lodge, Roupell Park, for fine samples of Devonshire Quarrenden and Irish Peach Apples. Messrs. Hurst & Son showed a box of Chiswick Red Tomato, and Mr. R. Dean, Ealing, specimens of the Early Harvest Apple.

QUESTIONS AND ANSWERS.

Tree Pæonies, Grafting.—*Ben Walker:* The month of August is a suitable time to effect the grafting of Pæonia Moutan, and the operation should, therefore, be set about at once. Use the thick, fleshy or tuberous roots of some of the herbaceous species, such as P. officinalis or P. albiflora, which are the most common in gardens, and may easily be had in considerable quantity if necessary. Get shoots from the Tree Pæony without flower-buds, and after effecting a union, bind them firmly together and put them in light, sandy but rich soil. Afterwards plunge the pots in frames containing a quantity of any good garden soil, covering the newly grafted plants a little above the graft. Close the frame after giving the whole a watering, and shade from sunshine till the grafts have taken. Afterwards ventilate so as to gradually inure them to exposure.

Root Pruning.—*Alex. Chalmers:* It is not yet too late to root prune the Irish Yews, Copper Beeches, and Planes, which you desire to lift next spring, provided the specimens are not of great size, otherwise we should recommend you to take out a trench about 3 ft. from the stem, but on one side of the trees only. Next year, preferably in spring, the other half might be done, taking care to cut well in beneath, so as to sever the tap root or other strong ones that descend into the sub-soil, and supply the trees with a large amount of moisture. The roots that are severed now will do much to repair the injury during the remaining part of the autumn and winter by pushing out numerous small fibrous ones, which the object of root pruning is to foster. When the trees are ultimately lifted be careful to preserve as many of these intact as possible, for upon them depends the success of the operation. If lifted with a good ball, specimens from 6 ft. to 18 ft. high may be removed without any previous preparation; but they must be carefully staked and watered till again fairly well established.

Tulip Tree Fruiting.—*H. Jennings:* It is not unusual for the Tulip Tree to develop fruit after the flowers have fallen in the south of England; but such fruits are usually though not always imperfect even when they attain considerable size. It is usual to see them hanging on the tree even after the foliage has fallen, but they are usually empty, and always so on young trees. In favourable seasons you may be able to get a small per-centage of good fruits from a catkin or spike on tall, old trees. Search for them on the most exposed and favourable parts of the tree, that is, on the outermost and uppermost branches. The tree may, however, be propagated by layers or by inarching.

Evergreen Plants for Window.—*J. C.:* Many things are suitable for this purpose, provided they are not subjected to much frost, which may easily be avoided on severe nights by removing them some distance from the window and covering with a dry woollen or other cloth so as to keep frost at bay. In dwelling-rooms, however, in which a fire is kept burning during the evening, the following may be depended upon, namely, Aspidistra lurida and its variegated form, Ficus elastica, Aloe frutescens, Agave americana, Aralia Sieboldi, Scolopendrium vulgare and its numerous forms, Pteris cretica and P. serrulata with their beautifully crested forms, Vinca major and V. m. variegata as basket plants, Dracæna rubra, Cordyline australis, C. indivisa, Ophiopogon Jaburan and O. spicatum with variegated varieties of both, Phormium tenax variegata, Euonymus latifolius aureus marginatus, E. l. albus marginatus and many others.

Select Conifers for Winter Bedding.—*R. M.:* Very suitable in a small state are Cupressus Lawsoniana aurea variegata, C. L. lutea, C. L. nana, Retinospora plumosa, R. p. aurea, R. p. argentea, R. obtusa aurea, R. o. pygmæa, R. squarrosa, R. decussata, R. leptoclada, and R. ericoides. As centre plants to relieve the monotony, use Cupressus Lawsoniana erecta viridis, C. L. alba spica nana, Taxus baccata fastigiata aurea, Thuja orientalis elegantissima, Juniperus chinensis aurea, and others.

System of Botany.—*Omega:* There were a number of the family name of Jussieu, who taken together were for more than a century and a half at the head of botanical science. Three of them were brothers; but the man with whom we are directly concerned was a nephew of theirs, namely Antoine Laurent de Jussieu, who was born in 1748, and published his "Genera Plantarum" in 1789. He, therefore, flourished about 100 years ago. A. L. de Jussieu was a Frenchman, as were the rest of the family, and was demonstrator of botany at the Jardin du Roi. The natural system of botany was partly traced out by Tournefort, and partly filled up by Bernard de Jussieu, an uncle of the botanist under notice. The latter, however, was the first to solve the problem of the classification of plants according to their natural affinities, and to him, therefore, botanical science is indebted for establishing the system now in common use all over the world. He was the first to discover and establish the principle of the "Relative value of characters." He laid most stress on those characters which are the most constant throughout the vegetable kingdom, and this prevails in the reproductive organs. In flowering plants the cotyledons are the most constant, then the separate or inseparate condition of the petals follow, then the insertion of the stamens, and so on.

Grapes: Distinct Varieties.—*A. R. L.:* Black and white Grapes are undoubtedly distinct varieties, and in the class you allude to, which was for six dishes of fruit, distinct varieties, they should most certainly have been admitted. The framers of the schedule, however, clearly meant six distinct kinds, and in a collection of six kinds at this season, only one dish of Grapes should be allowed—but they do not say so—and, therefore, the wider interpretation is the correct one.

Chrysanthemums.—*Omega:* Certainly they will flower this year. The buds are already formed.

Names of Plants.—*Omega:* 1, Ægopodium Podagraria, Bishop's Weed or Gout Weed; 2, Circæa Lutetiana, Enchanter's Nightshade. *A. L.:* 1, Not recognised; 2, Goldfinder. *R. J. Bannerman:* Jassione montana; 2, Calamintha officinalis; 3, Origanum vulgare. *H. B. L.:* Aster Amellus; 2, Aster Acris; 3, Sedum spectabile; 4, Colchicum autumnale; 5, Solidago lanceolata; 6, Sedum brevifolium. *R. J.:* 1, Acer platanoides; 2, Acer monspessulanum. *A. Langdon:* 1, Agathea cœlestis; 2, Celsia arcturus; 3, Alonsoa linifolia; 4, Sedum Sieboldi medio-variegatus.

Communications Received.—S. R.—W. B. H.—J. H. W.—J. W.—H. N.—Con.—D. & Co.—Stanley Morrison & Co.—W. D.—R. D.—J. C.—B. C. R.—H. J. C.—C. J. G.—H. W. P.—B. F.—W. G.—A. Briant (next week).

TRADE CATALOGUES RECEIVED.

John Laing & Sons, Forest Hill, London, S.E.—Dutch, French, and other Bulbs, Fruit Trees, Roses, &c.

Barr & Son, King Street, Covent Garden, W.C.—Daffodils, and other Bulbous and Tuberous Roots, &c.

John Potten, Stone Street, Cranbrook.—Dutch Bulbs and other Flower Roots.

Harrison & Sons, Market Place, Leicester.—Flowering Bulbs and Roots.

Charles Turner, Royal Nurseries, Slough.—Dutch and other choice Bulbous Roots.

Benjamin Soddy, 243, Walworth Road, S.E.—Choice Dutch Bulbs.

L'Horticulture Internationale, Parc Leopold, Brussels.—Catalogue of Orchids and new Plants.

C. Kerkvoorde, Wetteren, Belgium.—Fruit Trees, Hardy Trees and Shrubs, Roses, &c.

J. & R. Thyne, 83, St. Vincent Street, Glasgow.—Dutch Bulbs, Plants for Forcing, &c.

Thomas S. Ware, Hale Farm Nurseries, Tottenham, N.—A. B. C. Bulb Guide and Catalogue of Daffodils and Lilies.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending Sept. 8th was 29·90 in.; the lowest reading was 29·75 in. on Monday afternoon, and the highest was 30·22 in. at the end of the week. The mean temperature of the air was 57·1°, and 2·4° below the average in the corresponding weeks of the twenty years ending 1868. The mean showed a slight excess on Wednesday, but was below the average during the other days of the week. The general direction of the wind was S.W., and the horizontal movement of the air averaged 12·6 miles per hour, which was 1·6 miles above the average in the corresponding weeks of sixteen years. Rain fell on six days of the week, to the aggregate amount of 0·16 in. The duration of registered bright sunshine in the week was 20·8 hours, against 27·2 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

September 12th.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a steady sale for Trifolium incarnatum, at rates current last week. Winter Tares are in short supply, and are held for an advance. No change in value of Clover seeds or Rye Grasses, though some have recently been sold to speculate. Rape seed is firm. Sowing Rye steady.

COVENT GARDEN MARKET.

September 13th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½-sieve	2 0	4 6	Pine-apples, St. Michaels, each	2 0	5 0
Filberts, per 100 lbs.	75 0		Pine-apples, Eng., lb.	2 0	3 0
Grapes per lb.	1 0	2 6	Plums, ½-sieve	2 6	4 0
Melons	1 0	3 0	Peaches per doz.	2 0	8 0

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 6		Lettuces per dozen	2 0	3 0
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	0 9	1 3
Cabbages per doz.	1 6		Onions, per bushel	7 0	9 0
Carrots, New, per bun.	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	3 0	4 0	Radishes, per dozen	1 6	
Celery, per bundle	2 0		Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	0 9	
Herbs, per bunch	0 2	0 4	Turnips, per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys. 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Asters per doz.	3 0	6 0	Ficus elastica each	1 6	7 0
Balsams per doz.	2 0	4 0	Fuchsia, per doz.	3 0	6 0
Chrysanthemums, per dozen	4 0	9 0	Heliotrope per doz.	3 0	6 0
Cockscomb, per dozen	3 0	6 0	Hydrangea, per doz.	9 0	18 0
Coleus per doz.	2 0	4 0	Liliums, var., doz.	18 0	30 0
Crassula per doz.	9 0	12 0	Marguerites per doz.	6 0	12 0
Cyperus, per dozen	4 0	12 0	Mignonette per doz.	3 0	6 0
Dracæna term., doz.	30 0	60 0	Palms in variety, each	2 6	21 0
— viridis, per dozen	12 0	24 0	Pelargoniums, scarlet, per dozen	2 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, dozen	6 0	12 0
Ferns, in var., do.	4 0	18 0	Scented Verbena doz.	4 0	6 0
			Solanums per doz.	9 0	15 0

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Asters, doz. bunches	1 6	4 0	Marguerites, 12 bun.	3 0	6 0
— (French), 1 bunch	1 0	1 6	Mignonette, 12 bun.	1 0	2 0
Bouvardias, per bun.	0 6	1 0	Pansies, doz. bunch.	1 0	2 0
Carnations, 12 blooms	1 0	2 0	Pelargoniums, 12 sprys.	0 6	1 0
Carnations, 12 bun.	4 0	6 0	— scarlet, 12 sprays	0 2	0 4
Chrysanthemums annual, 12 bunches	1 0	3 0	Pinks, 12 bunches	3 0	6 0
Chrysanthemums, 12 blooms	0 6	3 0	Poppies, 12 bunches	4 0	6 0
— 12 bunches	2 0	6 0	Primula, double, bun.	0 9	1 0
Cornflower, 12 bunch.	1 6	3 0	Pyrethrums, 12 bun.	2 0	4 0
Dahlia, 12 bunches	3 0	6 0	Rhodanthe, 12 bunch.	4 0	6 0
Eucharis, per dozen	3 0	6 0	Roses (coloured) 12 bun.	2 0	4 0
Forget-me-not, 12 bun.	2 0	4 0	— Tea per dozen	0 6	1 6
Gardenias, 12 blooms.	1 6	4 0	— Red per doz.	0 6	1 0
Gladiolus, 12 sprays	0 6	1 6	— Saffrano per doz.	0 6	0 9
Heliotropes, 12 sprays	0 6	1 0	Stephanotis, 12 sprays	2 0	4 0
Lapageria, 12 blooms	1 0	2 0	Sunflower, 12 bunches	3 0	9 0
Lavender, 12 bunches	3 0	4 6	Sweet Peas, 12 bunches	2 0	4 0
Lilium longiflorum, 12 blooms	3 0	5 0	Sweet Sultan, 12 bunches	2 0	4 0
Lilium speciosum, 12 blooms	1 0	3 0	Tuberoses, per dozen.	0 4	0 9

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GARDENER.—Married. Age 28. Good references. Has had a good experience in all branches; well up in flower garden work; good knowledge of hardy flowers.—H. BUGDEN, The Gardens, Barrow Point, Pinner.

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,, O ,,	1,286	,, ...	,,	42	0
,, P ,,	680	,, ...	,,	21	0
,, Q ,,	424	,, ...	,,	15	0
,, R ,,	315	,, ...	,,	10	6
,, S ,,	203	,, ...	,,	7	6
,, T ,,	114	,, ...	,,	5	0

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ROYAL HORTICULTURAL SOCIETY.

NOTICE! The next meeting of the Fruit and Floral Committees will be held in the Drill Hall of the London Scottish Rifle Volunteers, James Street, S.W., on Tuesday, September 25th, when the special subjects invited for exhibition will be GRAPES, TOMATOS, AUTUMN BORDER FLOWERS, &c. Open to Fellows at 12 o'clock, and to the public at 1 p.m.

An Apple and Pear Conference will be held in the Society's Gardens at Chiswick, from the 16th to the 20th of October.

For particulars respecting the election of Fellows apply to the Secretary, 111, Victoria Street, S.W.

Next Week's Engagements.

MONDAY, September 24th.—Great Sales of Dutch Bulbs at Protheroe & Morris's and Stevens' Rooms.

TUESDAY, September 25th.—Royal Horticultural Society: Meeting of Fruit and Floral Committees at 11 a.m. Sale of Orchids in Flower at Protheroe & Morris's Rooms. Sale of Plants, Greenhouses, &c., at "The Hall," Dulwich, by Mr. J. C. Stevens.

WEDNESDAY, September 26th.—Sale of Dutch Bulbs at Stevens Rooms.

THURSDAY, September 27th.—Sale of Dutch Bulbs at Protheroe & Morris's Rooms. Sale of Greenhouse Plants at the Brunswick Nursery, Tottenham, N., by Protheroe & Morris. Sale of Orchids, Lilium nepalense, &c., at Stevens' Rooms.

FRIDAY, September 28th.—Sale of Imported Orchids at Protheroe & Morris's Rooms.

SATURDAY, September 29th.—Sale of Dutch Bulbs at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, SEPTEMBER 22, 1888.

CURRENT TOPICS.

POOR PEOPLE'S VEGETABLES.—Some writers on trade—and amongst others we note so practical a man as Mr. Samuel Rawson—have not hesitated to denounce the unfortunate costermonger and his compeer, the owner of street stalls, for underselling the greengrocer or shop dealer in fruit and vegetables. Possibly it would lead these critics to take a more lenient view of the peripatetic coster were they to visit some of these thoroughfares in large towns, which are really market streets, where the street stalls form a striking feature, and where vast numbers of the poorest town dwellers get for a few pence what they would have to pay twice as much for if purchased in the shop or stores.

If, as the old book says, the poor will always be with us, we must, at least, do nothing to interfere with their poor method of living; and were a stop put now to the coster's trade, whether on stalls or barrows, frightful misery would soon be wrought, not only amongst the poor dealers but also amongst the poor purchasers. A remarkable experience of how the poor live may be obtained by perambulating some of these market streets on Saturday nights, and noting how the few pence at their disposal is disbursed to secure some apology for the next day's meals. A pennyworth of Potatos, as much spent on Beans and Turnips, perhaps a decent Cabbage or Marrow is purchased; whilst some of the little wealthier of the poor will secure a Cauliflower. How thankful should we be that these garden products are, for the sake of the poor, so plentiful and so cheap, and, withal, so comparatively fresh and good. Better the costers sold and the consumers bought in this way than that we should have to keep them all in our workhouses.

AUTUMN ROSES.—Outdoor Roses have not only been making splendid growth, but have been blooming superbly also. Especially is this rich development of flowers seen on dwarfs, whether on the Manetti, the briar, or own roots. Strong growers seem to revel on their own roots this season, and have thrown up wonderful shoots from the base of the plants, so that these shoots resemble whip handles in size and length. From such wood next year, not only should very fine flowers be obtained, but the roots should, through such aid, receive a wonderful stimulus. To enable the plants to sustain this development, some additional help in the shape of top-dressings of manure should be given during the winter. The display of bloom just now seems to be of an exceptionally fine character, and with a little care flowers might be obtained which would vie with July blooms in size and beauty. Such a second flowering season should help to give the Rose, if it were needed, some additional popularity.

AN EARLY WINTER.—We trust that the croaker who has seen, in the somewhat early gathering of the Swallows, indications of an early winter, is at fault. Certainly the incoming of the winter early would be a grave misfortune. The summer, so far, has been very short, and only a lengthened and pleasant autumn can make it tolerable. Even yet the harvest is far from being gathered in, and away in the north is hardly begun. There are yet, also, many late cuts of grass to gather up. Turnips are growing slowly. Sunshine and comparative dryness of soil is needed to help the season's shoots on trees to mature. Plants which produce seed and are late, need a long season yet to enable them to perform their work. If this cannot be done the loss must be very heavy. We want a late autumn to enable myriads to enjoy the country and their gardens; in fact, a fine period without appreciable frost until the end of October is a grave necessity, and, in spite of portents, we hope will be realised.

CHEAP GRAPES.—The statement of one of the speakers at the recent St. Albans Fruit Conference, that he hoped it might yet be possible to grow and sell unheated-house Grapes at 4*d.* per lb., naturally provoked some adverse criticism, as it is very certain that under no conditions could Grapes be grown under glass in this country, and be sold at such a trifling price at a profit. But it may interest some of our country readers to learn that vast quantities of thoroughly ripe and good-looking white Grapes, in bunches of from ½ lb. to 1½ lbs., have been just recently on sale in London at 3*d.* per lb., and although not equal to our house-grown Grapes they are a long way better than are any out-door Grapes the most favourable season will produce here. Possibly these imported Grapes are White Nice, or Trebbiano, neither

very high-class Grapes, and grown here chiefly to furnish some useful big bunches.

They come to us packed in barrels, and in dry cork dust, from which they are easily cleaned. Of course, with such competition as this there is poor prospect of any profitable sale of home-grown Grapes, except those of superior quality. Very likely many persons grumble considerably at this form of foreign fruit competition; but to object would be specially cruel, not only because it is absolutely out of our power to produce decent glass-grown Grapes under 1*s.* per lb., which would be out of the reach of the poor, but also that these foreign Grapes do get into the homes of the poor, and especially into the mouths of miserably poor town children, to whom they come as a blessing. For their sakes especially these Grapes deserve a wide sale.

The Dianthus Family.—The granting of a Certificate of Merit by the Floral Committee of the Royal Horticultural Society to a new hybrid Dianthus last week, may help to draw some attention to the fact that in the above-named family of plants we have one of exceeding beauty and of interest, and still further, one which perhaps has no superior in popularity in gardens. Whether we take the sweet-perfumed Pink section, as found in Dianthus plumarius; the ever beautiful and generally sweet-scented Carnation and Picotee, D. caryophyllus; the Sweet William, D. barbatus; the lovely section of Indian and Japanese Pinks found in D. chinensis and D. Heddewigi, or in the many beautiful rock Pinks, which present such lovely objects in rock gardens, all are, indeed, charming as well as popular flowers. Possibly few of the family have wider culture than has the old Sweet William, the pride of cottagers everywhere, and now not neglected even by the precise florist. We have gone ahead with Sweet Williams during the past twenty years wonderfully, and can now show strains so fine and varied as would, indeed, make the eyes of our forefathers to blink, could they return to life. Possibly in richness, as well as in variety of colouring, none of the family excel the grand-flowered form of D. Heddewigi, the blooms being so fine and so wondrously fringed. To D. chinensis has been so far ascribed the chief credit of producing double flowers; but D. Heddewigi now gives doubles plentifully; indeed, the distinction between the two forms—for they can hardly be termed species—is hard to find. As to pure hybrids we have seen not a few in the past, one of the best of which is, perhaps, the old Mule Pink; and the one just recently certificated—if a really fixed form, as apparently it is—should make a capital bedding and border plant, as its height is even, its stems stiff and erect, and its single, crimson hued flowers are borne all through the summer in great profusion. A sort of perpetual Sweet William would indeed be a real acquisition.

Forecasting.—Probably because "hope springs eternal in the human breast" there are already forecastings made as to the probable nature of the fruit crops of next year. There is too, some good sense in the very natural reasoning which avers that if the present season's comparative scarcity of tree fruits is due to root drought, naturally the summer's ample and remarkable moisture having thoroughly saturated the roots of all trees now, should lead to an abundance of fruit next year. "Yes," say the pessimists, "but how about getting the present year's wood ripened this autumn?" Well, let us remind such reasoners that Apples and Pears, at least, do not bear fruit next year on this year's wood, while all two year-old-wood will be thoroughly matured. Still, there seems to be no doubt but that the present season's wood on most fruit trees will ripen well, for only in exceptional instances has it been of unusual robustness; indeed, many trees of usual health have not made more wood than they did last year, hence there is no exceptional growth to mature.

What we do see on every hand is a remarkable developing or plumping up of fruit spurs, and these, so far, only an unusually severe winter can injure. There may be some reason to fear that a very hard and harmful winter may follow upon so wet a summer; but on the other hand we have had no excess of moisture, and the land everywhere is not a drop too wet, whilst many big trees and shrubs are but just now beginning to feel the full benefit of that abundant moisture. The worst element to contend with in fruit crop forecasting is to be found in the depredations of the caterpillars early in the season; but a very liberal growth since, with ample moisture at the roots, and a fairly dry, warm autumn, may do very much indeed to correct what is so obvious a disturbing element in the outlook.

Liverpool Horticultural Association.—We regret to hear that at a special meeting of the committee of this association held recently, it was decided, owing to financial and other matters of an unsatisfactory character, to discontinue the spring show, which has been held during the last few years in St. George's Hall.

Exhibition of Fruit, Potatos, &c., at Barnet.—Mr. John Munro, formerly of Potters Bar, and now of New Barnet, is actively engaged in organising an exhibition of the above on a considerable scale at Barnet, which is to take place at the end of September or beginning of October. A schedule of prizes is on the point of being issued, and further particulars will be shortly announced.

The Fig in Scotland.—We learn from an Edinburgh correspondent that the weather there, as in the south, has been very fine, bright, and warm during the last ten days. Our correspondent also mentions that about a month ago, when he called at the Glenburn Hydropathic Establishment at Rothesay, he was surprised to see the fine fruits on a standard Fig tree growing by the side of the tennis lawn. These are now ripening off, and on Monday last Mr. Philp showed some fruits in Edinburgh, one of which weighed 2¾ ozs. The "Brighton of Scotland," at all events, can have little to complain of as regards want of sunshine.

Preston and Fulwood Horticultural Society.—The tenth annual meeting of this society was held recently, when A. Tullis, Esq., was elected president, and Mr. J. B. Dixon and Mr. John Atherton unanimously re-elected as treasurer and secretary respectively. The report of the committee of management was in all respects satisfactory, and the statement of accounts showed a balance in hand of nearly £17. The various officers for the ensuing year having been elected, Mr. W. H. Ashworth read a paper entitled "A few Practical Hints on Window Gardening," which was much appreciated by the subscribers present.

The National Chrysanthemum Society's Catalogue.—We have before us a copy of the new catalogue of Chrysanthemums, which has been prepared by a specially selected committee of the National Society, and have no hesitation in commending it to the notice of all "Mum" lovers as at once the most complete and best list of Chrysanthemums that has yet been published. Summarising its contents in a brief way, we may say that following the preface which, records the measures taken by the society and its working committees to attain the objects in view, comes a concise history of the Chrysanthemum by Mr. C. Harman Payne. Then follow descriptive alphabetical lists of varieties, arranged in sections under the following headings:—Incurved, Japanese reflexed, Reflexed, Large Anemones, Japanese Anemones, Pompons, Pompon Anemones, Early-flowering varieties, and Late-flowering varieties, with introductory paragraphs describing the characteristics of the section preceding each; and last of all a most carefully compiled alphabetical list of varieties, with a reference to the class to which each belongs, and a brief description as to colour added to those sorts which for various reasons have not been included in the previous sections. This we regard as a valuable addition to the catalogue, and taken in conjunction with the sectional characteristics and the rigidly selected lists, will render the catalogue of great value as a work of reference. The Revision Committee—Mr. Lewis Castle, Mr. George Gordon and Mr. Harman Payne—in carrying out what must have been a long and tedious task to so successful an issue, have rendered yeoman service to the society, and well deserve the hearty thanks of all its members. They undertook the work as a labour of love, and have ably carried it through.

NOTES FROM EASTBOURNE.

A visitor to Eastbourne at this particular period of the year cannot fail to observe, even if he be not impressed by, the arboreal characteristics pertaining to this salubrious and beautifully-situated seaside resort. A special, a grateful, and an interesting feature of the town and its surroundings consists in the large number of trees and shrubs everywhere apparent; and this is the more remarkable seeing that the nature and quality of the soil, which is nearly pure chalk, would imply conditions inimical to the full and free development of the coarser forms of vegetation.

As a matter of fact, although trees are plentifully dispersed about the roads and promenades, and in some instances form delightfully cool and refreshing overarching avenues, yet in the majority of cases it must be admitted they assume a somewhat dwarf and stunted appearance, as might be expected when the nature of the conditions under which they exist, and their approximation to the sea coast, is fully considered. The trees in question are almost entirely Elms, and if individual specimens do not assume gigantic proportions, perhaps this is more than compensated for by the number and symmetry of their beautiful forms. I understand that when the intelligent idea of beautifying the roads and streets of the borough was first mooted, the usual opposition was forthcoming, and the suggestion was ridiculed as insane. However, common sense prevailed, and the result is such as to warrant the highest encomiums being passed upon the local authorities, as I think few will now be found to travesty the opinion that trees are a real adornment to any town.

Evergreen shrubs are also a great and permanent feature in the gardens and windows, in fact, they occupy every conceivable position of this charming watering place. One of the most prominent is Euonymus latifolius, and this, with its varietal forms of E. aureus marginatus, E. albus marginatus, and many others, seem to thrive satisfactorily and vigorously, judging by the wondrous shades of tint and colour, which I have nowhere seen to greater perfection than is here apparent. In this notice of trees and shrubs, I must not omit to mention, and make some remarks upon, the magnificent effect produced along the sea-front by the wholesale planting of that saline-loving shrub, the Tamarisk. Now the Tamarisk seems to be a very accommodating plant, for if it be cut down annually, as is here the practice, it never rises above the height of 3 ft. or 4 ft.; but if, on the other hand, it be left alone it soon begins to assume tree-like proportions. The Tamarisk seems to luxuriate in carboniferous soil and the sea breezes, under which conditions the development of this elegant shrub reaches its climax. It possesses fine Asparagus-like foliage of a dark green hue, and seems particularly suitable for the purpose for which it is here used. Great sloping banks, or, I might say, miniature plantations of this Tamarisk, divide the upper and the lower promenades from each other, and the effect thus produced at this time of the year, under the genial influence of a warm September sun, is of the most pleasing description.—*C. B. G.*

SEDUM STOLONIFERUM.

There are several forms of this species in gardens, and which have created a great amount of confusion on account of the numerous names that have been applied to them by different cultivators from time to time. The typical form has pink or pale purple flowers, and to this such names as S. dentatum, S. denticulatum, and S. spurium have been applied. A dark rosy purple form has been widely disseminated under the name of S. spurium splendens, while an equally distinct, but less conspicuous or showy white-flowered variety has gone under the name of S. ibericum in gardens. The dark variety is most certainly the best, and ought to be extensively grown for the purpose of covering dry exposed banks, which it literally clothes with a living verdure, and flowers profusely during July and August—earlier or later, according to the latitude and the locality.

THE BARNET NURSERIES.

WHOEVER finds his way to the top of the hill at High Barnet, Hertfordshire, will find much to interest him in the Barnet Nurseries as well as in the Wood Street Nurseries of Messrs. Cutbush & Son. The visitor will find a purer and clearer atmosphere there than at Highgate, where the other nurseries of this firm are situated, although the elevated situation, even there, is not bad. At Barnet, however, the season is much later than in London, judging from Tilia petiolaris and Ligustrum japonicum, which are still in full bloom, while L. lucidum will not be in flower for some time. The flowers of the Lime in question are powerfully fragrant.

The glass-houses are at the Barnet Nurseries proper, and we made a rapid survey of their principal contents. A great portion of one house was devoted to the cultivation of Maréchal Niel Roses in pots, together with Tacsonia Van Volxemii, Lapageria rosea, and Passiflora princeps, a large plant of which was in full flower in another house. A quantity of large plants of Tacsonia is also grown in 24-sized pots; Figs, Tea Roses, Vines in pots, Hederoma tulipifera and the sweet-scented Mandevillea suaveolens. What a beautiful climber is Swainsonia galegifolia alba, with long racemes of pure white flowers? In the same house is a quantity of Abutilon Queen of Yellows, a free-flowering sort, put into commerce from here. Tea Roses of different kinds are also grown in several of the houses, accompanied by such valuable window or foliage plants as Ficus elastica, Aspidistra lurida, A. l. variegata and Aralia Sieboldii in large quantities and of various sizes. Very distinct is Statice imbricata, with its deeply pinnatifid leaves, and close by were the white Plumbago capensis, the white Swainsonia, and the blue-flowered Hovea Celsii.

A large quantity of Gardenia florida, G. intermedia, and G. radicans having completed their growth are now well set with bloom buds. A large stock of dwarf plants of Ardisia crenulata are well set with fruit, and must be charming when the latter is ripe. Fragrant subjects are Clerodendron fragrans flore pleno and Tabernæmontana coronaria flore pleno, while a fine contrast is afforded by the singularly-marked foliage of Tillandsia hieroglyphica, with its hieroglyphical tracings of brown on a green ground. The free-flowering Elvaston variety of Stephanotis floribunda is also grown in large quantity in pots. There is a whole house devoted to Epiphyllum truncatum, of which there are fourteen varieties. The plants are small, and have been grafted on the Pereskia, so as to form small standards. Dracæna australis is also grown by hundreds.

In the pits are large quantities of Bouvardias, including the white-flowered Candidissima, winter-flowering Heaths, Azalea indica, A. amœna, Aralia Sieboldii, and Cyclamens, which are last year's seedlings. Hundreds of Heaths and other winter-flowering subjects are grown out of doors, including a fine stock of the richly-coloured Boronia elatior, from 18 ins. to 24 ins. high. B. megastigma is also a great favourite, as is the popular Ampelopsis Veitchii. Acacias are represented by A. armata, A. Riceana and A. Drummondi.

CONIFERS AND FINE-FOLIAGED PLANTS.

The small piece of ground here which is not occupied with glass is chiefly devoted to the cultivation of Conifers, variegated trees and shrubs, as well as to berry-bearing subjects, such as Skimmia japonica and the larger-leaved S. oblata. Amongst fine-foliaged subjects are Aucubas, Golden Yews and Cornus mas variegata. Young's Weeping Birch is being inarched on tall slender stems.

Cupressus Lawsoniana is grown in all the beautiful forms that are to be found in good collections. Among others are fine specimens of C. L. lutea, wholly yellow, C. L. albo spica with white tips, C. L. erecta viridis, and others too numerous to mention. Podocarpus japonicus bears a strong resemblance to an Irish Yew, while the allied Cephalotaxus Fortunei is fruiting freely. Beautiful and seldom-grown Conifers are Libocedrus chilensis with flattened branches, Fitzroya patagonica, Prumnopitys elegans, the curious Arthrotaxus cupressoides, and Thujopsis dolobrata. They are all very distinct and beautiful in their way, and ought to find a place in select shrubberies. Beautiful Junipers are Juniperus chinensis aurea, J. tamariscifolia, and J. excelsa stricta glauca, the name of the latter describing it very accurately. Useful subjects, that will hold their own in gardens while Conifers are grown, are the Retinosporas, from R. obtusa through all its varying forms of R. pisifera, R. p. plumosa, and its silver and golden forms, R. p. squarrosa, R. p. decussata and R. p. ericoides, R. filifera, and the compact and conical R. leptoclada, which supply endless variations in shape and habit as well as colour.

STAPHYLEA COLCHICA: FLOWERS WHITE

THE WOOD STREET NURSERY.

Closely adjoining the Barnet nurseries is that here mentioned, belonging to the same firm. It consists of a piece of ground on the slope of the hill, the upper portion of which is gravelly but rich soil, while the lower portion is much heavier, consisting of a deep, rich, clayey loam, varying considerably within a small area. About sixteen acres of it are occupied with nursery stock, which forms a continuation of the other nursery, so far as Conifers are concerned, and besides those already mentioned, contains many fine specimens of Cedars, Cupressus nutkaënsis, and its varieties C. n. glauca and C. n. compacta, the white Cedar (C. sphæroidea, better known as C. thyoides) and its variegated variety, together with many fine Silver Firs, and Hemlock Spruce. A quantity of trees of Picea orientalis range from 2 ft. to 4 ft., Pinus cembra from 18 ins. to 2 ft., and Abies Douglasii from 2 ft. to 4 ft.

HOLLIES.

The largest collection of Hollies to be met with near London, perhaps, is grown here in all sizes that may conveniently be transplanted. Pyramidal and standard specimens of Silver Queen, Golden Queen, and Handsworthiensis, range from 4 ft. to 8 ft. in height. The latter fruits most freely, and is now laden with berries, from the tallest to specimens only 1 ft. in height. Small plants of the yellow-berried Holly (Fructu luteo), are also heavily laden, and very attractive. The Hedgehog Hollies in their green, silver, and golden varieties are also charming. Great variety in the size, shape, colour, and smoothness, or spiny character of the foliage is also afforded by Scotica, argentea stricta, ovata argentea, serratifolia, Donningtoniensis, grandis, argentea marginata, lutescens, aurea picta (the Golden Milkmaid, and others) all of course, being varieties of Ilex aquifolium, and grown in bush, standard, or pyramidal form. The dwarf almost Heath-like I. crenata is suitable for rockwork. There are also bushes of the Winter Berry (Prinos Cunninghamii), 3 ft. to 4 ft. high. The genus is now united with Ilex by leading authorities, and the plants have evergreen-leathery leaves.

ORNAMENTAL AND DECIDUOUS SUBJECTS.

Besides those in the Barnet Nurseries proper, there is a large and varied assortment of all the most popular and beautiful, both of flowering and fine-foliaged trees, and shrubs, some of which are far from being common. A huge bush of the Scarlet-berried Elder (Sambucus racemosa) was laden with ripe fruit at the time of our visit, and the Golden Elder (S. nigra aurea) was plentiful. The variegated Box Elder (Negundo aceroides variegata) is grown as standards on stems 4 ft. to 6 ft. high, and also on bushes for forcing, for which it is very well adapted, and lightens up a conservatory wonderfully. The purple and variegated-leaved Sycamore, and the Golden Laburnum also add considerably to the beauty of the landscape. Where there is a pond or lake on an estate, distinct and fine effects would be produced by planting the Kilmarnock, American, and Babylonian Weeping Willows, all of which are striking in habit and very pleasing additions to the banks of ornamental water. Other useful subjects for the park or shrubbery are the white and red Almonds, Cerasus Sieboldii, Prunus Pissardi with white flowers and bronzy purple foliage, P. Mahaleb variegata, and two very fine forms of the Cherry Laurel, namely, Prunus Laurocerasus colchicus, a very rapid grower with light green foliage, and P. L. caucasicus, of slower growth than the last with dark green leaves. Both are superior to the type for ornamental purposes, and are hardier. The Snowy Mespilus (Amelanchier botryapium) may also be mentioned here, as well as Paul's Imperial Crab, with crimson-red fruit about the size of a Plum, the Siberian Crab, with smaller yellow fruit, and Pyrus nanus, having scarlet flowers with a rose centre, and very small fruit. Staphylea colchica, one of the finest of white-flowered forcing shrubs, is also extensively cultivated. Roses, both as bushes and standards, are grown in considerable quantity, the former on the Manetti, and the latter on the Briar stock.

FRUIT TREES.

The stock of these is annually being increased by budding on the respective stocks, and a large quantity of each has recently been worked. The Apple and Pear stocks are particularly strong, so that the trees will commence fruiting the second or third year from the bud. In the case of some standard Pears we noticed that Citron des Carmes and Jargonelle had been budded near the surface of the ground, and the bud allowed to run up to form the stem, and beautiful clean stems they make. Some are also grown as riders on tall stems for walls. Fan-shaped trees of Apricots and Cherries, two years old, Plums, three years, and Peaches, four years old, grafted on the Brompton stock, are grown in considerable number, as well as Peaches on the Mussel stock budded two years ago. Grand Duke and other Plums are also grown as pyramids, as well as Apples. Some of those we noticed fruiting most freely were Keswick Codlin, Cellini Pippin, and others, ranging from 6 ft. to 8 ft. high. Maiden Apples budded last autumn have made shoots from 2 ft. to 4 ft. high, and Lord Suffield, budded at the same time, in one particular instance bore a large fruit. The bud must have contained flowers at the time of its insertion, but it serves to show the precocious nature of the variety.

GARDENING NOTES FROM IRELAND.

GORTMORE, CO. DUBLIN.

THIS place was formerly the residence of the late Mr. Burke, but is occupied at present by J. G. Nutting, Esq. Situated as it is, almost at the base of the Dublin mountains, nature has done much for it in the beauty of its surroundings; but a lavish outlay of money, and the employment of artistical skill in planning and overcoming many of the difficulties to be met with, has combined to make Gortmore one of the most beautiful and picturesque residences of the many to be met with in the southern suburbs of Dublin.

THE GROUNDS.

THE improvements as they now stand, so far as concerns the grounds, were, I believe, designed and worked out by Mr. Shepphard, of Dundrum, and who for many years past has planned and conducted such work in almost all parts of Ireland. As regards ornamental planting, it must, I think, have been a difficulty not easy to get over, and this can be readily understood when it is known that all the grounds surrounding the dwelling house has the granite rock peeping here and there through the soil. The residence, in fact, is not only built on the rock, but its foundations are laid on it. On this account Austrian and Scotch Pine have been extensively used for ornamental and sheltering purposes, and admirably they have grown, notwithstanding the fierce storms which sweep down from the mountains, and to which they are usually subjected.

Owing to the thinness of the soil, and its porous nature, both trees and shrubs suffered much during the drought of last year, but looking at them now in their freshness and vigour, there is nothing to indicate the severe ordeal they passed through then. For such high-lying lands the Austrian Pine is unquestionably a fine tree; and apart from the shelter it affords to such places, it is ornamental in its foliage and form. On a well-sheltered portion of the beautiful and well-kept lawn there were several fine trees of Cedrus deodara, fully 40 ft. high, and carrying foliage from the ground upwards; amongst them was an equally well-grown specimen of the Deodar variety, having a silvery hue, and which possibly was C. D. verticillata glauca. Cedrus Atlantica, a silvery variety of the Libani type, is often met with, but the silvery Deodar is, I think, somewhat rare. Another curious-growing tree is the Wellingtonia gigantea pendula, its lanky appearance making it very observable amongst the stout-growing trees in its vicinity. There are also two fine plants of Cordyline indivisa standing out here; they are about 7 ft. or 8 ft. high.

Surrounding a small pond in front of the dwelling house are some pretty pieces of rockery, well designed, and having some well-grown shrubs, among them being Spiræa callosa, S. ariæfolia, 7 ft. or 8 ft. high, and S. Douglasii, a very handsome rose-coloured flowering plant. Then there were Cotoneasters, Weigela rosea, Prunus Lauro-cerasus colchica, and what I have not hitherto seen in such perfection, Japan Privet (Ligustrum japonicum). The group of plants of this Privet was fine in foliage, and when I saw them they were blooming profusely. Underneath these the St. John's Wort was doing duty as a rock covering, the whole being well sheltered by plants of the Austrian Pine.

THE TOWER.

BEFORE proceeding to notice what I saw in the garden I should like to say something about a building called The Tower, which, although placed in the rear of the residence, looks at a distance as if it were part of it, and gives the idea of the "donjon-keep" of ancient times. This building is about 60 ft. high, and besides the useful purposes for which it was built, it can be utilised as an observatory. From its platform on the top there can be had a splendid view of the Dublin Mountains, Killiney and Dalkey Hills, Dublin Bay, the Hill of Howth and the city itself almost at one's feet. The practical use of the tower, however, was to supply water and the electric light for the residence, and while the former was at least a necessity, the means taken to provide two such wants shows that the late Mr. Burke was a man of enlarged ideas, and in the matter of electricity for private use, some, perhaps, would say he was a little before his time. However that may be, the whole place was supplied with electric light during his time; but owing to a breakdown of machinery it has been discontinued, and gas is now used instead. The motive power was a gas engine, which still remains in its place on the first floor of the tower, and all the appliances necessary for the generation of electricity are still here. On the second landing there is a large tank constructed, into which is driven by hydraulic pressure some of the overflow from the pond. Before leaving the tank the water is filtered, and again after its entrance in the dwelling-house, but it is used only for household purposes, that for drinking having to be obtained from other sources.

THE HOUSES.

AT one time Gortmore was known for its large and varied collection of Caladiums, and although they are no longer seen on the exhibition stage, the stock is still as good as ever, and very many beautifully marked specimens are to be found in it. Numerous varieties of Crotons, Ferns, Orchids, &c., are grown in large quantities for house decoration. The demand for cut flowers must be large, as I found the roof of one house devoted to a grand plant of Maréchal Neil Rose, and the roof of another to a Jasmine. In a Peach house, the most of a back wall was occupied with a Souvenir d'un Ami Rose, Asparagus plumosus, &c. On the back wall in another house was a fine plant of Abutilon megapotamicum, generally known in gardens as A. vexillarium. Alongside of it was growing another variety with large crimson flowers, the name of which I was unable to learn. Along the roof of another house was trained a plant of Bignonia ignescens, and on a pillar a very handsome, free-flowering Begonia, known here as B. glaucophyllum.

SEEDLING BEGONIAS.

IN writing of Laing's strain of Begonias on a former occasion, I thought I had said in a short way enough to express my admiration of them, as well as to point to their value for inside decorative purposes. Of course, when I say "inside decorative purposes," I do not mean thereby to convey that they are not suited for outdoor use as well. But here, as well as formerly, I found them grown in pots, and on both occasions I regret not having seen them at their best. The whole collection was splendidly grown, and even now are in grand blooming condition; but practical people can well understand that the first flowers are usually the largest on tuberous Begonias, and I was assured that some of the blooms on these splendid singles measured fully 6 ins. across. If Mr. Knowldin, the clever and respected gardener at Gortmore, was to pin his reputation as a gardener to Begonia-growing only, I fancy he might rest there. His success in this respect, however, is only indicative of his abilities in other matters pertaining to his profession, and he has subjects enough here to exercise his talent. In the houses, as well as in the garden, the predominating desire appears to be for flowers, and as under glass, so also outside, the greatest attention is given to

ROSES.

FROM the large numbers here planted out, the whole season through must be productive of a veritable "feast of Roses" at Gortmore. The garden is divided into squares by two intersecting walks, and along these borders are formed, which are backed by espalier trellis-work. Along this trellis numerous varieties of Tea and other climbing Roses are planted, and all giving evidence of the adaptability of the conditions surrounding them. Besides the fine range of Roses on the trellis, quantities of the better class of hybrid perpetuals are grown, and many choice positions on the surrounding walls have been selected for plants likely to produce flowers between the time of blooming of those in the houses, and those more exposed in the open. Gloire de Dijou and Safrano are two sorts admirably adapted for such a purpose, Safrano especially, for not only had it supplied its early crop of flowers, but it had continued in bloom the whole season, and even now is covered with Roses in all stages of growth. This is the second large plant of Safrano I have seen this season giving such satisfactory results, and I therefore think it is well worthy the attention of anyone having a portion of a south wall to devote to a plant of it.

THE BEDDING.

THIS was very tastefully arranged on the borders in front of the houses, and was simply laid out in lines, having, in one case, Calceolaria floribunda for a back line, Viola Acme for a second, bronze Pelargonium Marshal McMahon third, white Pelargonium Flower of Spring, &c. Another border was devoted to the growth of a fine collection of Gladioli, which formed the front lines, the back one being composed of Dahlias, both single and double varieties. Asters were also done here to perfection, the quilled kinds being the finest in size and form I have seen for a long time.

Among all the outdoor flowers nothing surprised me more than the extremely fine Hollyhocks, which are grown here in abundance. One hardly ever sees any quantity of these grown at the present time, and indeed for years past this has been the case, the dreaded fungus preventing many admirers of them from attempting their cultivation. Now and again a half dozen or so of plants may be met with, but of such a poor description that it is not wonderful if little interest is taken in them. On this account I was much pleased to find so large a collection of Hollyhocks, strong and healthy in growth and foliage, and carrying flowers equal in colour, form, and size, to anything produced in more favourable times by growers of this favourite flower.

OTHER FLOWERS.

IT is pleasing to note the increased attention which appears to be given lately, both in public and private gardens, to the growth of Mignonette, and it is to be hoped that the growth of a plant so useful and popular in its perfume will be still further increased in future years. Here, at all events, was growing so good a breadth of Mignonette, and so pleasant the perfume, that one could easily realise the presence of flowers before seeing them. Some of our popular garden resorts have yet to learn something regarding the favour in which sweet-smelling plants are held by all classes of the community. The most attractive and gorgeous-coloured piece of bedding will sometimes be passed by unnoticed, while frequently the exclamation, "Oh, how lovely!" is heard, indicating the satisfaction given when a sniff of Mignonette perfume is detected in the air.

There was a thick line of Godetia Lady Albemarle on one of the borders just breaking into flower, and by-and-bye will form a fine piece of colouring. I should extend these remarks too much were I to notice some other points of management which reflect much credit on Mr. Knowldin; suffice it to say that Gortmore, either in its beauties of landscape or its sound practical garden management, can hardly fail to please those in search of the former, and must impart knowledge to those seeking information on gardening matters.—*W. D.*

HARDY PLANTS IN FLOWER.

RUDBECKIA FULGIDA.

A moist, growing summer, followed by a fine autumn, are just the conditions to bring out the best qualities of this fine Cone flower. A border with this growing alternately with Anemone japonica alba is just now very telling and effective, the distinct yellow and dark centres of the Rudbeckia making a fine contrast with the white nodding Wind Flowers. Both of these plants revel in good rich loam with a heavy sub-soil. The best results with the Rudbeckia are obtained by parting the plants in October and replanting only the strongest offsets, four or five of which will make a fine clump by the following autumn; the small pieces should be dibbled into a nursery bed for stock.

SENECIO SPECIOSUS.

This perennial species is not generally considered hardy, but some plants we put out last autumn have flowered very freely this summer and still continue in bloom. The long succession of flowers renders this a very useful addition to the flower garden. The leaves (radical) are similar in shape and size to the leaves of a robust Dandelion, but very pubescent. The flowers are bright purple, in loose spreading corymbs, the scape being about 10 inches high. A stock is quickly obtained from seed, which germinates freely when sown in a cold frame.

DIANTHUS SUPERBUS.

This is a charming little species growing about 10 ins. high, with bright green foliage and smooth panicled stems. The flowers are pale rose colour, with a soft pleasing perfume, especially fragrant at night; the petals are very feathery and fimbriated, thus giving the flowers a light and delicate appearance.

DIANTHUS LIBURNICUS

Is another species that flowers well into the autumn; it is a taller growing plant than the former species, with somewhat angular stems and glaucous foliage. The flowers are sessile and capitate, of a reddish pink colour. It is known also as D. Balbisii.

GYPSOPHILA STEVENSI.

The popularity of G. paniculata has directed attention to other perennial species of this genus, and amongst others that of Stevens deserves notice. The whole plant is smaller than G. paniculata. The leaves are radical and glaucous, the flowers white, larger than the former plant, and growing in a loose panicle. The blooms are not developed so profusely as in G. paniculata, but are more conspicuous.—*J. W. O., Pinner.*

NOTES FROM SCOTLAND.

Travelling Notes.—GLAMIS CASTLE.—When one enters a splendid domain like Glamis they are speedily absorbed with the vast and attractive surroundings, which give abundance of scope for reflection to one who is an ardent admirer of fine landscapes, and though the rain was pelting mercilessly at the time of our entrance to the orderly and admirably kept policies of this noble seat, we could not resist the temptation to linger and admire the rural beauty which meets one on all sides. Passing through the fine collection of Conifers, which are rapidly closing up, and will doubtless ere long require the use of the woodman's axe among them, we entered the well-kept kitchen garden, which is closely cropped with vegetables, such as one would suppose had been well suited by the summerless weather which had prevailed for months past.

It is pleasing in these days of enforced retrenchment of labour and garden requirements to visit a place such as Glamis, and see in each department the results of consummate care, high order, and horticulture generally represented as it should be on the property of one of Scotland's most popular nobles. We quite expected to see everything turned to the best account at Glamis, as the antecedents of Mr. Whitton, Lord Strathmore's head gardener, warrant this. He is a most worthy successor to the late Mr. Johnston (whose name was for many years before the public), and we confidently look to Glamis as a leader of the horticultural van in Scotland. We were courteously received by Mr. Whitton, who conducted us through the gardens. The two ranges of glass, each 400 ft. long, are very imposing from their fine position and substantial character.

In the fruit houses, as may be supposed, there is an abundance of Grapes, Peaches, and Figs. Some of the structures in which Pines were cultivated are now being used for plants which are to be increased for decorative purposes, and cut flowers will also be a specialty. Stagefuls of young plants in stove treatment (for foliage), and large quantities of healthy young stock to supply cut flowers are now in the best possible condition. Every portion under glass is well occupied with the most useful items which are in request in such an establishment. Tomatos, Melons, and Cucumbers come in for their full share of high cultural attention, and the Tomatos which seem to have preference are American and Moore's Seedlings. The Melon that stands in highest estimation is Glamis Hybrid, and no wonder, as it is one of the best kinds grown.

The doings at Glamis in years gone by have often appeared in print. Minute details have been given in several horticultural papers, and at present we have enough in our pleasant recollections of our late visit to fill a good part of one issue of THE GARDENING WORLD, but such is not opportune at the present time. In due course, Mr. Whitton, if life and good health fall to his lot, will maintain the reputation of Glamis in the highest degree, and afford scribblers unlimited matter for their pens. A capital start has been made in a season which will long be memorable for its low temperature, absence of sun-heat, and cold drenching rains. We left Glamis after a brief but most pleasant visit, travelling westward, with an intense desire to call at

MEIKLOUR.

We took train accordingly, and made a call upon our old friend, Mr. Mathieson, who has charge, under the Dowager Marchioness of Lansdowne, of the beautiful gardens, as well as sharing wide responsibility apart from horticulture. Mr. Mathieson was at one time a formidable foe on the exhibition table, and the large Peaches, Plums, &c., are not yet forgotten by those who came into conflict at some of the large Scottish shows with "Mathieson o' Tulliallan." Since his appointment at Meiklour, extensive renovations have taken place throughout the grounds and park, besides the formation of entirely new gardens, and now the principal work is finished, and assumes an established aspect.

We cannot tell what the place was before, but now it is one of the most beautiful and attractive seats of the district. There are magnificent drives to the noble mansion, and spacious lawns kept in the best possible order. The river Tay, so famous for its salmon in these parts, winds pleasantly among the trees, and green slopes of grass, closely shaven, add a charm to the scene. It is pleasing to observe in the wide lawns in front of the mansion there has been no defacement by cutting up the space into formal or informal beds for flowering plants or shrubs, neither is there the nonsensical "dotting" with trees so common in some grounds, but there is a breadth and clearness over a good space till the gigantic trees in the forest are reached. In front of the mansion a grand feature is, at a distance, a wide opening forming an avenue, extending the view far across country. Though we can admire to the full the densely wooded lands so commonly met with around Scottish seats, we still retain a hankering love for the open landscapes common in old parks throughout England. Shelter by all means is desirable, but an open frontage to the south is enlivening and picturesque. This has been taken advantage of as far as possible here, and any change in order to restrict the southern views at Meiklour would simply be an act of vandalism.

Well, we were repaid by the smart walk, under drenching rain and boisterous wind, through the charming grounds of Meiklour. To do justice to the gardening would require unlimited space, as, like Glamis, the objects are so varied and noteworthy that nothing less than pages of a journal would in any way suffice to give a fair idea of what we had impressed upon our mind. The finely arranged vegetable garden, so clean, orderly, and clothed with a profusion of vegetables is most creditable, and while making comments on the order and high keeping everywhere visible, Mr. Mathieson modestly remarked that to maintain this was comparatively simple, as his charge in other departments necessitates extensive employment of labour, and one squad can at times be brought to the aid of the other. The ground for vegetables and fruits, as at Idvies and Glamis, appears to be of the very best, and the site for such a garden is remarkably well chosen—quite away from the park scenery, while the buildings, as also at the other places named, cause no blot on the landscape.

Among the vegetable products Asparagus is a special item—certainly the strongest we ever saw in Scotland; the stems generally near the base would average (we do not wish to exaggerate) nearly 1½ ins. in diameter. I am sure such Asparagus would delight our friend Mr. Allan, at Gunton Park, Norfolk, who has made such headway beyond his fellows in the growth of this esteemed vegetable. At Meiklour large breadths of this gigantic Asparagus—so suitable for forcing—are grown. Mr. Mathieson seems to have completely mastered the Carrot difficulty, as there is not one in six cultivators of this vegetable who can get a crop before the roots are perforated with grub. At Meiklour the same ground, season after season, is chosen for this crop, and is well manured with rotten material. Strawberries are a special crop, and mostly confined to about three kinds. Vicomtesse Héricart de Thury and President are the favourites, being certain and abundant croppers. Elton Pine is grown for late supply, but though not highly flavoured, it is a favourite throughout Scotland for fruiting during September. Pears are a partial crop only, and the kinds that can be best relied on are Louise Bonne of Jersey and Beurré d'Esperen. Except small fruits, the general crops are light, and, we fear, cannot be of good quality. The season up to the present has certainly been adverse to the ripening of fruit-buds for next year.

In this fine garden are to be seen immense breadths of plants to supply cut flowers, such as 1,000 East Lothian Stocks, with blooms all double, and which will, of course, affect seed saving this year. A quantity by themselves, of a soft mauve colour, are very striking, and (to us) is a novelty in the East Lothian strain. Lily of the Valley is a special item, and about half an acre or so is cultivated for forcing and late supplies. Among noticeable items worth recording are the beautiful lines of Box along the walks; they look as exact and compact as if they were wood or stone. Growth is remarkably equal and rounded on the top—not a gap to be seen, the whole being about 3 ins. high.

The glass structures are chiefly in one handsome range running across the north portion of the garden. They are curvilinear in form, light-looking, but substantial, and they show off the healthy foliage and excellent crops of fine fruit which clothe the roof from end to end. Peaches, Nectarines and Grapes are the chief occupants, and are as good as could be wished. Black Hamburgh and white Muscat Grapes are the kinds most valued. The bunches are mainly of medium size, with fine highly-coloured berries, which are generally found to meet all purposes. Peaches are represented principally by Royal George and Grosse Mignonne for main crops. The kind named Violette Hâtive is also a favourite. Lord Napier and Violette Hâtive Nectarines are in special favour, and form a goodly portion of the kinds under cultivation. In the centre of this fine range of glass, space remains unoccupied on which plant structures are to be erected. The number and forms of them yet remain in abeyance, but a centre piece is wanted to complete such a handsome range. Leaving these gardens, the visit to which afforded us so much pleasure, we proceeded, under the guidance of Mr. Mathieson, to view one of the wonders of the country in the form of

AN IMMENSE BEECH HEDGE,

500 yards long and 75 ft. to 85 ft high, densely clothed with foliage, in perfect health, and quite entire in outline. We do not wonder that such a huge hedge should be noticed in tourists' guide books. We suppose there is not such another hedge in the world, which is, perhaps, as well, as human life must be in some danger while clipping is in operation, and a novice in such matters must be puzzled to understand how the work is performed. We left this charming district much delighted with our second day's outing, and travelling by a late train to Perth, we arrived at the Waverley Hotel, where we penned these fragmentary notes while they were fresh in our memory, though not with the view of conveying an adequate idea of the gardens we had seen.—*Caledonian.*

The Fruit Season in Kincardineshire.—We in these northern regions have had to contend with such a season as few now alive remember. The early part of winter was so good that in the beginning of February the buds had begun to swell on bush fruits, but towards the middle of the month the weather entirely changed, and on to the middle of April continued very boisterous, with heavy snowstorms and excessive frost. This had the effect of severely damaging the buds on the Raspberry canes, especially in low-lying districts, and still later, when the Gooseberry flowers had opened, a few days of sharp frost at once dissipated the hopes of the fruit grower in so far as the Gooseberry was concerned. Further on through the summer the weather continued cold and ungenial, with often slight frosts during the night, damaging in some measure the flowers of earlier sorts of Strawberries, especially in forward districts, while in later districts the bloom on these fruits was very rich; but the cold northerly winds which prevailed throughout the season rendered their progress slow and unsatisfactory.

The first of the Strawberries got into market about a month later than usual. In some parts of the country the early part of the crop was very light, while in others it was fairly abundant. One fruit-grower on a northerly exposure had not a pound where he generally had a hundredweight. The later sorts, especially Myatt's Seedling, which is the standard crop in the north, although showing an extra fine bloom, turned out on the whole a good deal below the average in fruit, both for quantity and quality.

Regarding our own crop, the Gooseberries have been an entire failure. A good breadth of the Raspberries never sent out fruiting buds at all; Baumforth's Seedling did not ripen a single berry, while the Antwerp on both sides turned out fairly well. Black Currants were under the average for crop, but the berries were of good quality. Red Currants were also under average, both as regards quality and crop. Strawberries on the whole turned out pretty well: Rivers' Eliza was a very fine crop, from which we are even still gathering a few. Sir Joseph Paxton, which last year was our best, has done no good. Duke of Edinburgh, in a more sheltered corner, turned out some enormous berries, although, as usual, rather wanting in sweetness. The Aberdeen Favourite, which we anticipate is never to be worth the room it occupies, turned out badly. The Myatt's Seedling seemed as if it would never have ripe fruit, although blooming very freely; but as August wore on the fruit began to swell, and by the end of the month we had picked a few, but during the last two weeks, which have brightened up things considerably, we have had fairly good gatherings. Even now the unripe fruits are very plentiful, and with good weather we may be able to supply the market for another two or three weeks. The price of fruit during the season has done much to make up for want of quantity, so that growers in this quarter have no great cause to complain.—*James Sim, The Temple, Stonehaven.*

CALLIOPSIS TINCTORIA.—Amongst hardy annuals grown at Glenstal Castle, thi is, perhaps, the most showy of any, especially of such things as are eligible for cutting purposes. Mr. Weller intends to devote a large bed to it next year, when I am sure its beauty will be further enhanced.

FLORICULTURE.

Aster, Comet.

I THINK we are indebted to Mr. Charles Lorenz, of Erfurt, for this very fine novelty. Those who visited the Crystal Palace Show on the 7th inst. could not fail to have been struck with a stand of very fine blooms of this undoubted novelty, shown by Mr. Frank Glasscock, of Bishop's Stortford, who grows it to perfection. It was introduced in 1886 or 1887; it is of the same habit and height as the Victoria type, and while the shape of the flowers resembles to a large extent those of the Victoria, when finely grown the exterior petals are much longer than the others, and this gives the flower the appearance of a Japanese Chrysanthemum. The petals have a band of delicate pink down the centre of each, bordered with white on either side, and the flowers are very delicate in appearance and charming in the extreme. It has the tendency to revert to a pale rose-coloured self form, and, therefore, it is more than possible that it originated from a sport of that kind. It is, undoubtedly, one of the finest types of flat-petalled Aster that can be grown for exhibition.—*R. D.*

Auriculas.

THE plants need to be frequently looked over, removing any decaying leaves, stirring the surface-soil, and keeping a sharp look-out for a small green caterpillar that is very apt to find its way into the hearts of the plants and eat them, rendering bloom the following season impossible. Water just enough to keep the soil nicely moist and no more, is necessary—dryness rather than anything approaching soddenness is best for the plants at this time of the year. Give them abundance of air—let them have all the advantage of the fine open weather, and, if possible, air below as well as above. As the winter comes on, carefully cleanse any pots from a growth of green and dirt that may gather about them, and let everything around them be as neat as possible. Green-fly can be kept under by occasional fumigations.

Carnations and Picotees.

MY own layers look so well, that I am disposed to think others are in the same condition. The advantage of layering in pots in preference to the open ground is conspicuously seen this season. In the open ground the heavy rains have washed away the soil above the layers, and the worms work among them in the most active manner, thrusting them up out of the soil. When the plants are in pots the grower has his layers under perfect control. A great deal of nonsense is being written just now about the deterioration of the florists' Carnations and Picotees through cultivating them in pots under glass. It is only those who are utterly ignorant of the subject that can write such misleading stuff. The earliest-rooted layers can be potted off, placing them singly in small pots, or two of the same variety in a larger one. A mixture of good yellow loam, leaf-soil, and some rough sand will be found an excellent compost for the purpose.

Polyanthuses.

MY plants, potted up a month or six weeks ago, are doing well. They are standing on an ash bottom on a north aspect, and being very actively engaged in making roots, appear to like the rains in the past, and equally so the fine open weather we are now enjoying. Here they will remain until the heavy autumn rains render it necessary to convey them to the shelter of a cold frame, and in this they will be wintered; but it does not do to allow the plants to become too dry during the winter. A kind of dry rot appears to be as fatal to them as a superfluity of moisture. Any decaying foliage should be removed from the plants, the surface soil stirred, and injury from slugs and snails guarded against.

Double Primroses.

I HAVE potted up these for exhibition at the National Auricula Society's show in April next. The class, as it stands at present, is an unjust one, because it admits of pans of plants being made up—that is to say, a good many can be lifted from the open ground or frames and massed together, and then the prizes are pretty certain to go to those who have the largest stock. I should like to see this class kept exclusively to plants grown in pots, in order to give encouragement to those who take a fancy to this interesting group. I have already potted up the old Double Crimson, the White, Lilac, Purple, Early Sulphur, Platypetala plena, Crousii, and the Late Yellow. I treat them just as I would Polyanthuses, taking care to give good drainage, and potting firmly.

Pinks.

THOSE who would grow good Pinks should now be planting their rooted pipings out in beds. If it is inconvenient to place them out now, some of the best of the young plants should be potted up, so as to make roots preparatory to being planted out later on. To have well-laced blooms the plants should be put out in the autumn. Let the beds be prepared by frequent turnings, adding well-decomposed manure to make them rich, for Pinks need such a soil; but previous to putting them out, make the surface level, planting in lines. The beds should be raised at least 8 ins. above the ground-level, to throw off the autumn and winter rains. Care should be taken to peg any leading shoots into position, so that they cannot be broken off by the wind.—*R. D.*

Carnation, Emma Lakin.

AT the annual exhibition of the Carnation and Picotee Union, held in Mr. E. S. Dodwell's garden at Oxford on August 14, Mr. Joseph Lakin, of Temple Cowley, showed several blooms of a seedling white Carnation under the name of Emma Lakin. On the opposite page we give an illustration of the flower, which is destined to become popular with growers of Carnations for exhibition purposes. It is pure white, with fine broad petals of remarkably good substance, and not too many of them to split the calyx; altogether a massive-looking flower of perfect proportions. It was easily first in the single bloom self class, and also took honours as the premier self in the show. By many good judges who saw the blooms at Oxford the variety is considered the best pure white Carnation in cultivation, and Mr. Lakin may be proud of having raised so fine a novelty, for a really first-class white has long been a desideratum.

GALLOWHILL, PAISLEY.

ABOUT a mile eastward from the town of Paisley, on the Renfrew road, the main approach enters to Gallowhill, the beautiful and tastefully-kept residence of Mrs. Kerr. Situated as it is on the summit of a gentle incline, the mansion has rather an imposing appearance when viewed from the public road, as it towers above the intervening and surrounding greenwood. On entering the gate, the visitor's attention is at once drawn to a huge grassy mound, which was the scene, it is said, of an eventful occurrence in the history of Scottish royalty in the olden times. As tradition says, a Queen of Scotland, while out hunting, was thrown from her horse and killed, and to intensify the casualty, a future king was born at the same time.

The carriage-drive on either side is ornamented with well-chosen and suitable trees and shrubs, and further on the scene is much enhanced by the presence of a beautiful fresh-water pond—an infallible acquisition to the enchantment of every pleasure ground. The chief feature, however, in connection with this place is the gardens. Attached to the house is a fine conservatory, which contains some splendid specimens of tree Ferns, Palms, and other large plants. A Cobæa scandens, trained on a lattice-work bordering and overhanging the plant stage, produces a capital and pleasing effect. The range in the kitchen garden comprises a stove, late and early vineries, Melon house, late and early Peach houses, Azalea house, greenhouse, and Camellia house, all span-roofed, besides a lean-to orchard house, fernery, propagating stove, Heath house, and several useful hot-water frames.

In the small stove some splendid and well-coloured Crotons, and Asparagus tenuissimus for table use, are to be seen. The latter seems to be propagated here like a weed. A fine bed, as well as a few dozens of large pots of Eucharis amazonica adorn this house. Some of these showed two years ago, when taken in charge by Mr. McIver, a strong tendency to disease. In the course of experiments a few pots were filled with pure sand, in which the bulbs were planted, and strange to say, the luxuriant foliage indicates that they are perfectly at home in it. A pot which was turned out displayed one mass of healthy and vigorous roots. The stove proper—a large span-roofed house—is well filled with an assortment of excellent plants, such as Palms, Ferns, Alocasias, Anthuriums, Orchids, &c., testifying to the skill and attention they receive. A fine specimen plant with many spikes of the interesting Dove Plant (Peristeria elata), profusely flowered, graced the house, and on the roof a gorgeous display of Stephanotis bloom hung in one snowy sheet.

The Ferns were well represented in the house devoted to their growth, among which a beautiful specimen of Microlepia hirta cristata was very prominent. The pits and frames were well filled with fine batches of winter stuff, such as Bouvardias, very large-berried Capsicums, Primulas, &c., all in first-class condition. I may note that the table plants here are a strong feature, and among them are some of the finest Crotons —Baronne I. de Rothschild, Etna, Queen Victoria, Catherina, a beautiful spiral-leaved plant, Johannis, and many others. Among the Dracænas I noted D. vivicans, D. speciosa, D. Youngii, D. Baptistii, D. Gladstonei, D. Guilfoylei, D. Cooperii, D. terminalis, and several others. As already noticed, Asparagus tennissimus is greatly used, and takes the place of Maidenhair Fern in cut-flower decoration.

In truth, throughout the entire departments the skilful manipulation of the various subjects reflects great credit on Mr. McIver, the gardener, whose genial and courteous manner makes the visitor feel at home. As is, perhaps, too often met with in gardens, over attention is not wasted on any one special subject. On the contrary, everything grown is treated with equal assiduity and earnestness, that cannot fail to demand admiration, and effect the best possible results. In bringing these notes to a close, it may interest some to know that at present, hanging from the beautiful Stephanotis above noticed, there is a seed pod in the process of maturation, considerably larger than a turkey's egg.—*D. Chisholm.*

IMPROVING ORCHARDS BY GRAFTING.*

WHERE old fruit trees that are healthy and full of vigour are worthless for the market in a monetary sense, no time should be lost in grafting upon them new heads of an improved variety.

If the system of stock grafting was better understood, especially out of the fruit-growing districts, worthless sorts would seldom be seen in the market, their place being taken with more profitable fruit. But to expect this to be done by the tenant, upon a yearly tenancy, is out of the question. To meet the difficulty to a certain extent, industrious tenants should be supplied with trees from the home nursery, or could be supplied by the trade at small cost, the tenant being under an agreement to protect them. Stock grafting is easily done, but the system requires to be known, as done in the fruit districts by local grafters, who each bears a degree of merit as to his success. When once known, none need be afraid to cut off the third part of a worthless tree any time during the winter months, cutting it into shape, in order that the grafter may have little to do when the season comes but to square the ends of the branches and insert his grafts. The season for grafting large trees is rather an unsettled question. I may state that we had great success last year at Ruxley Lodge in grafting old trees, and the strong shoots which I exhibit speak well for the system. The heads were cut off the trees in the month of February, and grafts were secured about the same time, and laid by the heel in a shady place, to prevent any premature growth. The grafts for this system require to be clean and free from American blight and canker, from two to three years old, and in size about the thickness of one's second finger. The specimens of shoots which I produce were simply short grafts a year ago last May, the whole of the grafting being done in the last fortnight of the month. The work has only been done about sixteen months, yet the shoots have had two seasons' growth, and reach nearly 10 ft. in length; some of the stronger sorts are even longer. Upon a close examination, some of the strongest shoots may be seen to be showing fruit buds, and if we should be favoured with a fruitful season next year I have no doubt, from present appearances, we shall have a fair show of fruit. Stock grafting does not require to be commenced so soon as small whip or tongue grafting. The general order is—Cherries first, Plums next, finishing up with Pears and Apples.

The tools which are required for the purpose are but few—a pocket knife, a shoemaker's knife, a tenon saw, and a small mallet.

A branch 2 ins. in diameter requires two grafts to thoroughly unite the end of the branch; one of 4 ins., three grafts; and so on in proportion. A stock or head of 9 ins. requires seven grafts in order to keep the head living until the leading shoots form the new tree, then all weakly and ill-placed shoots can be cut away. There is no particular secret in manipulating the end of the branch to receive the grafts, further than shaving away a portion of the rough bark, so that it may better match the thin bark of the scion, which ought to be placed so as to accurately face each other. Daubing or claying up the grafts is no doubt of some importance,

*A paper read at the Crystal Palace Fruit Conference, by Mr. J. Miller, gardener to Lord Foley, Ruxley Lodge, Esher.

especially for small grafting. For trees grafted upon the stock principle the daubing material may be of a coarser nature than for the whip or tongue grafting. Good clay with a proportion of tough hay, well compounded together, and thoroughly worked in and round the grafts to prevent it being washed off by the weather, is all that is required for stock grafting. I may here state that heading the trees at the proper time and securing and properly keeping the grafts is of quite as much importance as carrying out the work.

THE KINVER SEED FARMS.

The gardener, like the Athenians of old, is ever looking out for some new thing. The charm of novelty appeals forcibly to everyone, and the beauty of a new flower, or the good qualities of an improved vegetable, come with pleasant freshness; but to supply the constant demand for novelty a large amount of work has to be performed by someone. Nature does not, in the ordinary course of cultivation, depart from the old lines. Her guiding instinct seems rather to be to stereotype existing varieties, and to secure their perpetuation so far as possible unchanged. Here it is that the scientist and the seedsman interfere. Perhaps in an ideal state of society the improvement of nature would fall chiefly into the hands of scientific men, who should be publicly employed for the purpose; but a wealthy and cultivated nation like England does not waste money upon the "endowment of research," and thus the work falls almost entirely upon private enterprise.

Among those to whom the gardening world is greatly indebted come very prominently Messrs. Webb & Sons, of Wordsley, near Stourbridge. At their Kinver farms and trial grounds they have, perhaps, the most extensive area which is occupied for such a purpose in the world. Something like 1,700 acres are there devoted to the experimental growth and cultivation of farm and garden seeds. A recent opportunity of inspection was, therefore, cordially embraced, and some account of what was seen may be interesting to readers of The Gardening World.

As we walked on to what is termed the "Garden Ground" the flowers and vegetables divided between them our first attention. One scarcely knew which to turn to first. On the one hand the bright and glowing colours which Nature paints with so lavish a hand, and which are here in infinite variety and untold diversity of tint; on the other the long rows of ripening vegetables laden with their cheerful store, and suggestive of all manner of pleasant and succulent delight. There are charms on either hand, and one felt like the embarrassed person of the song, who "could be happy with either," or more prosaicly — like the proverbial donkey between two bundles of hay. However, the mind prevailed against matter, beauty against utility, the eye against the appetite—as indeed it frequently does, especially after a good lunch. We turned first to the flowers, and here it may be noted at the outset that the acres which stretched before us were after all only samples. Messrs. Webb & Sons occupy, as we have said, about 1,700 acres at Kinver (a large portion being their own freehold), and yet in this extensive area they are able to do little more than raise their stock seeds. The bulk of the seeds are grown on immense areas in various parts of the country on selected soils and situations specially adapted for the purpose. This will, in passing, give some idea of the extent of the business represented by what we have to describe.

Foremost came a bed of Sweet Williams, of Webbs' Invincible variety. They were remarkably large and diversified in colour, the centres of the flowers being exceptionally clear and well defined. A large quantity of Helichrysum attracted our attention by the delicacy and purity of its tints. This hardy annual everlasting is very serviceable for house decoration in the winter months, when it is difficult to keep the vases constantly filled. We were struck also by a bed of Zinnias, Messrs. Webbs' Exhibition Strain of this flower having a great reputation. Passing by a quantity of Snapdragons (Antirrhinum) and Canterbury Bells, we came to a large breadth of Asters that had suffered, however, a good deal from blight, which has everywhere, in that district at least, spoilt them during the present season. A fine show of Ten-Week Stocks was just coming into bloom at the time of our visit. For this flower Messrs. Webb have great fame, their strains producing as high a per-centage of double blooms as it is possible to obtain. Webbs' Imperial Stock is a large-flowering pyramidal strain, double, and in great variety of colour. Nasturtiums in wide diversity made a gay show, and among other striking features of the flower garden may be named the new Sterling Poppy, the new hybrid Mimulus, purple and white Candytufts, and beds of the beautiful scarlet flax, Linum grandiflorum rubrum, Calliopsis Drummondi, Webbs' gold-striped French Marigold, and Pride of Kinver Verbena. All of these, and many more, tempted us to tarry in this garden of delight, but time was short, and space is limited, so we hurry on to the less beautiful but more utilitarian department.

Carnation, Emma Lakin: Flowers White.

The link between the two departments—or, indeed, we may rather say the golden thread running through all the operations at Kinver—may be expressed in three words—namely, hybridisation, selection, and cultivation. In its widest sense, perhaps, the last word includes the other two; but in its narrower meaning it implies the maintenance of the ground already won. One can easily imagine that a certain amount of enthusiasm may aid in the laborious but interesting work of propagating new varieties and experimenting with nature; but all this would avail little if it were not backed up by unremitting care in holding fast, as it were, to what has been already accomplished in perpetuating the strains which scientific ingenuity has originated, and of this care in cultivation there are many signs at Kinver. This is due not only to great care and attention, but also to the system which prevails, and which, more than anything else, is the secret of Messrs. Webbs' remarkable success; this is patient and never-ceasing selection. For their stock seeds Messrs. Webb go carefully through every crop as it is harvested, and pick out the best. This is done by women as the crop is cut. Take the case of a cereal crop—Wheat or Barley, for example. As the reaping machine goes round it is closely followed by a number of women, who pick out the finest and plumpest ears. These are taken and thrashed separately, the Corn assiduously sorted, and the largest and most perfect grains picked out. These, and these only, are considered worthy of the honour of perpetuating the variety.

Apart from this, though largely dependent upon it for its ultimate success, is the work of hybridisation, by which new and improved varieties are constantly being produced. A striking instance of what may be done in this direction is afforded in the case of Peas. Of these 109 new sorts which were crossed last year were to be seen, as well as twenty kinds that were crossed in the previous year, and which were being tried for another season. Some of these—indeed, the majority of them—were, of course, not worthy of perpetuation, being no better than some of the famous varieties already in commerce. Obviously it is not worth while going to the expense of cultivating and introducing a new variety, unless in some respect it is an improvement upon existing varieties. Some of the Peas which the Messrs. Webb have lately brought out, such as Chancellor, Wordsley Wonder, Kinver Gem, Electric Light, and Stourbridge Marrow, seem to be well-nigh perfect in shape, size and flavour, but the seedsman "never is, but always to be blest," and a new variety is now being cultivated for sending out next season, which is expected to rival all former triumphs. That there is some scope for the work of selection at Kinver may be inferred from the fact that eighty-eight acres are occupied in growing Peas alone.

There are altogether some 300 varieties of Potatos in growth at the Messrs. Webbs' farm on the sixty-eight acres devoted to this crop. The larger part of this area is naturally occupied by the sorts in most extensive demand, such as Stourbridge Glory, Epicure, Masterpiece, Wordsley Pride, Renown, Red King, Kinver Hill, Benefactor, and Discovery. There are also a number of new sorts for offer next season, some of which have already been awarded First Class Certificates. For Cabbage, both for farm and culinary purposes, the Messrs. Webb are famous. Their Emperor, a dwarf, compact, hardy, and very early sort, is especially popular, and has frequently taken prizes at the chief horticultural shows. Of other vegetables it must suffice merely to name Webbs' Matchless Brussels Sprouts, Kinver Mammoth Long-pod and Victoria Dwarf French Beans, May Queen Broccoli, Defiance Intermediate Carrot, Perpetual Bearer Cucumber, and Jubilee and Sensation Tomatos. All of these have earned high encomiums from those who have grown them.

So far as the works at Wordsley were concerned, our visit was paid at a slack time. The extensive and elaborate machinery for cleaning seeds and seed corn was idle, and stocks were naturally low in the great warehouses. The two largest of these structures are 180 ft. long and 60 ft. wide, with five floors in each, and it was satisfactory to see that another was being built 120 ft. long, 50 ft. wide, and 75 ft. high. Early in the present year the office accommodation was increased by the addition of another wing. These are definite indications that in the case of Messrs. Webbs' business, virtue is being its own reward—that their enterprise, skill, and assiduity are bearing fruit in the constant increase of their already enormous trade. It must be remembered that what has been referred to in this article, extensive as it is, is but a comparatively small section of the business done by Messrs. Webb. The trade in farm seeds is a huge and world-wide one. This firm also carries on a large trade in Hops, wool, and artificial manures, having works for the manufacture of the latter at Widnes, in Lancashire. Altogether, therefore, the firm of Messrs. Webb & Son is a notable one.—*R.*

Tecoma jasminoides.—A grand climber adorning the roof of a greenhouse at Glenstal Castle is the subject of this note, but it is not so frequently met with as its merits deserve. Doubtless it is rather too susceptible to brown scale to be everybody's plant, but for all that it is a very showy subject, and lasts a long time in bloom.—*E. D.*

The Amateurs' Garden.

Re-arranging Flower Borders.

Now that vegetation has nearly reached its height for the season, it would be an interesting task to go over the hardy flower borders, and take note of those things which seem out of place owing either to their being too tall or too dwarf for the position. It is altogether undesirable to have the plants there so arranged that the whole would appear in any way formal; but a Delphinium, a Bocconia, or an Aster Novi-Belgi growing in front of a Phlox, a Gentian, or a Saxifrage, completely mars the effect they would otherwise present if planted in due order. It altogether depends upon the plants grown as to what should occupy the respective lines. For instance, a broad mass of Anemone japonica would be appropriate enough in the back line, provided the border is not too wide, and if there are no taller subjects in front of it; otherwise it should be brought forward into a more prominent position at planting time. The relative heights of the perennial Asters should also be noted, either in a book or on labels indicating the height of the plants, so that in re-arranging them after they die down the planter may be guided as to what position the respective subjects to be moved should occupy. The width of the borders, and the distances from plant to plant, must also be considered.

Budded Roses.

Where Roses were budded in August and the early part of September, it will be well now to go over the bushes and see what progress, if any, has been made. Union will have taken place before this time, provided the buds are to take at all. This may readily be ascertained if the petiole of the leaf attached to the bud which has been inserted has fallen away or is readily detached when touched with the hand. This is a sure sign that union has taken place between the bud and the stock. Owing to the moist nature of the season there is unfortunately other evidence of the buds having taken, especially in the case of Roses budded standard high on the Dog Rose, generally spoken of as the Briar. The buds have not only taken, but have in many cases thrown out shoots 2 ins. or 3 ins. in length. The desideratum is that these buds should remain dormant till spring, and so escape the danger of getting killed by frost. As it is, they must be allowed to have their way, and do not be in a hurry to head down the shoots of the stocks, as that would only urge a much greater and unreasonable growth which cannot now be expected to ripen properly. The ties should be gone over, however, and loosened so as to allow of a deposit of woody matter and the thickening of the shoots, otherwise the ties will cut into and damage the wood, an evil which is to be avoided.

Annuals for Spring Flowering, &c.

The annuals that were sown during the latter part of summer with the intention of getting up a stock for spring bedding, or even for work later on, will have to be gone over and thinned, otherwise strong, healthy, and hardy plants, that may be expected to stand the winter well, cannot be relied upon. Unless they have been sown in the positions they are intended to occupy while flowering, the thinning given at this time need only be partial, so as to induce a close and dwarf habit. When the flower beds have been emptied of their contents later on, the spring-blooming annuals may be transferred to them, and planted at distances apart which will allow of their proper development by the time they come into flower. The commonest annuals for this kind of work are Silene pendula compacta, Myosotis sylvatica, Wallflower, Limnanthes Douglasii, and others of that class. When thinning out spring annuals, there are other important kinds that might well occupy the attention of plant lovers. Sweet Williams, Foxgloves, Canterbury Bells, Celsia cretica, Campanula pyramidalis, Antirrhinums, and others are all growing rapidly, owing to the comparatively genial character of the autumn, and must be thinned out considerably provided they cannot be transferred at once to their permanent quarters, or what would also be beneficial, planted or pricked out in beds in the reserve garden.

White Flowers for Autumn Work.

During the late summer and autumn months white flowers are by no means plentiful in ordinary collections of herbaceous plants, unless they have been specially selected for the purpose, and this is the object to be advocated. The complaint is that such a large number of the hardy perennials produce yellow flowers, and the greater percentage of these are Composites. A selection of perennial Asters does, indeed, supply an unlimited quantity of blue, mauve, lilac, purple, and other shades, but attention on this occasion may be directed to the cultivation of certain subjects producing white flowers. The most popular sorts just now are double white Dahlias of the Cactus or decorative types, but there are some beautiful white Pompon varieties, such as Guiding Star, equally at the option of the grower. To these may be added Madame Desgrange and other white Chrysanthemums of the early-flowering types, as well as Chrysanthemum coronarium album plenum, white China Asters, white varieties of the Sweet Pea, Matricaria inodora flore pleno, and all the race of single white Chrysanthemums popularly known as Marguerites. Two excellent hardy herbaceous subjects with white flowers are Chrysanthemum uliginosum and the white Japan Anemone, known as Honorine Jobert, or more correctly, under the botanical name of A. japonica alba. An unlimited quantity of white flowers for cutting purposes can be obtained by growing the above.

EARLY CHRYSANTHEMUMS.

September-flowering Varieties.

Doubtless, with other lovers of Chrysanthemums, I am anxious to have as extended a flowering season as possible. Fairly extensive lists of later-flowering sorts of good quality and variety now carry us through December to January, and even February. I should much like to see a list for September blooming, and a second for flowers for the first three weeks in October, estimating the season for what I will call the Chrysanthemums proper, as commencing to bloom on the last week of that month.

Take a well-grown decorative plant of the popular Madame Desgrange or its sport, G. Wermig, as a type, grown after the manner Mr. Molyneux so well describes in his now classical book (p. 40, 1st edition). Plants such as these, having eight to ten blooms, with their average growth (this year with me 35 ins. to 40 ins. in 8-in. pots), make handsome decorative objects, and also make one's house a scene of beauty just when many other plants are getting "leggy" or failing, and with their period of bloom passing away. They also cheer the heart of the "Mum" lover, reminding him of the better things to come. To one class of amateurs they are especially valuable—a man with a fair-sized house, who has to keep his show benches fed from his cultivating benches, and from frames, &c., out-of-doors. Cuttings have been taken from Pelargoniums, Fuchsias have nearly finished blooming, and shabbiness is commencing, when a good set of early Chrysanthemums goes into the house, and beauty succeeds. This early set can then be cut down and turned out into the frames, or planted out for cuttings, when at the end of September or the first week in October the Chrysanthemums proper are housed.

An interesting question in forming such lists as I have indicated, is this:—Can a variety be depended on to flower, with the same treatment, on or about a certain date? I see in your excellent report of the first National Chrysanthemum Society's show "Simon Délaux" "M. W. Holmes" and "Mons. Freeman" amongst the exhibited varieties. The first is placed by Messrs. Cannell in their catalogue amongst Japanese varieties flowering at the ordinary time. M. W. Holmes is there also, classed as an October variety. Consequently one is led to the idea that some special treatment has induced blooming at this early time. Taking as some sort of guide, half-a-dozen varieties from my note book (decorative bushes, disbudded to the terminal buds, and all housed on October 1st) I find the date of full expansion of first bloom as follows:—

		1886.	1887.
1	Elaine	Oct. 29	Oct. 28
2	Lady Alcester	Nov. 3	Nov. 1
3	Mrs. G. Rundle	,, 3	,, 4
4	Queen of England	,, 8	,, 8
5	Fabian de Médiana	,, 21	,, 16
6	Fair Maid of Guernsey	,, 21	,, 16

This clearly indicates that similar treatment gives a constant date of blooming. I may also mention a plant of G. Wermig, now in full bloom, against a plant of the same variety struck two-and-half months later and now showing buds only.

What varieties, then, can we select as September early-flowering pot kinds, of the type indicated, and with flowers of good substance—averaging 4½ to 5 or more inches across? Clearly such early-flowering Pompons as St. Crouts or Frédérick Pêle are not worth pot culture, however much they may enliven the shrubbery border. On Septembr 20th, 1887, I received from Messrs. Cannell, by request, a small box of early-flowering varieties for selection; many were Pompons, which I pass by. Mr. J. R. Pitcher pleased me much, as did Précocité, a brilliant pure yellow, which flowered with me on August 1st this year (the flowers of this variety are, however, smaller than the standard indicated, but far above the average Pompon). La Vierge, a very pure white and well-known variety bloomed with me on August 25th this year; Mrs. Cullingford is not yet in bloom. It will be gathered that the list as sketched (of good sized blooms) will comprise:—1, Madame Desgrange; 2, G. Wermig; 3, Mr. J. R. Pitcher; 4, La Vierge; 5, Mrs. Cullingford; 6, Mrs. Hawkins (as mentioned in the Gardening World).

I shall be much obliged—and I have no doubt many other readers of your valuable paper will be—if some of the great ones at Chrysanthemums will, at the end of the month, give us the value of their knowledge and experience by framing an extended list of plants with good-sized flowers of decorative merit; and lastly, by giving varieties that may be depended upon to bloom at the time required. This would form a list for September—the first-fruits, as it were, of joys to come; and should such list be forthcoming, I shall ask for another for early October flowers.—*Francis Mead, M.B., Bishop's Lydeard, Somerset, September 17th.*

THE EXTENSION OF FRUIT CULTURE.

Conferences seem to be the order of the day just now, and their desirability or otherwise is a fair subject for comment. The multiplication of associations and societies in connection with horticulture seems to me to be very undesirable. I think, myself, it would be far more beneficial to gardeners and gardeuing if a central association were formed that conld deal with all matters appertaining to horticulture. The need of a national horticultural society, with which all the special societies could be amalgamated, is very much felt. There are so many of them now that the question naturally arises, where are they to end? There are specialists of many things, Roses and Chrysanthemums to wit; but Roses and Chrysanthemums are not everything. I readily admit that these different societies are doing good work, but strongly maintain that a central society, admitting the various societies to its benefits by payment of small subscriptions, would be more beneficial.

The suggestion you offered in the last issue of The Gardening World, that conferences might be held in the country as well as in London, is a commendable one in every way, and I see no reason why different counties should not offer facilities for holding them in some first-rate garden, in a similar manner to the one so admirably carried out at Dunkeld, on the 31st ult. The late conferences on the extension of fruit culture show plainly which way the wind is blowing, and as I take much interest in the subject myself, I may be allowed to offer one or two suggestions for the consideration of the association which it has been deemed desirable to form, to promote the extension of fruit-growing. I would suggest that a company should be formed to buy up land suitable for fruit growing, letting the same on easy terms, much in the same way as allotments are let. It has been stated, and rightly so, that it will take fifteen years before the fruit trees would attain full paying power, but in the interval between the planting and the maturity stage, the culture of vegetables and bush-fruit might receive attention, and at the expiration of fifteen years could in a measure be given up.

The great difficulty seems to me to be to make an average farmer understand the future gain to him that would follow the planting of fruit trees. If this suggestion cannot be adopted, the following may be more readily agreed upon, viz.:—That the association should offer all its members advantages in the way of disposing of their fruit in the best markets, and by means of combination to secure greater facilities in the matter of quick and cheap transit, and so enabling the producers to realise the best returns. There is much need for the extension of fruit aud vegetable culture in England, and it would be well if fruit salesmen were to offer the same facilities to home-growers of fruit, &c., that are given to the foreigner. Surely we may fairly compete with distant countries, if not with those nearer at hand.—*J. S. T.* [The salesmen do give the home-growers the same advantages as the foreigner—it is the railway companies who favour the latter to the prejudice of the former, but this would soon be altered if our own growers would adopt the foreign producers' more business-like methods. It is active combination that is wanted to secure the advantage of preference rates.—Ed.]

THE FOREST HILL NURSERIES.

THE chief feature of Stanstead Park, where the offices of the Messrs. Laing are situated, consists of the tuberous Begonias, both indoors and out. Indeed, taken altogether, the Begonia season is a long one, and even now the houses devoted to them are brilliant with many hues after flowering for several months; nor do they seem at all exhausted, although the plants are reaching their limits as to size. Goliath, a variety a yard in height and proportionately stout, bears deep rose flowers about 7 ins. or 8 ins. in diameter, and large enough for any purpose; but we can admire plants of this class when considerably within the limits given. Duke of Edinburgh, dark velvety crimson; Monarch, scarlet; Prince Albert Victor, brilliant orange-scarlet; Prince of Wales, crimson-scarlet; Princess of Wales, deep rose; and many seedlings of various charming colours are all first-class kinds, which are extremely desirable for their large, richly-coloured flowers and floriferous character. The Picotee-edged varieties, of which Charmer may be taken as the type, are white or blush-coloured, with a cheerful band of a darker colour round the margin. Princess Victoria is one of this type, having rose flowers of enormous size, with a scarlet margin. The purest and best white is Princess Louise, which has round, regular flowers. Well-shaped orange-yellow flowers are also borne by Torey Laing. For basket work Pendula is notable, not less for the drooping habit than the large size of the rose flowers.

The doubles are equally showy and interesting, a good selection being afforded by Lord Randolph, Iona, Anak, Davisii flore pleno superba, and H. Adcock, all of which are scarlet, but varying much in shape or structure as well as in hue. Albo rosea, Leonora, Mrs. Apthorp, Viscountess Cranbrook, and Lord Mayor all agree in having a white centre; but they otherwise vary in the colour of the outer portion of the flower, as well as in other respects. A fine rose variety is Jubilee, with petals undulated like a Hollyhock.

The Begonia field has not made such progress as it did last year, owing to the unfavourable nature of the season, and from the fact that seedlings alone have been used. The cold and wet weather they experienced in July made growth almost an impossibility, and the consequence is they are yet very small, but struggling bravely to flower. Although seedlings of this year, the flowers are large, well-shaped, and of good substance, the latter quality accruing from the free play of air about them. The whole piece of ground is laid out in beds, which run at right angles to the public highway; seven rows are planted in a bed, and the colours are massed together, showing how well they come from seed.

THE VINEYARD.

This nursery is within a few minutes' walk of Stanstead Park, and is chiefly occupied with Vines, Roses, and Strawberries. There are 1,000 pot Vines in a house 150 ft. long, while fruiting canes are growing in structures close by. The leading kinds are Black Hamburgh, Lady Downes, Madresfield Court, Muscat of Alexandria, Alicante, Gros Colmar, Gros Maroc, Alnwick Seedling, Barbarossa and Foster's Seedling. Tea Roses are also grown in considerable quantity, including W. H. Bennett, Comtesse de Nadaillac, Madame Lambard, Sunset, Madame M. Guillot, Maréchal Niel, Niphetos, Silver Queen, The Puritan, The Bride, Rubens, Madame Welsh and others. One house is devoted to Laing's Pedigree Tomato, a smooth or slightly corrugated scarlet variety, with a thin skin and very full of pulp. A collection of Strawberries is also grown here, including the older and most useful kinds, such as President, which stands wet well, British Queen, Vicomtesse Héricart de Thury, Dr. Hogg, James Veitch and others. To these have been added King of the Earlies and Noble, both very early varieties, while the latter is very productive, and bears large-sized fruits.

SOUTHEND PARK.

The soil here is a heavy rich loam resting on gravel, and is chiefly planted with fruit trees, Roses, ornamental trees and Conifers. Of the latter Cupressus Lawsoniana, C. L. erecta viridis, and Thuja gigantea are possibly most largely planted. A large quantity of Berberis Mahonia is now very ornamental from the large quantity of berries covered with a blue bloom which they bear. Amongst ornamental subjects are Limes, Maples, Poplars, Mountain Ash, now laden with its scarlet fruit, and Ligustrum ovalifolium, one of the best of the Privets for general purposes. A golden-leaved variety of this having completed its growth is now very effective, and superior even to many of the forms of Euonymus, while it is hardier. Cherries, Plums and Pears, grown as standards, are notable for the strong, clean stems and the vigour of growth the head is making. More interesting are the dwarf pyramidally trained Apple trees grown on the Paradise Stock. They are from 3 ft. to 3½ ft. high, bushy, healthy, and fruiting beautifully in many cases. Keswick Codlin, Emperor Alexander, Cox's Pomona, and Lord Suffield are furnished with large, clean specimens of fruit.

RUTLAND PARK.

The dwarf pyramidal Apple trees on the Paradise are fruiting more freely here than in the Southend Park, a fact which may be owing to the shelter afforded by tall Elm trees around the outskirts, as well as to the dividing lines of Lombardy Poplar (Populus nigra pyramidalis), which runs up with astonishing rapidity, and from the density of the branches and foliage, forms an effectual screen against winds. The Apple trees in question are only three years old, yet the following are fruiting heavily:—Frogmore Prolific, Emperor Alexander, Manks' Codlin, Yellow Ingestrie, Lord Derby, New and Old Hawthornden, The Queen, Bedfordshire Foundling, Schoolmaster, and Warner's King, all of which are good Apples. A considerable breadth of ground is occupied with Peach, Apricot, Cherry, and Plum trees trained fan-shape, and Pears trained as espaliers. The Peaches are, however, the most noteworthy. The growths they have made are vigorous, showing how suitable the soil is, and being of large size, they will commence fruiting immediately when transferred to their permanent quarters.

Roses are also extensively grown in both bush and standard form. All the leading and popular varieties are cultivated, including La France, Louis Van Houtte, Merveille de Lyon, Mrs. John Laing, Earl Dufferin, Silver Queen, Grand Mogul, Grace Darling, Mrs. Geo. Dixon, and Wm. Warden. The latter is a vigorous-growing sort, with leathery dark green leaves, and appears to be mildew proof—a matter of no small importance in some districts.

A fine effect is produced here, not only by the Lombardy Poplars mentioned, but also by rows of a golden-leaved kind—namely, Populus canadensis aurea and Mop-headed Acacias, the latter both being grown as standards. P. balsamifera candicans is notable for the enormous breadth of the foliage on the young trees. Osborn's Purple Beech is even now hardly to be described as purple, but almost black. The old variety grown by the side of it is of a bronzy metallic green rather than purple. Ornamental and useful shrubs are Cotoneaster microphylla (in pots), Kalmia latifolia, Clematis flammula, Olearia Haastii, Spiræa japonica alba, and S. j. purpurea, the latter better known in gardens as varieties of S. callosa. Most of these are now either in flower or fruit.

STOVE CLIMBING PLANTS.

ALLAMANDAS.

These are gorgeous flowering plants, producing large trumpet-shaped yellow flowers of various sizes and shades of yellow on the different varieties. As a rule, the bulk of the sorts require a good amount of room to develop themselves, and generally do best when allowed free scope on the roof of a stove where plenty of light can be obtained.

In the early spring months their long trailing shoots require pruning back rather sharp, and the use of the syringe will be found beneficial to them by assisting the dormant eyes to swell from the hard wood. As soon as the plants show any signs of activity in growth, they should be taken out of their pots, the ball of soil greatly reduced, and soaked with water before potting again should it prove to be dry in the middle of the ball of earth which contains the main body of strong roots. Usually the same size of pot does again for large plants; the only need for using larger pots will be in the case of young plants that require to be pushed along into specimen plants. Where they can be planted in a border inside the stove they generally do well, and produce very fine and large flowers, the same process of pruning, &c., being necessary with the subjects planted out as with those grown in pots, at the same time scraping away any loose soil from the surface of the roots, and filling in again with a good, rough, rich compost. A soil composed of three parts loam and one part peat, with the liberal addition of some ½-in. bones, charcoal and sharp sand, and used in a rough condition, will suit their requirements well, taking the precaution to see that the pots are well drained, so as to ensure a free passage for the water away from the ball of soil. Give liberal doses of liquid manure as soon as the plants become thoroughly established in the new soil, and are well away from the top, so that the extra stimulant can be properly absorbed by the plant. Where they are required for exhibition purposes early, it may be necessary not to shake them out from the pot in which they are established, but to induce them to grow by the aid of a good surfacing of rich soil, and the frequent application of strong doses of liquid manure. At all times, whether for exhibition or not, the shoots should be allowed to ramble on the roof thoroughly exposed to the sun; in the case of plants in pots these shoots may be taken from the roof as soon as the flower-buds show at the points, and be coiled on a balloon-shaped trellis, bringing the points with the flower-buds in, as nearly as equal as possible on the face of the balloon. In performing this work great care must be used so that the foliage may present its upper surface to the eye when the work is finished, but should a few leaves be somewhat irregular, a few days will bring them round into their proper position. All the kinds root readily from cuttings, except A. grandiflora, which is better grafted upon some stronger-growing kind; this fine sort is, perhaps, the best when in condition for exhibition work, but it is not often that the plant keeps well during the winter, frequently losing a good number of its shoots, and being a weak-growing kind it takes a long time to fill up the gaps that are thus caused. It produces flowers in great abundance when in a healthy condition.

A. Schottii is, perhaps, the strongest and largest flowered kind, and is the best for planting out with the idea of covering a large wall or roof. A. Hendersoni is about the best of the stronger-growing sorts for exhibition purposes, and yields flowers in great quantity of a light yellow colour, whilst A. nobilis is finer in flower, and of a darker yellow colour; this latter one is to be preferred to A. Hendersoni when well bloomed as an exhibition plant. A. Chelsoni somewhat resembles A. nobilis in the colour of its flower, the bloom being much smaller, and the plant of much weaker habit. All may be cultivated with considerable ease, taking care that the plants have a period of rest during the winter months, but not to dry them to the extent of losing all their foliage. They require to have the water gradually withheld so that no sudden check be given to the plants.—*W. G.*

GARDENING MISCELLANY.

"The Flower of the Future."

HAVING, at various times, read articles on and seen illustrations of the Begonia in THE GARDENING WORLD, and having also invested in a copy of your manual on the same (which I recommend to all about to start Begonia growing), I decided to pay a visit to the Messrs. Laing, at Forest Hill. Thinking there are others of your readers like interested, but who may not have an opportunity of seeing for themselves, I have sent a few lines on what I saw there. The thing that strikes one most on entering the nurseries is the quantity of Begonias that are grown in beds; they must be reckoned by tens of thousands, and, although everything in the bedding line has had a sorry time of it this year, the Begonias were looking very bright, especially the scarlet and crimson tints, which quite put the Pelargoniums in the shade. I suggested that they would look even better the second year from seed, but was informed that there was no chance of using them a second time, as the demand for them was so great. But the greatest treat was our visit to the Begonias that were under glass; the sight on entering each house was something to be remembered and to talk about. Here was to be seen flowers of every colour, from the purest white to the darkest crimson, being nice dwarf plants, with stout flower-stalks, and blooms almost as round as a shilling, and from 4 ins. to 7 ins. across. In the doubles were to be seen some grand flowers, Alba fimbriata (white) and Lady Hulse (yellow) being very striking. I will give the names of a few that may be useful to anyone starting to grow them. The following are doubles, namely—Alba plena, a good white; Excelsa, scarlet; Formosa, rosy crimson; Gloire de Nancy, vermilion; Rosamonde, fresh rose; Louis d'Or, bright saffron-yellow; and Madame Arnoult, salmon-rose. Good

singles were Blushing Bride, pale blush; Earl of Chesterfield, crimson; Duke of Edinburgh, dark maroon; Bridesmaid, pure white; Golden Queen, a grand yellow; and Countess of Rosslyn, bronze-orange. I may say that I find the Begonia a thorough amateur's flower, and anyone who can grow a Pelargonium is able to manage these, with the very great advantage of having no trouble with them in the winter, as the Begonia dies down the latter part of October, and then can be put away in sand or coco-nut fibre till the following March, only requiring to be kept free from frost or damp.—*Tyro.*

The Brook-loving Nierembergia.

Unless grown in a naturally moist place, this subject fares badly in dry seasons—at least, in the arid atmosphere of the more southern counties. In such a season as the present, however, it is almost bound to succeed, whatever the nature of the soil or the exposure. At Pendell Court, Bletchingley, a large patch has been flowering grandly in an open fully exposed border. It has for some years been well established, but flowers most freely when moisture is abundant in a season such as the present. The whole patch of ground is thoroughly permeated by the creeping rhizomes, while the leaves carpet the surface. From amongst these the large trumpet-shaped white flowers arise, bearing no inconsiderable resemblance to those of a Convolvulus, and altogether different from those of the shrubby-stemmed N. gracilis, largely grown for conservatory decoration, and for bedding purposes, where a dry season does not seem to affect it in the same way as it does N. nivularis, the subject of this note. A bare, naturally moist pocket on the rockery is a suitable position for this species, or it may be used for carpeting the ground where leggy subjects are grown.

The Round-leaved Rest Harrow.

Of the sub-shrubby Ononis belonging to this genus there can be little doubt that this is one of the prettiest as well as one of the neatest-growing of the cultivated species. There are about sixty known species, including three British plants, two of which at least are pretty weeds on some soils, especially on gravel or chalk, where their long, fleshy, thong-like roots take possession of the soil, and are extremely difficult to eradicate. O. rotundifolia under notice has neat orbicular leaflets, and from the axils of the leaves the peduncles arise, bearing the flowers which have rosy red standards, striated with darker veins, and pink wings and keel. It is grown in the open border at Pendell Court, Bletchingley.

Clerodendron fallax.

One of the brightest of autumn-flowering plants is this scarlet Clerodendron, which may be used for the stove or conservatory; but an intermediate temperature is most suitable for it. Keep the flowers as dry as possible, and remove any decayed ones that may be in the truss. Manure-water applied when the trusses begin to show themselves is also beneficial. Plants are readily obtained from seed to flower the same year if sown early enough, and small subjects being generally the most desirable and neatest, the old ones need not be retained after the second flowering. After blooming the first time, the shoots should be well cut back, and the plants re-potted in spring after growth recommences.—*T. S.*

Lilium nepalense.

Two plants of this rare Lilium were shown at the meeting of the Floral Committee of the Royal Horticultural Society, on week, each bearing a terminal flower of considerable size. It is nodding or drooping, while the segments are revolute. The latter are crimson-purple with the apical portion yellow; the tube is moderate in length and trigonal. The stems were about 4 ft. in height, covered with lance-shaped, dark green, scattered or slightly whorled leaves. In a wild state, a large number of flowers are said to be borne by each stem. The plants in question were exhibited by Messrs. Hugh Low & Co., Clapton, and received a First Class Certificate.

A Double Lapageria.

Now and again we hear of a double Lapageria, and nurserymen have been occasionally misled by it, as the flowers, or some of them, come donble one year and revert the next. We have again received an instance of the sportive nature of this plant under cultivation in the shape of a double flower that grew on the same plant as a number of other flowers which were single and quite normal. The specimen in question was sent us by Mr. A. G. Abraham, The Woodlands, Streatham. At first sight we were led to believe that the freak was the result of two flowers that had grown together, but close inspection does not seem to warrant this idea. The three outer segments were only about 1 in. in length, and pale green suffused with pale rose, resembling in no small degree the outer segments of Philesia buxifolia, its close ally; and this peculiarity strengthens the affinity of the two plants. Altogether there were eleven segments inside the three short ones, of good average size and colour. Four segments occupied the place of the three inner ones of the normal flower; and there were, besides, eight instead of six stamens and two styles, all of which were perfectly formed. If it is the result of two flowers combined, the union is very close. A double Lapageria would be very much appreciated by horticulturists, although we cannot say its beauty would be much improved.

Eremurus Olgæ.

The flowers of this plant are borne in dense racemes on the top of tall stems, the leaves being all radical, as in other members of the genus generally. The flowering portion was 2 ft. long, but is still undergoing elongation; and the flowers are of a pale flesh colour with a brown mid-rib. The ovary and base of the stamens are yellow. It is a showy and interesting plant for the bulb garden or herbaceous border, and was exhibited by Mr. T. S. Ware, at the last meeting of the Floral Committee, by whom it was certificated.

Freak of a Fuchsia.

In Fuchsia procumbens it is normal for the corolla to be absent, but rarely does this happen in the beautiful and improved garden varieties of other species. Some flowers of Mrs. Rundell, a sport from Lord Beaconsfield, has been sent us by Mr. Arthur Briant, 41, Ondine Road, East Dulwich, showing on the one hand the normal condition of the flowers, and another case in which the corolla was wholly aborted, or represented by a fleshy ring, or inconspicuous white teeth at the point of their insertion on the throat of the calyx tube. The stamens were also partly aborted or represented by forked processes. The upper portion of the style was split down one side like a folded leaf. When perfect the flowers of this variety are very beautiful and graceful. The calyx tube and the sepals are pink, flushed with scarlet, and the petals of a brilliant vermilion.

Romneya Coulteri.

This is a beautiful and interesting half-hardy Poppywort, with large white flowers of about six petals. The latter are imbricated and very strikingly plaited longitudinally, owing to their manner of folding in the bud. The centre is occupied with a large mass of yellow stamens with a purple base, and gives the flower a striking appearance. The leaves are coarsely lobed or pinnatifid and glaucous, with a few bristly hairs at the base. It was exhibited by Mr. T. S. Ware, at the Drill Hall, on Tuesday week, aud received a First Class Certificate.

Ampelopsis Veitchii.

At The Cedars, Harrow Weald, this plant is just now a great attraction, the south and south-west wings of the mansion being well covered with a luxuriant growth that is daily changing colour and attaining its full autumnal tints. On the front of the structure it has adapted itself to the outlines of the architecture in a very graceful manner, dropping here and there in festoons over the windows. Mr. Dinsmore has obtained an effective combination on the south side of the mansion by planting Clematis Jackmannii against the Ampelopsis. The large purple flowers of the Clematis form, with the warm tints of the previous-mentioned climber, a rich piece of colouring, which was none the less effective by reason of the loose and natural manner in which the Clematis is wandering over its red groundwork of leaves.—*J. W. O.*

A Warning to Chrysanthemum Growers.

I think it right to give Chrysanthemum growers a warning, lest they may fall into the error I did. I have been a rather successful grower of these beautiful flowers. This year I wanted to beat the record, and thought I would try nitrate of soda. I accordingly used about a table-spoonful to each plant, mixing it with soil, and top-dressing each pot. In the evening of the same day I took up Mr. Molyneux's new book, in which I saw that half a tea-spoonful would be sufficient. It rained hard during that night, and the nitrate was washed down to the roots of several, which are now completely dead. I removed it from all in the morning, and you may be sure I will not try these experiments again. I find sheep manure is the best.—*Subscriber from co. Cork.*

Strawberry Plants for Making Beds.

After the plants that are intended for potting up for forcing have been removed from the Strawberry bed, a good many small ones are left. Now if these are dug up carefully at the end of the summer, and planted out in nnrsery beds, they grow into size and make excellent stuff for planting out the following year. This is a practice followed by Messrs. Sutton & Sons, of Reading. After they have removed for the purposes of sale all the stronger runners of the season's growth, those remaining are planted as I have indicated, and by the following August they have grown large and strong, many of them flowering. These come in very useful for early orders, and they give customers great satisfaction. Who do not mind paying a little more for extra strong plants?—*R. D.*

Standard Mulberries.

When paying a visit to Messrs. Saltmarsh & Son's Nurseries at Chelmsford, a short time ago, I was much interested in a number of standard Mulberries—a speciality for which this firm is famous. They are raised from layers. Large stocks are grown for the purpose, and from these the shoots are layered, and they lie for two years; when rooted they are planted out, and then they remain until they are tall enough to form a head, and in five or six years they are large enough for planting out. It will be seen that time is required to grow them into saleable size, and, therefore, it is not to be wondered at that they command a good price.—*R. D.*

Mina lobata.

A very pretty effect is produced by growing this plant out of doors at Kew, where it is allowed to run up the supports of the old Araucaria near the ranges of glass-houses. Had the summer been fine no doubt this Mexican plant would have grown more vigorously in the early part of the season, and been eveu more floriferous now. As it is, the scorpioid racemes of flowers are very conspicuous, even at a distance. It is a member of the Convolvulus family, and so closely allied to Quamoclit, and that again to Ipomæa, that the whole have been sunk under the latter generic name by our standard authorities. The three-lobed leaves, together with the character of the inflorescence and the shape of the flowers, would not lead one at first sight to infer that it belonged to that natural order. The lower part of the salver-shaped corolla is yellow-white, the upper portion is bright scarlet, prodncing an enlivening appearance. From what we have seen of the plant elsewhere, we infer that it would flower very profusely out of doors in a fine summer in this country, when the conditions approach that of its native clime. It is the only known species.

Eichornea paniculata.

Very different in habit and general appearance is this species from the better known and floating E. azurea or E. crassipes. A fine mass of it has been flowering for some time in the Water Lily house at Kew, and is both distinct and effective. It is figured in the *Botanical Magazine*, t. 5020, under the name of E. tricolor, and that name is also used at Kew. The leaves are heart-shaped, and borne on long petioles about equalling the flower stalk, which bears one leaf near its apex. The footstalk of this latter is short, greatly enlarged or inflated, and serves as a protection to the iuflorescence in the young state much in the same way as a spathe. The inflorescence is panicled, and 8 ins. to 12 ins. in length. The flowers are considerably smaller than those of E. azurea, but exceedingly pretty; the lower three segments are purple, while the upper ones are pale blue, with a large yellow blotch surrounded with white on the middle segment. The plant forms a large patch in one of the wet or semi-aquatic beds in the corners of the house, where it receives similar treatment to that of Nelumbium speciosum, Sagittaria montevidensis, &c., and has attained a height of 3 ft. or 4 ft.

Tritonia aurea, crimson spotted.

The flowers of this striking and distinct variety are very large, with the long segments spread out almost at right angles to the tube. They are all of a deep orange-yellow, with a large deep crimson blotch on the middle of each of the three inner segments, reminding one of the blotches on the petals of an Odontoglossum crispum.

It grows strongly and flowers freely. Mr. James O'Brien, Harrow-on-the-Hill, brought it under the notice of the Floral Committee last week, and it was awarded a First Class Certificate.

The Conservatory at Maida Vale.

THE fine conservatory and winter garden of Messrs. Hooper & Co., at Maida Vale—the most extensive and well-kept in London—is now specially attractive, the fine groups of lofty Palms, graeeful Ferns, and other foliage plants being delightfully varied with groups of Orchids, Lilies, and other plants in flower, the whole being most tastefully arranged. Tbe show of Hooper's strain of tuberous Begonias—exquisite in size, form, and colour—on the front stages are in themselves worthy of a visit; and the massive rockery, clad with tropical Ferns, Bamboos, &c., which occupies one side of the building, might be studied by rockery artists and intending builders witb advantage. Lovers of hardy and bulbous plants for the open garden will also find a grand display in the grounds of Messrs. Hooper & Co.'s establishment, to see which would make a comfortable walk for dwellers in London having a couple of hours to spare, and a desire to pick up a few good plants for tbeir gardens.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

PRIMULAS, CINERARIAS, CALCEOLARIAS.—The batch of Primula sinensis which has been grown for early flowering should now be removed to tbe shelves of an intermediate house near the light. They will make more progress tbere tban in a cold frame after this date. The house in which they are housed must, however, be freely ventilated so as to keep the leaf-stalks short and stout. The late batches of Primulas, Cinerarias and Calceolarias intended for spring-flowering may all be grown under the same conditions as to temperature, shade, and atmospheric moisture. A pit or frame in which there are hot-water pipes at command will form a convenient place for them. Under such circumstances they can be kept close to the glass, with a temperature sufficiently high to keep them growing slowly. Give plenty of ventilation to keep tbem sturdy and dwarf. When potting use good fibrous loam, with about a sixtb part of leaf-soil, and a liberal allowance of silver sand. Manure need not be given, or in small quantity, as the best plan is to feed the plants with liquid manure after they have filled their pots with roots, and are approaching the flowering stage.

RICHARDIA AFRICANA (CALLA OR RICHARDIA ÆTHIOPICA).—The nights are now getting very cold, and the temperature sinks almost to freezing point before morning, so preparations should be made for getting tbese under cover before they get damaged by frost, as the vigorous young leaves they have recently been making are very susceptible of injury. If planted in the open air they should be lifted, potted, and placed in a pit or house, where they will be encouraged to take to their altered conditions.

BULBS.—Tbe early batch of Roman Hyacinths should by this time have established tbemselves and begun to grow. If this is the case, they should be uncovered without delay, and removed from their quarters in tbe open to the shelter of a frame. Should the leaves have made any headway, do not suddenly expose them to light, and not at all to bright sunshine for some days at least, in fact, till tbey assume tbeir natural green colour. During bright days the frames in which they are placed should be sbaded, till the leaves are able to bear full exposure. Lachenalias that were potted up in good time will now have started into growth. They must be exposed to light in the same way as the Hyacinths. In this case, however, the bulbs will have to be retained in the heated frame till they commence flowering in spring. A cool temperature with plenty of light and ventilation is most suitable to their well-being. Very little water will be required till later on, say when in full growth, but when fire-heat is necessary they must not be overlooked.

THE FRUIT HOUSES.

STRAWBERRIES IN POTS.—The earliest batches that are now well forward and have filled their pots with roots must not be neglected in tbe matter of watering, seeing that recently we bave been favoured with drier weather than we have been accustomed to for some time past. The plants should be regularly gone over, re-arranging them where by good growth they have become crowded. Remove runners which may make their appearance, and weed out all tbose plants wbere the crowns offer no promise of bloom, either through weakness, injury or arrest of growth. Larger blooms may be expected, and, of course, fewer but larger fruits where the plants are confined to single crowns; and in the case of plants for forcing this is an all-important matter. By removing the smaller and lateral crowns now the leading one will be encouraged to develop fine foliage and larger flower-buds.

LATE VINES.—The fruit in late houses should now be assisted with fire-heat to keep up a circulation of air, while at the same time ample ventilation should be given to develop the bloom which constitutes the proper finish of all well-grown Grapes. Another point to be observed is that black Grapes take on tbis bloom mucb better where partially shaded by foliage, so that growers should be careful in the removal of laterals when the intention is to admit more light. White Grapes take on their best tints when fully exposed to light.

CUCUMBERS.—The plants intended for winter work should be steadily advancing in a genial growing atmosphere. Ventilate freely on all favourable occasions, so tbat growth made will be sturdy and healthy. Close the house or pit early in the afternoon, say about two or three o'clock, so as to retain as much sun heat as possible. Damp down the stages and floor of the house so that no harm will result even should the temperature get high by sun-heat.

THE KITCHEN GARDEN.

CELERY.—The earthing up of the earliest batch sbould be completed without delay, as during the past few weeks it has made rapid progress. The main and late batches have also made rapid progress, and it will be well to give them a good earthing up during dry weather, taking tbe usual precautions to keep soil out of the crowns.

RASPBERRIES.—The breaks or borders of these should now be gone over, and all the old canes that have just finisbed fruiting cut away, so as to admit air and light freely to the young canes in order to ripen them. All useless canes may also be removed, provided they are not required for making young plantations; but in tbe latter case they must be left undisturbed till they drop their leaves.

ORCHID NOTES AND GLEANINGS.

MASDEVALLIA CARDERI.

RARELY, if ever, do we see a more striking regularity of the three outer segments of the flower in tbis genus than is presented by Masdevallia Carderi, which has not inaptly been compared to a Campanula. We noted it in the nursery of Messrs. Shuttleworth, Carder & Co., Park Road, Clapham, where it has been flowering for some time past. The flower stalk is pendulous, and the flower solitary, drooping moutb downwards, while the tube is obtusely trigonal and campanulate, terminating in three spreading yellow tails about 1 in. in length. Externally the bell-shaped tube is creamy white, with a transverse purple band consisting of irregular blotches near the base. Internally the same ground colour prevails, but it is covered with orange-coloured glandular hairs, while the purple band gives place to an orange one. The lip is also most singular, being bent in the middle, witb the lower half incurved at the edges, and has two longitudinal ridges along the centre; the upper half is somewhat spoon-shaped, with incurved edges, and the whole is creamy white. The small erect petals terminate in a brown spot. Tbe leathery leaves are about 3 ins. or 4 ins. in length, and the whole plant is a perfect gem, far superior to a great number in cultivation. There are not more than half a dozen plants of this pretty species in the country.

ODONTOGLOSSUM PESCATOREI.

AMONGST a large batch of recently-imported pseudo-bulbs of this species in Messrs. John Laing & Sons' nursery, at Forest Hill, some very fine varieties are making tbeir appearance from time to time, as well as some interesting and curious characters as to habit and bebaviour. As yet tbe pieces are small, but making satisfactory progress towards becoming established. Some fine varieties are characterised by the size and roundness of their flowers, which means that the sepals and petals individually are of good breadth and size. The petals are broadly ovate, and like tbe sepals, are pure white. The lip, as usual, is blotched with violet on the crest and round the base. All overlap each otber considerably. Some forms are branched from the base of the peduncle upwards, and in many cases the bracts have attained unusual size, becoming foliaceous—that is, resembling small but true leaves. In one case the peduncle is continuous with the apex of the pseudo-bulb, instead of being produced in tbe axil of a leaf, as in the habitual or ordinary way.

EULOPHIA GUINEENSIS.

THIS, one of the prettiest and most satisfactory terrestrial Orchids we ever saw, has been in flower for the last six weeks in the collection of R. H. Measures, Esq., at Streatham. Tbe flower-spike is about 3 ft., the upper half bearing some three dozen flowers, each about 2½ ins. across. Tbe upturned sepals and petals are reddish brown and not conspicuous, but the large flat expanded lip, wbich is of that brigbt rose seen in Odontoglossum vexillarium, is very showy. Some day when the Eulophias and Lissocbili get more attention they will greatly add to tbe attraction of our collections. Eulophia Dregeana has large flowers, with white labellums, the blooms having somewhat the form of a dove, E. ensata has very handsome primrose-yellow flowers. Of the allied Lissochili few nobler plants exist than the L. giganteus, with its large rose Cattleya-like flowers, introduced by M. Linden, of the Parc Leopold, Brussels, and flowered so grandly by Sir Trevor Lawrence, at Burford Lodge, altbougb the fine yellow L. speciosus, the yellow and purple L. Krebsii, and, indeed, all the otbers, are very beautiful when properly grown.

ONCIDIUM INCURVUM.

AT the present time, when Orchid blooms are at their lowest ebb, the subject of tbis note is especially wortby of notice. Its long branching spikes make up for any deficiency in the size of its individual flowers, and considering the ease with which it may be cultivated, it might be more extensively grown than at present. I recently saw a plant of it in a 6-in. pot, carrying three large spikes, and another about to open, the largest spike having about 100 flowers on it, grown in a corner of a greenbouse at Glenstal Castle, tbe seat of Sir Croker Barrington, Bart. Tbe housc is devoted to Pelargoniums, Fuchsias, tuberous Begonias, &c.—*E. Dumper.*

ODONTOGLOSSUM HARRYANUM.

AMONGST some specimens of this grand Odontoglot at Park Road, Clapham, Messrs. Shuttleworth, Carder & Co. have unusually strong and vigorous specimens now in flower. Tbere are four blooms of large size on each spike, and the colours are brought out with unusual clearness. The sepals and petals are of a deep shining chocolate-brown, with a few irregular zigzag yellow markings; and the petals, as well as the lower part of the lip, exhibit distinct violet-blue tints, so that in spite of the bad varieties we sometimes meet with, we have evidence of blue in this species, which is a very unusual occurrence in an Odontoglossum—tbat is, if we are still to include it under that genus. Tbe boat-shaped and broad-based lip, together with the incurved character of the sepals and petals, not only serve to render it very distinct from otber species, but points to a distant affinity with any of them. Be that as it may, it is one of the finest in the genus, and will soon become plentiful in every collection. The incurved character of the sepals and petals is inherent, and will never be spreading after the style of the more typical forms of Odontoglossum, as some seem to expect.

THE HOWICK HOUSE COLLECTION.

SOME weeks ago I sent you a note on Mr. Wrigley's magnificent display of Cattleya Mossiæ—one of the finest displays of superb varieties I have ever seen. Just now a grand lot of Cattleya Eldorado is making a grand show. There are many dozens of fine flowers expanded, and a great number of distinct and beautiful forms among them, varying from the purest white to the deep variety known as C. Eldorado splendens. Amongst the whites, for they vary considerably, are many fine types of tbe one generally called Virginalis. Some of the latter are very distinct, the yellow in tbe labellum being of various shades, and the margins in some instances much broader than in otbers; but all have fine broad sepals and petals and flowers of great substance. Tbere are likewise some splendid varieties of C. Harrisoniæ. The true C. H. violacea is a grand and valuable acquisition, the flowers being of a deep intense violet colour. Many fine forms of C. speciosissima, varying considerably, swell the show. This is a grand autumn-flowering Cattleya, as also are C. bicolor and C. velutina. Of the former tbere are many beautifully-flowered plants, several with eigbt blooms

on a spike. These vary also, as some have a pure white margin on the labellum whilst others have not. C. velutina is represented by a fine spike of ten flowers. Lælia elegans is also distinct and grand, and L. Turneri and L. elegans are both good types. There was one plant which threw up two spikes of ten flowers each. Cattleya Sanderiana and C. Gaskelliana are flowering freely. Lælia xanthina, with its bright flowers, is very conspicuous, the deep bright orange flowers being very distinct. Angræcum articulatum, with its spikes of curiously-formed white flowers, is very attractive. Saccolabium Blumei, with several fine spikes, is showy. The recently introduced Odontoglossum Harryanum is also flowering freely. These are only a few that I noticed in this collection, which is succeeding well under the charge of Mr. Beddoes.—*Rusticus.*

ODONTOGLOSSUM BICTONENSE SPLENDENS.

THERE are numerous forms of this species now in cultivation, and some of the extreme and more distinct of the varieties have received special names. It seems that even those known under the name of O. b. album vary considerably with regard to the precise shade of colour of the sepals and petals, but in most cases they appear to exhibit a uniform tint all over, or nearly so. The other variety of note is O. b. splendens, a specimen of which has been flowering for some time at Devonhurst, Chiswick. In this the sepals and petals are of a deep chocolate-brown, with a few transverse streaks and bands of bright yellow. The lip is of a warm rosy mauve, and darker towards the base. The specimen was obtained last year in a collection from Mexico, and grows vigorously, having thrown up a strong many-flowered raceme of bloom, which carries itself erect without support.

HORTICULTURAL SOCIETIES.

The County of Gloucester and Cheltenham Horticultural.

THIS society held its second show on the 12th and 13th inst. in the Winter Garden at Cheltenham, a building admirably adapted to the purpose, in addition to being directly in the centre of the town at the upper end of the promenade, rendering it easy of access. The great attraction on this occasion was a £10 prize for a collection of nine dishes of fruit (Pines excluded), and this brought a very strong competition, no less than seven collections being staged. Mr. Pratt, gardener to the Marquis of Bath, put up some fine Muscat Grapes, and would undoubtedly have been first, but was disqualified through the schedule not being complied with as to numbers of fruit in each dish. In the end Mr. Dawes, gardener to M. Biddulph, Esq., Ledbury, was awarded the first prize, his Alicante Grapes and Sea Eagle Peaches being good. Mr. W. Child, gardener to the Earl of Coventry, was second, his Gros Colmar Grapes being greatly admired; and Mr. Goodacre, gardener to the Earl of Harrington, was placed third. Mr. Rose, gardener to Lord Wantage, and Mr. Gilman, gardener to the Earl of Shrewsbury, Ingestre Hall, also competed. In the class for six dishes of fruit there were four competitors, Mr. Child being placed first, Mr. Rose, gardener to Lord Wantage, second, and Mr. G. W. Siddal third. In the open classes for Grapes the competition was very limited, one exhibitor, Canon Coventry, taking all four first prizes, but none of the dishes staged require comment. In the plant department Mr. J. Cypher was well to the fore, taking first both for foliage and flowering stove and greenhouse plants, and also for an ornamental basket of plants very prettily arranged. In cut flowers, Dahlias, Asters, and Gladioli were very numerous, and as a rule very good. Messrs. Heath & Son were well to the fore with the first-named, Mr. G. S. Walters, Calne, with Asters and Gladiolus. Hollyhocks were decidedly poor, and Ferns, both exotic and British, were but moderate. Vegetables are always a fine show here, and were well up to the standard this season, Mr. O. Arkell, gardener to A. Shinner, Esq., fairly excelling himself, and taking all the principal prizes. It was a treat worth going several miles to see such splendid collections staged—such huge piles, and all good alike. Twenty Cucumbers were on his dish in the largest collection, each fruit being perfect, and all the other dishes were equally good. It would take up too much of your space to enumerate the winners in each class, suffice it for me to say that the competition was very keen as usual in every instance, and especially so in the collections of Potatos, which were very good indeed. The committee are certainly to be congratulated, and with the secretary, Mr. Bridgewater, must have been gratified at the success attending their efforts, which deserve to be more substantially patronized.—*C. C.*

QUESTIONS AND ANSWERS.

SPECIAL attention is paid in the columns of THE GARDENING WORLD to the answering of questions on all subjects connected with practical horticulture, and the naming of Plants (other than Florists' Flowers) and Fruits, in which department the Editor is assisted by gardeners and specialists of great experience.

BOOKS.—*R. Bell: The Garden Calendar*, by T. W. Sanders (Hamilton, Adams & Co.), price 2s., would, perhaps, be the most useful. *Roland:* If you refer to the pruning of fruit trees, you should get Du Breuil's *Culture of Fruit Trees*, price 4s.; or Fish's *Pruning, Grafting and Budding of Fruit Trees* (*Exchange and Mart* Office), price 1s.

COOL ORCHIDS.—*J. W. Clayton:* The plant you have got, under the name of Odontoglossum planifolium, is not an Odontoglossum but Gomezia planifolia, so that you are not likely to find it in any good work described as an Odontoglossum. It thrives best as a basket plant, although we have also seen it in pots in very good condition. A liberal supply of water at the roots and in the atmosphere is necessary during the growing season, and even in winter, because evergreen, it must not be allowed to suffer from drought, although much less water is required. Maxillaria acicularis should be grown in pots in a mixture of equal parts fibrous peat and chopped sphagnum. A temperature of from 48° to 55° will be quite sufficient in winter, but during the growing season it should rise to 60° or 70°, with a liberal supply of moisture. Keep the plant moderately moist in winter, but by no means wet.

ONCIDIUM CANDIDUM.—*J. W. Clayton:* Probably this plant is more generally known under the name of Palumbina candida, but the difference between it and a true Oncidium is very trifling, so that our standard authorities now include it under the latter genus. An intermediate temperature, such as that given to Cattleyas, will meet the requirements in this case. It is rather difficult to establish or even grow, and instead of growing it in pots in the usual way, an admirable plan would be to secure the pseudo-bulbs on a piece of tree Fern stem, which should have its end inserted in a pot filled with fibrous peat, charcoal, or soft potsherds broken into small pieces, and chopped sphagnum. Some of the difficult species do well on a tree Fern stem. Give plenty of moisture during the growing season, but keep drier in the winter.

PEACHES AND NECTARINES.—*James L. Lyons:* You cannot get all the good qualities you mention in one and the same fruit; but the following constitute a good selection for the purpose you mention, namely, Alexander, Early Rivers, Gros Mignonne, Noblesse, Barrington and Princess of Wales. These are all handsome Peaches, and generally bear well; they are given in the order of ripening, and the two last mentioned may be considered as late varieties. Some growers lay stress upon Dymond, Dr. Hogg, Golden Eagle and Prince of Wales, which afford considerable variety; Dr. Hogg is early, bears immensely, but does not force well. One of the earliest and largest of Nectarines is Lord Napier; Elruge bears and forces well; Albert is of fine flavour, which is developed to its best condition when forced; Humboldt is a free bearer and deliciously flavoured; Pitmaston Orange or Rivers' Orange (a seedling raised from the former) and Violette Hâtive will also give satisfaction.

MAGGOT IN PLUMS.—*B. Osborn:* The fruits you sent have evidently been attacked by the Plum Weevil, or the Plum Tortrix, but you have been too late in sending them, as the maggots have left, and are now in the ground beneath the trees where they change into pupæ, and rest in that condition till the following spring, when they emerge as perfect insects to renew their work of destruction. When the fruit is scarcely half grown the insects lay their eggs on it, and the larvæ or grubs penetrate it, causing it to fall prematurely. The gumming caused by the maggots on your fruit bears considerable resemblance to what befalls Plums and Cherries in America; but as there were no specimens in the fruit we cannot determine. In either case the remedy is much the same. All fallen fruits should be rigorously cleared away and burnt, or deeply buried, so as to destroy the larvæ and prevent the increase of the insects. All badly affected fruit should also be picked off the trees and served in the same way as those that fall, as they can be of no service for the table. They often remain in the fruit till the latter is perfectly ripe, and fruits affected in this way are sometimes plentiful in Covent Garden Market, with the grub close to the stone.

NAMES OF PLANTS.—*W. K. Glover:* 1, Francoa ramosa; 2, Tropæolum tuberosum; 3, Sedum stoloniferum splendens; 4, Dianthus deltoides splendens, the Maiden Pink; 5, Sedum reflexum. *H. Wilson:* Cassia lævigata, also known as C. Herbertiana and C. floribunda of gardens, but the latter is a stove annual. *J. C.:* 1, Tea Rose, Madame Lambard; 2, Achillea Ptarmica flore pleno; 3, Matricaria inodora flore pleno. *H. J. S.:* 1, Aster turbinellus; 2, A. Novi-Belgi; 3, Erica vagans; 4, Menziesia polifolia; 5, Arbutus Unedo. *Hy. Bently:* 1, Trichomanes radicans; 2, Nephrodium decompositum glabellum; 3, Pteris quadriaurita argyrea; 4, Doryopteris palmata. *A. Chalmers:* Catasetum macrocarpum. *D. B. K.:* Cypripedium ciliolare, Epidendrum radicans, and Mesospinidium sanguineum.

NAMES OF FRUITS.—*J. B.:* 1, Devonshire Quarrenden; 2, Irish Peach; 3, Ingestrie Yellow, plentiful in the streets just now under the erroneous name of Golden Pippin; Pear, Louise Bonne of Jersey. *Scotia:* 1, Blenheim Orange; 2, Keswick Codlin; 3, Duchess of Oldenberg. *A. K.:* Your Plum very much resembles The Czar, and may be that variety; but we cannot say for certain from a single fruit.

COMMUNICATIONS RECEIVED.—G. P. (next week).—S. R.—J. A.—G. T. M.—J. W. (many thanks).—A. O.—G. S. A.—R. D.—J. F.—C. A., Cape Town.—R. S. Oswald.—J. D.—A. L.

TRADE CATALOGUES RECEIVED.

W. DRUMMOND & SONS, Stirling, N.B.—Autumn Catalogue of Bulbous and other Flower Roots.

H. CANNELL & SONS, Swanley, Kent.—Autumn Catalogue of Bulbs, Plants, and Seeds.

THE WEATHER.

AT the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending Sept. 15th was 30·09 in.; the lowest reading was 29·94 in. on Monday morning, and the highest was 30·32 in. on Thursday morning. The mean temperature of the air was 54·5°, and 3·4° below the average in the corresponding weeks of the twenty years ending 1868. The mean was below the average on each of the first six days of the week, but showed an excess on Saturday. The direction of the wind was variable, and the horizontal movement of the air averaged 7·7 miles per hour, which was 4·0 miles below the average in the corresponding weeks of sixteen years. Rain fell on two days of the week, to the aggregate amount of 0·06 in. The duration of registered bright sunshine in the week was 42·4 hours, against 54·7 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

September 19th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a fair business doing in Trifolium incarnatum. Rye and Winter Tares at unchanged rates. A large speculative trade in Clovers has caused a further advance in prices of Red, White, and Alsyke. Rye Grasses firm. Bird seed realise prices current last week.

COVENT GARDEN MARKET.

September 20th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½-sieve	2 0	4 6	Pine-apples, St. Michaels, each	2 0	5 0
Cobs ....per 100 lbs.	75 0		Pine-apples, Eng., lb.	1 6	2 0
Grapes .....per lb.	1 0	2 6	Plums, ½-sieve	2 6	4 0
Melons	1 0	3 0	Peaches.....per doz.	2 0	8 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 6		Lettuces ..per dozen	2 0	3 0
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	0 9	1 3
Cabbages.... per doz.	1 6		Onions, per bushel	7 0	9 0
Carrots, New, per bun.	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	3 0	4 0	Radishes, per dozen	1 6	
Celery, per bundle	2 0		Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	0 9	
Herbs, per bunch	0 2	0 4	Turnips, per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Asters .....per doz.	3 0	6 0	Ficus elastica each	1 6	7 0
Balsams ....per doz.	2 0	4 0	Fuchsia, per doz.	3 0	6 0
Chrysanthemums, per dozen	4 0	9 0	Heliotrope ..per doz.	3 0	6 0
Cockscomb, per dozen	3 0	6 0	Hydrangea, per doz.	9 0	18 0
Coleus .....per doz.	2 0	4 0	Liliums, var., doz.	18 0	30 0
Crassula....per doz.	9 0	12 0	Marguerites per doz.	6 0	12 0
Cyperus, ..per dozen	4 0	12 0	Mignonette ..per doz.	3 0	6 0
Dracæna term., doz.	30 0	60 0	Palms in variety, each	2 6	21 0
— viridis, per dozen	12 0	24 0	Pelargoniums, scarlet, per dozen	2 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, dozen	6 0	12 0
Ferns, in var., do.	4 0	18 0	Scented Verbena doz.	4 0	6 0
			Solanums....per doz.	9 0	15 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Asters, doz. bunches	1 6	4 0	Margnerites, 12 bun.	3 0	6 0
— (French), 1 bunch	1 0	1 6	Mignonette, 12 bun.	1 0	2 0
Bouvardias, per bun.	0 6	1 0	Pansies, doz. bunch.	1 0	2 0
Carnations, 12 blooms	1 0	2 0	Pelargoniums, 12 sprys.	0 6	1 0
Carnations, 12 bun.	4 0	6 0	— scarlet, 12 sprays	0 2	0 4
Chrysanthemums annual, 12 bunches	1 0	3 0	Pinks, 12 bunches	3 0	6 0
Chrysanthemums, 12 blooms	0 6	3 0	Poppies, 12 bunches	4 0	6 0
— 12 bunches	2 0	6 0	Primula, double, bun.	0 9	1 0
Cornflower, 12 bunch.	1 6	3 0	Pyrethrums, 12 bun.	2 0	4 0
Dahlia, 12 bunches	3 0	6 0	Rhodanthe, 12 bunch.	4 0	6 0
Eucharis, per dozen	3 0	6 0	Roses (colrd.) 12 bun.	2 0	4 0
Forget-me-not, 12 bun.	2 0	4 0	— Tea ....per dozen	0 6	1 6
Gardenias, 12 blooms.	1 6	4 0	— Red .....per doz.	0 6	1 0
Gladiolus, 12 sprays	0 6	1 6	— Saffrano ..per doz.	0 6	0 9
Heliotropes, 12 sprays	0 6	1 0	Stephanotis, 12 sprays	2 0	4 0
Lapageria, 12 blooms	1 0	2 0	Sunflower, 12 bunches	3 0	9 0
Lavender, 12 bunches	3 0	4 6	Sweet Peas, 12 bunches	2 0	4 0
Lilium longiflorum, 12 blooms	3 0	5 0	Sweet Sultan, 12 bunches	2 0	4 0
Lilium speciosum, 12 blooms	1 0	3 0	Tuberoses, per dozen.	0 4	0 9

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,, E	,,	96	,, ... ,,	7	6
,, F	,,	60	,, ... ,,	5	0

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GREAT AUTUMN EXHIBITION OF FRUIT, October 11th to 13th inclusive. Schedules on application to Mr. HEAD, Superintendent, Gardens Department. Entries close October 4th.

*** Conference of Fruit Growers on first day of Show.

Next Week's Engagements.

MONDAY, October 1st.—Sales of Dutch Bulbs at Protheroe & Morris's and Stevens' Rooms. Clearance Sale of Greenhouse Plants, live and dead stock at the Kingston Nurseries, Protheroe & Morris (3 days).

WEDNESDAY, October 3rd.—Sale of Dutch Bulbs at Stevens' Rooms.

THURSDAY, October 4th.—Sale of Dutch Bulbs at Stevens' and Protheroe & Morris's Rooms.

FRIDAY, October 5th.—Sale of Imported and Established Orchids at Protheroe & Morris's Rooms.

SATURDAY, October 6th.—Sale of Dutch Bulbs at Protheroe & Morris's and Stevens' Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, SEPTEMBER 29, 1888.

CURRENT TOPICS.

HARVEST FESTIVALS.—In the olden days—in what might, perhaps, be thought by some the golden days of agriculture—it was the custom for the farmer to hold Harvest Festival by giving his labourers a big feast, and generally also a big drink. The custom in time became the more happily honoured in the breach than in the observance, because of the gross excesses which too commonly marked these gatherings, although even in their grossness they did show some desire on the part of the farmer to share of his abundance with his ill-paid work-people. The farmer now finds little apparently to be thankful for in connection with his crops—at least, harvest feasts are rare indeed.

Now, the festivities, such as they are, are of a semi-ecclesiastical order, and church and chapel alike have their annual thanksgiving services, be the harvest good, bad, or indifferent. Apparently this diversion of the method of keeping harvest festivals has proved to be not an unprofitable one to the Church at large, for they are now universal. Gardeners have some reason to dread these annual renderings to Ceres, Pomona and Flora, for the demand upon garden products invariably exceed largely the display of mere farm produce, and nothing is too good or too choice for the ecclesiastical decoration. Churches and chapels now at festivals bear some resemblance to flower and vegetable markets, the worst possible taste and the greatest incongruity prevailing. The chief maintaining element in these displays seems to be local rivalry—not a very elevating sentiment in association with any form of religious ceremony, or desirable aid to their usefulness.

AUTUMN DAHLIAS.—It is by no means an ordinary circumstance to find a brilliant show of Dahlias present at the end of September, yet the show at the Westminster Drill Hall on Tuesday was an exceptionally fine one. Rarely indeed have finer or more richly-coloured flowers been seen than our chief southern growers had arranged so admirably there. Literally it was a Dahlia field day, for no less than five new show varieties, eight bouquet varieties, two Cactus Dahlias, and one single variety received Certificates. The new things amongst Pompons show not only some needed variety, but remarkable beauty and excellence. This is, indeed, a coming section of a very popular family, although looking at the wondrous variety and beauty found in all its members, it is hard to say what section is not coming to the front. What really is a fact, is that the popularity of the Dahlia is now far from being dependent upon the large-flowered section—formerly the only show or exhibition Dahlia. Now, thanks to the admirable style of setting up adopted, the bouquet, Cactus, and single forms make a marvellously beautiful display, and in future years these newly certificated varieties will greatly assist in that effect.

THE RAIN.—The intrusion of a thoroughly wet day into the midst of our recent very beautiful autumn weather, on Tuesday last, was no doubt a disagreeable incident, but on the whole has been productive of much good. It is, perhaps, not an odd circumstance that, after all, the soil should be found getting dry in places, even after such a wet season. The constant percolation of rain through the soil does seem to leave it specially exposed to the action of the air, and it dries rapidly on the surface. Still farther, and in spite of all the tremendous rainfall of the season, it has been evident that we have not had a drop too much, and trees especially were beginning to shed leaves, even ere it was the time to do so. If, as we hope now, another period of fine dry weather ensues, we shall presently have abundant reason to be glad that the rain fell on Tuesday last.

LOBELIA CARDINALIS.—Once a very popular, and ever a very beautiful bedding plant, we find that it is now comparatively little grown in gardens, and yet it gives us when in flower one of the most glorious hues of scarlet to be found amongst flowers. The other day we lighted upon an old gardener who some forty years since was in charge of the once famous gardens at Cremorne, under the late Mr. T. Simpson, who was very fond of Lobelia cardinalis. "On one occasion," said our garrulous friend, "several well-known gardeners of that day, amongst whom was the late Mr. George Eyles, were assembled as Mr. Simpson's guests at Cremorne, and being shown my stock of Lobelia cardinalis in pots in cold

frames, all insisted that I kept them too moist, and that they would all die. I knew better, having grown and wintered them with sueeess. However, soon after, I left there and went back to Weeks' nursery, Mr. Gruneberg, a German, being then the manager. One day, in the following winter, Mr. Simpson eame across and asked to see my stock of Lobelias. I showed them to him, and turned a root out to show how full of life it was. He asked to take the root over to Cremorne, where curiously enough, I had been succeeded by Mr. Robinson, one of the men who had criticised my way of wintering the roots, and who had that season adopted the dry method. In return, Mr. Simpson brought over one of his dry ones, which I turned out, rubbed down before his face, and showed him that not a vestige of life was left in the roots." So much for the diverse systems of keeping Lobelia eardinalis roots through the winter.

Gas and Plants.—Our old friend related another ineident, which has its moral even to-day. He said that "at Cremorne a large lean-to house devoted to the growth of large-flowered and fancy Pelargoniums, abutted on to the King's Road, and at one time it was found that at certain periods —especially when cold east winds prevailed and the house had to be close shut, that the foliage of the plants suffered severely, indeed, almost killed the plants. All sorts of conjectures were made as to the cause, some attributing it to the flues, some to various eauses, but without success at first. Eventually it was thought that there was an eseape of gas from the main in the adjoining road, and that it percolated through the soil under the wall, and up to the house.

"That it did no harm as long as ventilation was afforded was natural, but as soon as the house was closed for the night only, the leaves were seen to curl, and after one or two nights more, to fall, so that the plants were valueless. A similar experience was found when I returned to Weeks' nursery, for there a roomy span house abutting on to Gunter's Grove was selected and prepared as a show house for large-flowered Pelargoniums, and filled. The very first night, however, showed me that the soil of the floor was also saturated with gas, as at Cremorne, and I had the plants removed back to their old quarters the very next day." These ancient facts serve to show how dangerous to plant life coal-gas is, and very likely since then many good plants have gone wrong through that evil influence, without the cause being suspected.

The Gardeners' Orphan Fund.—Some of the young gardeners of Chiswick, members of the Gardeners' Mutual Improvement Society, which has its head-quarters at Chiswick Gardens, with others of the locality, are about to show a lead in relation to the above fund, which we hope to see widely followed elsewhere. Desirous of lending in their modest way a helping hand, they propose to hold a *soirée* or social gathering of gardeners and other friends (ladies especially), at the roomy Chiswick Vestry Hall, on the 17th of next month, when all profits arising will be given to the Orphan Fund. That these can be large is impossible, as the charge for tickets is limited to one shilling each; but on the other hand, the expenditure may not be great, and if friends will lend needful assistance to the promoters in helping to furnish entertainment, so much the better.

The cheapness of the entertainment it is hoped may not be found its sole attraction; whilst not least, being held on the second day of the Apple and Pear Conference, it is hoped that it may become a real gardeners' gathering; whilst really social and pleasant intercourse may be abundantly found. One enthusiastic supporter has suggested that a good thing for the Fund may result from the making and selling of button-hole bouquets, and has promised to send flowers. If more will do the same, or will help in the desired decorations, or in furnishing objects of interest and of amusement, a great success may eventually be recorded.

A New Seed House in Dublin.—We understand that Mr. Spencer M. Hamilton, who for the last twenty years has been manager to Messrs. Drummond & Sons, of Dawson Street, Dublin, is about to establish himself in business in Henry Street. Mr. Hamilton is so well known and so much respected throughout the nursery and seed trade in Ireland, that a prosperous career in business should be assured to him. That he will have the hearty good wishes of his many friends may be taken for granted.

Wolverhampton Gardeners' Association.—The third annual show of Chrysanthemums, organised by this association, will be held on November 19th and 20th, in the Agricultural Hall, Wolverhampton.

The National Conference on Apples and Pears at Chiswick.—Intending exhibitors and fruit growers interested in this important meeting, may be usefully reminded that the dates fixed for holding the same are October 16th to 20th, which will soon be here. The late fine weather has so wonderfully improved the fruit crops, that we may look forward to an exhibition of far greater excellence than could have been anticipated a few weeks ago. Arrangements are being made for the conference, which promises to be of a thoroughly practical character. Those intending to take part in the same should at once communicate with Mr. Barron, the secretary to the committee, at Chiswick.

The United Horticultural Benefit and Provident Society.—The annual dinner of this society is announced for October 11th at the Cannon Street Hotel; Dr. Hogg, F.L.S., in the chair, and Mr. H. J. Veitch in the vice-chair. At a meeting of the committee held at the Caledonian Hotel on Monday special sub-committees were appointed to provide and arrange fruit, flowers, &c., and it was stated that several nurserymen had promised plants for the decoration of the hall, and that the musical arrangements would be under the supervision of Miss Mary Belval. The committee of this useful society are desirous of being well supported upon this occasion. The dinner will take place at 5.30 p.m.

Flowers for the Sick.—"Urbanus" writes:—"I was lately pleased to see that the Liverpool Flower Mission have adopted a plan for collecting flowers for the hospitals which might easily be carried out at other places. They have large baskets placed in conspicuous positions at the various railway stations, and which are used for the reception of flowers on certain days that are well known to the contributors. The flowers are regularly distributed amongst the various hospitals, and help to brighten up the surroundings of many a suffering fellow creature. It is a noble idea, and I am sure that were a similar plan adopted in London, there are hundreds of gentlemen coming into town every day who would feel a pleasure in contributing flowers for such an object."

The York Gala.—The name of Mr. John Wilson in connection with the York Gala is familiar to many, as he became its secretary thirty years since. He has just resigned the position, as he intends leaving York to reside near London, but he will be remembered with most kindly feelings by the exhibitors, judges, and others. He was always a true friend to the Gala, anxious to maintain its prestige, and on the look-out for extra prizes, by which to add to its attractions; he collected about £550 in this way, in addition to generous donations from his own pocket. Mr. Charles Simmonds succeeds him, and will retain the old offices of the society, 13, New Street. The committee have voted a handsome piece of plate to Mr. Wilson, as a token of their appreciation of his valuable services for thirty years. We also hear that several of the exhibitors and others who have been connected with the Gala purpose subscribing towards a presentation to him as an expression of their regard and esteem.

Agricultural Lectures.—The annual course of lectures on agriculture will be given at the City of London College, Moorfields, on Tuesday evenings, at 7 p.m., beginning on October 2nd, by Mr. Bernard Dyer, B.Sc., F.C.S., F.L.S., consulting chemist to the Essex, Leicester, and Devon Agricultural Societies. The lectures will treat of soils, plant life, manures, tillage operations, live-stock, dairying, food, &c. The course will be in connection with the Government Science and Art Department, and will end in May. In addition to the College and other prizes, the Saddlers' Guild offers, as in former years, a prize of £5 5*s.* to the student who passes the best examination in chemistry and agriculture.

L'Orchidienne. — Under this name a society of Orchid amateurs was founded at Brussels on September 23rd. Its objects are to promote a taste for the culture of Orchids by means of meetings or monthly shows, frequent conferences and annual exhibitions. The society starts with seventy members, and its prospects are good, as will be warranted by the following cast of officers and members. Honorary Presidents: MM. le Baron de Bleichröder, Consul-General of Her Britannic Majesty at Berlin, for Germany; J. Linden, for Belgium; Comte du Buysson, author of *L'Orchidophile*, for France; and de Lansberge, for Holland, four other honorary presidents for other countries being named for the next general meeting. The acting committee consists of three members, unanimously elected for four years. President; G. Warocqne, member of the Chamber of Representatives of Belgium. Secretary: Lucien Linden, editor of the *Lindenia*. Treasurer: J. du Trieu de Terdonek. Monthly meetings committee: F. Kegeljan, D. Massange de Louvrex, J. Van Volxem, E. Rodigas, G. Miteau, L. Lubbers, J. Moens, A. van Imschoot, E. Wallaert, A. Lallemand, A. de Meulenaere, Comte A. de Bousies. The first monthly meeting will take place on the 14th October next, in the great show house of l'Horticulture Internationale, 79, Rue Wiertz, Brussels. Among the founding members we find the following well-known names:—Ernest Bergman, J. E. de Puydt, Max Kolb, Maxime Cornu, A. de Warelles, Chevalier L. Módigliani, Dr. Franz Muller, de la Devansaye, Comte de Villeneuve, Pierre Mestchersky, Baron de Bèthune, H. Grusen de Magdebourg, de Franciosi, F. de Cannaert d'Hamale, &c. Next spring it is intended to hold a grand exhibition of Orchids in connection with the society.

NOTES FROM CARNARVON.

At Treboth Park, Bangor, Vines and Peaches are splendidly grown. The Muscat of Alexandria has the largest and best finished bunches I have ever seen, and I feel sure that were Mr. Fitzpatric to enter them for exhibition he would gain many first honours at the leading shows. They are well worth going 100 miles to see. I also saw there some grand Alicantes well finished, and large bunches. The Peaches were nearly over, but still there were some fine fruits of Lord Palmerston and Late Admirable in the late house.

Bronhendra, Carnarvon, is the residence of C. A. Jones, Esq., who takes no small delight in his garden, as can be seen by the great improvements that have been carried out by him during the last twelve months. If other gentlemen around Carnarvon would follow suit horticulture would soon look up. The useful borders made on the banks above the L. & N. W. Railway have yielded good crops of Strawberries. In the plant house he has a very nice lot of Begonias flowering very freely. Hoya carnosa, Madame Thibaut Ivy-leaved Pelargonium, and an old plant of Vesuvius, which is carrying over 100 trusses of bloom, are well worth looking at. There is also a splendid plant of Asparagus plumosa nana, which took the first prize at Anglesea last week. Bronhendra has been well known for beautiful Ferns; no doubt they are the best plants to be seen around this part, and always bring home the first prize.

Glanbuna, near Carnarvon, is the seat of F. W. Foster, Esq., who has been in possession for about two years, and here, too, gardening is improving very much. Meeting Mr. Doddings, the gardener, he led me to one of the best ranges of glasshouses in North Wales, which was built by Messrs. Richardson & Co., of Darlington. Such houses as these are not seen every day in this county—they are up to the mark in every respect. The first is a vinery, in which the canes have made rapid progress; the second division is devoted to plants, flowering and fine foliaged, and the third to forcing, and the culture of stove plants. Here was a fine batch of Gardenias and other winter-flowering plants growing on. Passing on we came to a long Peach house containing a very fine crop of handsome fruits. Great credit is due to Mr. Doddings for the many improvements carried out here in so short a time.—*G. Tyler.*

ROSE CULTURE.*

In selecting a subject for an essay I think I cannot do better than give a few practical remarks on the cultivation of the queen of flowers—the Rose, which justly deserves this proud distinction. It is, I may safely say, a universal favourite, admired alike by king and peasant. What flower could we get to take its place if it were banished from our gardens?

Soil and Situation.

In Rose growing we have two very important points to consider, namely, soil and situation. The Rose succeeds best in a rich loamy soil of a rather stiff nature, free from stagnant moisture, as it will not flourish long if the ground is badly drained. If draining is required it should be done by laying pipes about 3 ft. deep. If the soil is light it may be improved by adding some very stiff loam and night soil that has lain in a heap at least six months, and has had a turning occasionally. This should be worked in when the trenching is done, keeping it well under the surface as it is injurious to the roots of newly planted trees; if night soil cannot be had cow-manure should be used. If the soil is stiff clay a dressing of stable manure and lime would improve it, and be beneficial to the health of the plants. The ground should be ready for planting by the middle of October if possible.

In choosing a situation an open spot should be selected for the beds, so that the plants will have all the benefit of light and air (very important aids to successful cultivation), sheltered from the cold cutting winds, but not overshadowed by trees. In very exposed places shrubs should be planted to break the force of the wind, but they should not be planted too near them, otherwise they will impoverish the soil.

Planting.

The best time to plant hybrid perpetuals and others of a similar nature is in October and November. If the ground is in proper condition for planting the soil should work clean, so that the roots may not be puddled in the operation. All the large roots should be cut back to about 9 ins. to produce fibrous ones. The holes should be about 6 ins. to 9 ins. deep for standards, but dwarfs require deeper planting; the union with the stock should be about 1 in. below the surface to cause the Rose to throw out its own roots. Make the holes wide enough to allow the roots to be spread out evenly, working in fine soil around them, and making the ground firm by treading it well. The distance apart for standards should be about 2 ft. 6 ins. to 3 ft., dwarfs should be from 18 ins. to 2 ft., according to the sorts. After planting, place a firm stake to those that require it, to prevent the wind blowing them about.

Pruning.

This must entirely depend on the class to which the plants belong, the growth they make, and whether you want Roses for exhibition or for general purposes; if for the former they should be cut hard back, but for general purposes to four or five eyes.

Strong-growing sorts will not require to be cut so hard as weaker ones. If we could be sure that we were not to have any spring frosts, I should say, prune your Roses in the autumn; but as we have no warranty concerning the weather, it is preferable to perform that operation in March, so that by the time they begin to make growth the season will have so far advanced that there will be no danger of injury from frost.

Propagation.

The Rose is propagated in various ways—namely, by seeds, cuttings, layers, grafting, and budding. Propagation by seeds is performed with a view of obtaining new sorts. The fruit should remain on the plants until quite ripe. Sow the seed in pans in a compost of loam, leaf-soil, and silver-sand, covering them to the depth of about ½ in. The pans should then be placed in a cold frame, putting a sheet of glass over them, and covering the same with paper until the seed germinates. As soon as the plants are large enough they should be pricked out, and watering and shading attended to. In October they should be taken up, the tap-roots shortened, and replanted in a sheltered spot, from 6 ins. to 1 ft. apart, according to size.

Cuttings strike freely in autumn and spring, and should be from 6 ins. to 1 ft. long, consisting of well-ripened wood. If struck out of doors, they should be placed on a north border, working in some sand and leaf-soil. They should be planted 6 ins. deep, treading the soil firmly and afterwards watering it. Cuttings in pots should be placed in a cold frame for about a month, and then in a little bottom-heat. When rooted pot singly into 54's, and place in a cold frame until strong enough for planting out in the beds, or potted on as required.

Rose grafting should be done from January to March. The stocks should be established in small pots, and placed in heat a week before the operation is carried out. The scions should be from 2 ins. to 3 ins. in length, and consist of well-ripened shoots. Make a diagonal cut in the stock, and the scion must be cut to match, so that the inner bark of both are in contact. Bind the two firmly together with raffia, place in bottom-heat, and keep close till the union is completed, when they should be gradually hardened off. All suckers that spring from the stock must be stopped as soon as they appear.

Layering is done by bending down a shoot of the Rose after making a cut right under and beyond a bud, the cut part being pegged down about 1 in. under-ground, inserting a piece of crock in the cut to keep it open; give water as required. In due time roots will be emitted from the severed bud, and the branch, when cut away with the newly-formed roots, will be an independent plant. Midsummer is the best time for this business, when the Rose is in full growth.

Rose budding is an art which is much easier to perform than describe, but is no doubt the best method of propagation in this case. The stock generally used is the Dog Rose for standards and half-standards. They are got from hedges in autumn. For dwarfs the seedling Briar is much used. The stocks should be planted in suitable soil, 1 ft. apart in the rows, and 3 ft. asunder. As soon as the buds begin to push in spring they should be rubbed off with the exception of two or three nearest the top. If they are strong the budding should be done in July. When the wood is in proper condition select strong buds of half-ripened wood, of the sorts you wish to propagate; these should be kept moist in damp moss. Make a slit in the bark, then loosen the sides with the handle of the knife; cut your bud, and carefully remove the wood inside. See that you do not take out the heart of the bud with the wood, and do not bruise the inner bark. Insert the bud as quickly as possible, tying it in firmly. When the buds begin to move attention must be given to loosening the ties, as required. When the shoots have made growth they should be secured to something to support them, or the wind will blow them out, and your labour will be in vain.

Dahlia, Lilian Abery. See p. 69.

Forcing.

The Rose can be had early in the year (and what is more acceptable than blooms of this charming flower in spring time?) by placing them in gentle heat. Of course, they must be previously prepared for this work, and none but well-established plants should be forced. The wood should be well ripened up by the autumn, and pruning should be done when the plants are at rest. Much time is lost if this is deferred till the buds begin to burst—not only time, but it also tends to weaken the plants, because the young wood swells, and that at the base remains dormant, as one cuts away the growth that has already been made. On the other hand, if the pruning had been done early, all the energy would have gone to produce flower shoots. As soon as the plants are placed in heat, they should be kept syringed and placed near the glass to get all the light and air possible. They should never know the want of water. When the buds are beginning to swell they should be supplied with stimulants. Soot-water or Clay's Fertiliser will be found beneficial, and may be given as required. If convenient the pots should be plunged in leaves, as this tends to keep them moist. If mildew makes its appearance, give a dusting of flowers of sulphur. Green-fly should be destroyed by fumigating with tobacco.

Select plants for forcing that are of a free-growing nature and dwarf habit, care being taken not to let any cutting wind come directly on the plants, as this is injurious to the young growth. As soon as the plants have done flowering and the weather is favourable, they should be placed out of doors, and kept syringed once or twice daily. This keeps down red-spider and other insects. Watering should be well attended to when making their growth; the pots may be plunged in ashes. About July the plants that require it should be re-potted, but care must be taken not to over-pot them. Use a compost of fibrous loam, cow-manure, and a little peat or leaf-soil and sand for Teas, but for hybrid perpetuals, and all other strong-growing sorts, the compost should be more of a stiff nature; pot firmly. Those that do not require potting should be top-dressed, taking off a portion of the old soil and replacing with new, making it quite firm.

Select List of Varieties.

The following serviceable sorts I would recommend for general purposes, namely, Teas:—Anna Olivier, flesh colour, large; Catherine Mermet, delicate flesh colour; Devoniensis, creamy white; Gloire de Dijon, buff, orange centre; Isabella Sprunt, sulphur-yellow, very free; Niphetos, white; Perle des Jardins, deep straw colour; and Souvenir d'un Ami, salmon-rose.

Celine Forestier, bright yellow; Rêve d'Or, yellow; Maréchal Niel (everybody's favourite), bright yellow; and William Allan Richardson, deep orange-yellow, are all very good Noisettes for pot culture.

Abel Carrière, velvety maroon; Alfred Colomb, carmine-red; A. K. Williams (a grand sort), crimson; Beauty of Waltham, light crimson; Boule de Neige, white; Baroness Rothschild, pink; Charles Lefebvre, velvety crimson; Captain Christy, flesh colour; Dr. Andry, red; Fisher Holmes, scarlet-red; General Jacqueminot, brilliant red; John Stuart Mill, clear red; John Hopper, rosy crimson; La France, lilac-rose; Prince Camille de Rohan, dark crimson; and Star of Waltham, bright crimson, are very select H.P.'s.

In conclusion, let me observe that whatever the would-be Rose cultivator takes in hand with regard to our favourite national flower, let it be done thoroughly, for, as Dean Hole has so well written in his delightful book on the Rose, "He who would have beautiful Roses in his garden must have beautiful Roses in his heart!" It is surprising, too, what a moral influence—if one may so term it—the culture of the Rose with other flowers has upon us. We seem, as it were, to be removed from the busy haunts and cares of this world, and feel ready, in the delightful occupation, to exclaim with one of our poets—

"Let others seek the giddy throng,
I love my garden tree;
The simpler joys which nature yields,
The Rose is dear to me."

*By Mr. T. Bones, gardener, Tower House, Chiswick, winner of first prize for an essay on some gardening subject. Prizes offered by Mrs. S. A. Lee, 4, Arlington Park Villas, Chiswick, for competition by members of the Chiswick Gardeners' Mutual Improvement Association, under the age of thirty.

GARDENING NOTES FROM IRELAND.

DUNARDAGH, CO. DUBLIN.

THIS really beautiful place, from the extent of its gardening establishment, and the high-class manner in which everything pertaining thereto is treated, possesses so many points of horticultural excellence that in these days of economising and reducing it is a real pleasure to visit anything like it. Dunardagh is the residence of George Orr Wilson, Esq., and since the time he began to reside here, he has been known as a gentlemen of very advanced taste in all things connected with horticultural matters. The place is situated a short distance from Black Rock, co. Dublin, and is comparatively speaking quite new, as the putting up of all the buildings and laying out of the grounds has been accomplished by Mr. Wilson since he took over the land, which was previously devoted to grazing purposes. In carrying out the various improvements in connection with the grounds, and in the coustruction of the various plant houses and vineries, all of which have been recently put up, Mr. Wilson has been fortunate in having the services of Mr. Hardy, a clever gardener, who, in my opinion, and judging only from what I saw under his charge, has contrived with great practical knowledge, exercised in a common-sense way, to work out some good horticultural results.

THE PLANT HOUSES.

THESE, as already stated, are all newly constructed, and are on the span-roof system, and well adapted for the various plants grown uuder them. One of these had the back portion devoted to Orchids, while the front portion contained a fine collection of Eucharis amazonica and other plants. The Eucharis plants were remarkable for their fine sturdy growth and well-coloured foliage. Another of these span-roofed houses after finishing off a crop of Melons, had fine plants of Tomatos already planted out to succeed the former. In this house too there was a pit running along the back wall containing Pines, a few with ripe fruits and others approaching that stage; there were Cayennes, Queen and Jamaica Pine plants all in fine health, the fruits on which usually attain the weight of 4 lbs. I confess I was rather surprised to find them grown in so simple a manner, and that they gave such good results. On shelves overhead in two of these houses there was a large collection of Calanthes, comprising plants of Calanthe Veitchii, C. vestita, C. igneo-oculata and C. rubro-oculata; I have not hitherto seen anywhere so large or so well-grown a collection of this Orchid. In the Peach house two fine trees covered the front, while on the back was a fine Maréchal Neil Rose, grown on its own roots and looking quite healthy. The conservatory contained some fine Palms, Tree Ferns, a very fine lot of Adiantums, &c. Cyathea medularis has attained a fine height in this house, and along the side and up the roof was a magnificent specimen of Bougainvillea glabra, planted out and growing as it likes with almost wild, unrestrained vigour, and, consequently, producing its blooms in great profusion. There was also planted out, and carried away up the roof, a large Jasmine, which was said to be a semi-double; and a Gloire de Dijon Rose, which must produce enormous quantities of flowers at a time when it is most desirable to have them.

In a large house, having a south-east aspect, there is a lot of large and small-sized Azaleas and Camellias, which, along with other plants now occupying it, will shortly have to give place to as large and as well grown a collection of Chrysanthemums as it has been my good fortune to see this year, and of which I hope to be able, at the proper time, to let your readers know more about. This house also contained a large collection of Begonias in pots, obtained from a strain of seed of Mr. Hardy's own saving. When at their best they must have been good in size of bloom, and of fine decorative value. There are two plants of Lapageria rosea in course of training along the roof of this house, which in a couple of years more will give a good account of themselves. Fern fronds, for use among cut flowers, are cut here in large quantities, and amongst others a very extensive stock of Adiantums is kept. When grown as I saw it here, A. cuneatum is the best variety for cutting purposes. In a small house were four immense plants, grown in 10-in. or 12-in. pots, being fully 3 ft. to 4 ft. through, and which, after being cut from the whole season through, appeared to possess snfficient foliage to afford a supply for the ensuing winter and spring. Coming under the heading of plant houses is an arrangement which I have not seen carried out anywhere else. This consists in throwing a glass roof over the department where the potting of plants is carried on, and as the structure is heated, it is used for forcing Mushrooms, and I daresay other things, such as Asparagus, Sea Kale, and Rhubarb. On a shelf at some distance from the glass were standing some pots with Tomatos growing in them, and as they were being taken along the roof, and in fruit just now, they will no doubt continue to give a supply during the winter. All across the house shelves were stretched, on which plants were put after being potted until it is convenient to remove them to their places in the houses. It is worthy of remark that all the stove or forcing structures have pipes run through the pits, in addition to those used for the ordinary heating.

THE VINERIES.

THESE were all well stocked with fruit, except the early house, which had been nearly cleared. The sorts grown are Black Hamburgh, Black Alicante, Foster's Seedling, Muscat of Alexandria, and Alnwick Seedling. This latter Grape is not mnch cultivated in Ireland. Under Mr. Hardy's treatment it attains a remarkably dark colour, and carries a finer bloom than is usually seen on other black Grapes. It is somewhat small in berry and bunch, but said to be of extra fine flavour. Like most of our fine-flavoured Grapes, it appears to be rather a shy setter, although from the abundant crop of it now ripening, that seems to be a defect that Mr. Hardy has overcome.

THE GARDEN.

THIS lies in a small enclosed space in frout of the plant houses, and is chiefly given up to fruit-growing only. On the walls there are a lot of cordons doing well, and in the open there is a heavy crop of Pears and Apples. Owing to the thin and light nature of the soil, it has been found to be a difficult matter to have Strawberries, so that it has been decided to try what can be done by keeping the plauts for two years only. Great quantities are grown in pots, and there are at the present time 600 in course of preparation for forcing. The kinds grown are President, Vicomtesse Héricart de Thury, and British Queen; and with these Mr. Hardy has been making experiments in the way of crossing, and from which he has obtained a nice batch of seedlings. Standing out here were large plants of Eupatorium Weinmanianum, just forming their flower heads, also very large plants of Hydrangea Thomas Hogg. This is the best of all the white-flowering Hydrangeas, and is much used here for indoor decoration. As might be expected where so much use is made of small plants in pots and cut flowers, Bouvardias are not forgotten; they are grown largely, and I found a fiue lot planted out in a eold pit and just ready for potting off. In these pits there was also a good lot of Chinese Primulas, and those, I learned, were grown from seeds saved from plants selected for the purpose by Mr. Hardy. This is done each year, so that by careful selection it is nearly possible to get such varieties as is desired.

THE PLEASURE GROUNDS.

THESE are well arranged and kept with great care and neatness. Above an admirably laid out tennis lawn runs a terrace from which a good view is had of the beautifully planted grounds, which lie between the residence and a group of high-lying natural rocks. From the base to the summit of these there are some splendid specimens of Conifers, interspersed here and there with Oaks and other deciduous trees. On the low grouud and slopes there are several trees of Cedrus Libani, C. deodara, Picea pinsapo, P. nobilis; and, growing high up in the cleft of the rock, there was a fine healthy plant of a Conifer that, so far as I know, is to be very rarely met with. This is Picea magnifica. Cupressus macrocarpa appears to sustain no injury from frost in this place, as a few fine-grown trees are to be met with. This is no doubt due to its proximity to the sea, as farther inland I have known them to suffer much, and even to be killed outright in very severe winters. In various places along the face and top of the rocks, where holding soil could be had, there were numerous plants of Rhododendron ponticum planted, as well as Cotoneaster aud other plants.

THE WALKS.

As tending to neatness, and a great saving of labour, it is worth while noticing the terrace walks, and another long walk which runs to the length of a mile around the boundary of the place. These walks are laid down in asphalte, which was made on the spot, and composed of a mixture of boiled gas-tar and clean coarse gravel. The whole work was conducted under Mr. Hardy's superintendence, and was done by the hands usnally employed. Contrasting the appearance of these walks with the nsual gravel paths, there cannot remain any doubt as to which the preference shonld be given; but when we come to top up the yearly expense of keeping gravel walks, through shrnbberies or otherwise, in anything like order, it will then be seen what an advantage asphalte walks have over gravel. The first cost of laying down asphalte is nndonbtedly large, but the cost of keeping it in order is nothing, whereas it may be fairly calculated that the cost for keeping gravel walks clean for three years would swallow up all the first cost for asphalte.

THE VEGETABLES.

THE ground set apart for these is well arranged, and fully stocked with the usual class of vegetables, but there is that abont it which it may be no harm to draw attention to. This ground is a good distance from the house and its snrroundings, and although the vegetable plots were cleanly and well kept, so far as they can be, I could not help asking myself, what would the fruit ground, so neat in appearance, look like if a vegetable ground were attached to it? There cannot be a doubt that for various reasons, which need not be gone into here, it is very desirable to keep vegetable grounds disconnected with, and as far away as possible from either dwelling-house, fruit, or plant departments. I wish to express to Mr. Hardy, the kind and courteous gardener, my thanks for the trouble he took in making me acquainted with the different matters which I have noted.—*W. D.*

CHRYSANTHEMUM NOTES.

FROM THE FAVERSHAM DISTRICT.

It is not two years since a few enthnsiastic gardeners and amateurs in this district decided upon forming a Chrysanthemum society, the first exhibition of which, held last November, was a very creditable one of "Mums," fruit, and vegetables. Encouraged by the success of their first venture, which left a substantial balance in haud, the society has this year issned a liberal schedule with additional classes, they have also become affiliated with the National Chrysanthemnm Society, and amongst the prizes offered is a Silver Challenge Cup, and money prizes for a gronp of Chrysanthemums. The exhibition for 1888 is announced to take place on Wednesday and Thnrsday, the 14th and 15th November next, in the Lecture Hall, a much larger room than that in which the first exhibition was held. Such euergy has been thrown into the working of the society, that when I paid a long promised visit to the district a few days ago I found the "Mum fever" in full blast amongst the gardeners, amateurs, and cottagers. Through the courtesy of Mr. C. Stidolph, of East Street, Faversham, the hon. secretary, Mr. Lewis Jackson, the treasurer, and Mr. Hart, nurseryman, I had an opportunity of visiting a few of the growers who intend exhibiting at their forthcoming show, and was struck with the quality of the plants belonging to the amateurs. In every instance they showed unmistakable signs of careful attention to the rules laid down by our leading growers. The foliage looked exceedingly healthy, and the wood much riper than most of the plants I have seen near Londou; one amateur has spared neither pains nor expense with his plants, and if robust foliage, starting from the pot to the crown of the plants, together with ripe wood, are any indication of good flowers being produced, these should be a promising group. Most of his buds had been taken, but it required a ladder to get up to some of them. Top-dressing is a great feature; one lot I noticed had their roots packed over with sheep wool, and on closer iuvestigation I found that not only was the wool used to warm their roots, but the grower, like many more, considers that a "Mum," although it canuot use a knife and fork, is not a vegetarian. Another amateur I noticed had some exceedingly well-grown plants of the Rundle family. Gloriosum and Comte de Germiny were in good form, and in most collections I found very promising plants of that charming Pompon, Mdlle. Elise Dordan. The cottagers have some well-grown plants, but not so many as the amateurs, and in several cases they are in smaller pots than the plants like. Lovers of the Chrysanthemum should not try to get exhibition blooms out of 32-size pots.

At Mr. Hart's nursery I noticed a number of the new certificated varieties, each showing evident signs of skilful treatment. He has some very strong plants of Mr. H. Cannell, Lady Lawrence, Edouard Audiguier, Mrs. J. Wright, &c., &c. Taking this collection

through, it appears to be a very useful lot, not only for furnishing cut blooms, but more particularly for grouping, ranging in height from about 7 ft. down to good sturdy front-row plants about 2 ft. high.

One morning I paid a visit to Davington Priory, the residence of Mrs. Bramah. On entering I noticed on the post of the gate the date 1153, and the pretty old-fashioned mansion and buildings I found within would charm the antiquarian, but I am not one. I had gone to visit the "Mums," and thanks to the courtesy of the gardener, Mr. George Akhurst, I had an opportunity of inspecting a very fine collection, grown more particularly for grouping purposes. Mr. Akhurst is not a believer in new varieties until they have been well tried, but prefers to grow plants he can rely upon. I found, however, just a sprinkling of tolerably recent introductions, that have gained good reputations, such as Edouard Audiguier, &c. The grounds cover about seven acres, the lawns and gardens occupying four acres. Zonal and double-flowered Ivy-leaved Pelargoniums are well done here, and conspicuous among the latter I noticed Souvenir de Charles Turner in good condition. I also saw a grand collection of Pæony Victoria and Emperor Asters, some of the blooms of which would give the Chrysanthemum grower some good practice with the ivory tongs. A border of Salpiglossis in front of a bank of shrubs was exceedingly attractive. Both double and single Begonias are well done here, and a border of herbaceous Phloxes was a blaze of colour.

At Preston House, the residence of R. T. Hilton, Esq., I saw a fine collection of "Mums," about 400, each showing the care and attention bestowed upon them by the gardener, Mr. James Taylor, who has the good fortune to have a large space to devote to his plants, enabling him to spread them out, giving them one of the most essential things in "Mum" growing, viz., plenty of light and air. An additional advantage is derived from a belt of fine old trees some distance away, which protect them from the north and east winds. Roses, Dahlias, and Asters are grown in abundance here, and one of the most attractive sights is a mixed border about 50 yards long, in which I noticed clumps of free-blooming plants of the cut-and-come-again class, amongst them being some fine plants of Gypsophila paniculata. Mr. Taylor has four houses of Ferns, stove plants, &c., but the most attractive was a house which will shortly be used for Chrysanthemums. It is a large lean-to, and contains now a handsome collection of zonal Pelargoniums, &c. Along the roof are trained plants of Lapageria alba and rosea, with hundreds of delicate wax-like blooms hanging from them.—*A Grower.*

Early-flowering Varieties.

Being, like your correspondent, Mr. Francis Mead, desirous of extending the flowering season of the Chrysanthemum over as long a period as possible, perhaps a little of my experience may be useful to him. My demand for cut flowers being very great, I am glad of well-grown clean Chrysanthemums as early and as late as possible (and I might here say that last year I cut them from June, 1887, to April, 1888), as some of your readers can testify.

In June I manage to get into flower ready for cutting St. Mary, Mdme. Piccol, Fredk. Pélé, and Jardin des Plantes, and cannot agree with your correspondent that these are not worth pot culture, for if partially disbudded and fed the result pays well. These continue through July, with a few of the others turning in at intervals; but for August I can depend upon Anastasio, Chromatella, La Petite Marie, Précocité, Blushing Bride, Golden Fleece, Little Bob, and St. Crouts.

Of larger-flowering varieties, which your correspondent wishes for September, I would recommend:—

Alice Butcher	Mrs. Burrell
G. Wermig	Mrs. Cullingford
La Vierge	Mrs. Hawkins
Lyon	Mrs. J. R. Pitcher
Mdme. C. Desgrange	Jeanne Couchant
Mdme. Jolivart	Précocité Japonais
Mdlle. Leoni Lassali	Samuel Henshaw
Mr. W. Piercy	Simon Délaux.

After the above, from the first to the third week in October, we have:—

Alexander Dufour	Henry Drake
Isidore Féral	Feu de Bengale
M. E. Pynaert—Van Geert	L'Africaine
Mons. W. Holmes	Souvenir de Madame Blandinières
Été Fleuri	Roi des Précoces
President	Mons. Chrétien.
Bouquet Œstival	

These make a good succession of summer-flowering varieties until the main batch commences to turn in.—*J. H. Witty, Highgate.*

Early-flowering Varieties.

Would you kindly give me the name of the earliest good white Chrysanthemum that is better than Madame Domage? I have had yellow and pink varieties in bloom in the garden since the end of August, but Madame Desgrange and Mrs. Cullingford are not yet out. If there is a good white earlier for the border I should be glad to know its name—*L. H., Hammersmith, W.* [Nanum, a large Pompon, is the earliest white, and would come in well with the yellow and pink flowers you mention. Mrs. J. R. Pitcher, Japanese, blush in the open, but white under cover; and Mdlle. Leoni Lassali, ivory-white, both flower at the latter end of July.—Ed.]

A Warning to Growers.

I sympathise with the subscriber from co. Cork, who, in wishing to beat the record with his Chrysanthemums this year, has so woefully handicapped himself by the incautious and too plentiful use of nitrate of soda—a stimulant that requires using sparingly, or the ill effects are soon apparent. I have seen it used with marked success to vegetable crops this season. The desire to "fake them up" often leads to disappointment with Chrysanthemum growers. I remember, when a journeyman, being told by the foreman, who had great faith in sheep manure, "to give it to them regular black." Of course I obeyed the order, but I plainly saw that it was overdone. What is the opinion of cultivators regarding the wet, dull summer of 1888, and respecting the *pros* and *cons* of Chrysanthemum growing? The glorious weather we are now having will ripen up the growth and check mildew, which is this season very prevalent amongst Marrows and out-door Cucumbers, and has attacked the Chrysanthemums. I would beg to ask your correspondent, Mr. Molyneux, whether he considers the foliage of Burnaby distinct from Japonais, of which he had some doubts when I sent him a bloom of the former last season.—*George Potts, Jun., Northiam, Sussex.*

Notes from Scotland.

A Holiday Trip to Scotland.—On August 17th a small party, of which I was one, left London at 7.15 p.m. on a visit to the "Land o' Cakes." Not until we were nearing the border line could much be seen of the country we passed through, from our overcrowded compartment; but soon after leaving Carlisle the great orb—of which we have seen so little this summer—began to chase away the darkness, and the first object that attracted notice, after crossing the Eden, was Netherby Hall, nestling amongst the trees.

Passing through Hawick, one of the border burghs, about seven o'clock, its beautiful slopes and valleys covered with mansions and villas, with the neatly kept gardens gay with the many tints of colour in the flower beds and borders, all glittering in the morning sunshine, did not fail to delight our eyes; the panoramic view was beautiful. Shortly afterwards we made our first break on the journey at St. Boswells, a place famed for its sheep and cattle sales; and on the morning in question, within the two marts adjoining the station, something like 30,000 lambs could be seen, which during the day were to pass under the hammer of the auctioneer, but as horticulture was our pursuit we made our way to the beautiful country residence of Sir William Ramsay Fairfax, at

Maxton House.

Although gardening under glass is not carried out here to any extent, the other departments are well managed by Mr. Laing, who for over thirty years has been the trusted gardener and manager of the estate. He is now ably seconded by his son, Mr. G. Laing, who has the principal charge of the garden department, thereby enabling his father to take a little well-earned leisure. It is the natural surroundings of the place that will be found of most interest to the visitor, and they would repay a long journey to see. The mansion stands but a few hundred feet from the public highway, from which it is reached by a broad drive, with two sweeping curves. In the centre of the gravelled front stands a most perfect specimen of the weeping Ash, forming underneath a cool retreat for a hot day. At the other end is an archway, formed of Mountain Ash, the most perfect of the kind I have seen, the walk which it spans leading the visitor into a lovely and picturesque glen, the slopes of which are covered with a variety of trees. Amongst them are some stately giants of Spruce and Beech, forming such a canopy that only an occasional glimpse of the sky can be seen; and the stillness only being broken by the slight ripple of the small stream which passes through it, makes one feel as if he were hundreds of miles from the busy world. On regaining the public road, we pass along it for two or three hundred yards and reach

Greycrook,

The property of another member of the family, but at present tenanted by J. Cockburn, Esq., a young Orchid enthusiast, who, although his accommodation is very limited at the present time, has brought together a number of real gems. Mr. Cockburn has begun in a way that is worthy of imitation by others who purpose to commence Orchid cultivation—that is to say, he is buying only proved varieties. They cost a little more at first sight, but are the cheapest in the end. The largest and most robust specimen of Cœlogyne barbata I have seen was quite at home at the cool end of a small stove, having many flower spikes pushing up. Amongst plants in flower and bud were Odontoglossum grande, O. crispum, O. Pescatorei, and a fine specimen of Vanda cœrulea, with a strong spike, which would soon be open. The Cypripediums are in good health, C. insigne Maulei having already begun to expand its flowers, with C. Spicerianum following on. The conservatory was quite ablaze with a mixed collection of the usual occupants of that department, Begonias predominating. Grapes were a heavy crop and well finished. The whole place showed much painstaking care on the part of Mr. Bryson, the head gardener. Our next move was to

Ravenswood,

The residence of Admiral Fairfax, situated on the banks of the Tweed and about two miles from Melrose. The house stands on an eminence commanding a magnificent view of the windings of the river Tweed and its wooded slopes. The plant houses and flower garden are on a lower platform as it were, and as the visitor descends the winding path which leads from the drive to the flower garden, a most beautiful and pleasing view is obtained of the varied hues and colours of the bedding plants, arranged with much taste in beds of various sizes and designs on a faultlessly-kept lawn. Here the superiority of the Begonia over the Pelargonium as a bedding plant was fully demonstrated, as seen side by side. Notwithstanding the excessive quantity of rain we have had this season, the Begonias were one mass of bloom, from the deepest scarlet to the purest white. Well might Mr. Yea, the able and courteous gardener, point with an air of satisfaction and pride to the gorgeous beds before us, and remark, "The bedding plant of the future," adding, "but they must have the proper treatment to bring satisfactory results." As time was limited, I did not inquire into his method of working them up to such a degree of perfection, but perhaps Mr. Yea would favour your readers with a few hints as to his treatment through the medium of your valuable paper. Mr. Yea is not only a successful cultivator of the Begonia as a bedding plant, but also for conservatory work; he is busily engaged in hybridising, and has been singularly fortunate, obtaining some grand results. One is specially worthy of notice. It is a double yellow, superb in form, and specially suited for basket work. It is not more than 8 ins. to 10 ins. in height, and crowded with flowers drooping all round the basket, and as viewed from below, had a very pleasing effect. But this is only one among many of great merit. Of named sorts there is a large collection; amongst scarlets, Peter Lumsden stood well to the front in point of quality. Mrs. Arnold would be hard to beat in the light section.

Orchids are also largely grown and exceedingly well done. Some species and varieties that get the character of being difficult to grow and flower are here growing and flowering like "weeds"; and two, which I specially noted, were Cattleya crispa and Dendrobium Dalhousianum. The former was simply marvellous; I have so seldom seen it, or been able to flower it satisfactorily, that I had almost come to look upon it as a "weed," but the plants under Mr. Yea's care, with seven or eight flowers on each spike, have caused me to change my opinion of it. Of several plants examined, not one lead had failed to sheathe. The Dendrobium was a picture of health, each year's growth out-growing the previous ones, and I was informed that it flowers as freely as it grows. Many other examples of high cultivation could be mentioned, but amongst those in flower I may name Cattleya Leopoldii (extra fine), C. superba splendens, C. Harrisonianum, C. bicolor, Epidendrum vitellinum majus, Odontoglossum crispum, O. Uro-Skinneri, Oncidium papilio, O. Kramerii, O. dasytyle, O. crispum (very fine), and many others, all of which bear ample testimony to Mr. Yea's abilities as a cultivator.—*R. C. Fraser.*

(*To be continued.*)

FLORICULTURE.

The Florists' Laced Pinks.

By J. G. Paul.

I read with very much pleasure Mr. Barlow's and Mr. Thurstan's interesting remarks on the florists' laced Pinks, in your issues of August 11th and September 1st, and trust they may be the means of causing many of your readers to commence the cultivation of this hardy, easily grown, and beautiful flower.

The Pink is very highly appreciated and largely grown in Scotland, and would be more so if there were more July exhibitions. The cultivation of this flower received considerable impetus on the formation of the Glasgow and West of Scotland Rose, Pink, and Pansy Society in 1880, prizes being offered in classes open to nurserymen, gardeners, and amateurs. During the eight annual exhibitions of this society the entries increased year by year; the 1887 show being particularly noticeable for the number and excellence of exhibits. It may be interesting to mention here that "Wm. Paul" and "Boiard" carried off the prize for the best Pink in the hall at most of these shows. Pinks have also been well shown for years at July shows in Paisley (three societies) Hawick, Helensburgh and Penicuik (Midlothian). For many years my father (the late Wm. Paul, Paisley), and subsequently myself, exhibited (not for competition) large collections of Pinks at the annual July exhibition of the Royal Caledonian Horticultural Society in Edinburgh, where the flowers were considered a feature of the show, the society's large silver medal, or special awards being granted on each occasion.

Edinburgh holds the most important July show in Scotland, and it is a pity the directors do not give the encouragement the Pink deserves in their prize list. Mr. John Downie, who is one of the directors and an enthusiastic lover of the Pink, it is hoped may bring his influence to bear on this matter in the future. The obliging secretary of the society, Mr. Wm. Young, has been devoted to the Pink for probably over thirty years, and should have some voice in the matter. Prizes might be offered in the open gardeners' and amateurs' classes, and I am sure the society would have no lack of competitors, as well as adding more lustre to their otherwise magnificent exhibition. What a grand thing it would be if Pink growers from the various districts could be gathered together at this centre, to exchange friendly greetings, compare notes, and see the new introductions of their favourite flower! Certificates would also be granted to the seedling flowers of merit, and emanating from such a society, would give the flowers an undeniable reputation.

Your readers must understand that great strides have been made in Scotland in the improvement of this flower during the last twelve years. In 1877 my late father had a batch of 1,600 seedlings, among them being flowers which completely revolutionised the Pinks of that day, and which were seen growing and much admired by the late Mr. John Keynes and the late Mr. Charles Turner when on their journey a year or two afterwards. From these seedlings came such fine flowers as William Paul, Vanessa, Egeria, Modesty, and many others which I am afraid are now lost, unless in the possession of those at a distance who received them when sent into commerce.

The petals of the present day flowers are large, pure white, smooth, and of great substance, with very refined lacings of different shades of red, rose, purple and magenta, with smooth edges (a serrated edge would not be tolerated), and having from twenty to fifty petals, forming well-built flowers of from 2 ins. to 3¼ ins. in diameter.

The Glasgow and West of Scotland Society referred to did not hold a show this year, no doubt owing to the counter attractions of the Horticultural Society's one, held in connection with the Glasgow Exhibition on July 11th and 12th, at which prizes were offered for Pinks in two classes; but owing to the backward season no blooms were staged. The season has been practically a lost one—at all events, as regards showing, a few stands of twelve being staged at Helensburgh, and one or two at Paisley.

Pinks with us were not in general good flower until the beginning of August, and they also appear to have been late in the south, for well on in July I had some blooms from a friend in Taunton, and on August 2nd some from Orpington, Kent.

When judging at the Royal Horticultural Society's Grand Floral Fête, at Aberdeen, on August 23rd, I had a treat which I did not expect at so late a season, in the exhibit of two stands of Pink blooms, staged by my friend Mr. Cocker, which for size, form, and rich colouring were truly grand. For the benefit of your readers, I give a list of what I consider the best thirty varieties in commerce, with the colours of the lacing, and I may state, in conclusion, that I consider Boiard the best all-round Pink in cultivation:—

Annette, rose	James Douglas, red
Attraction, red	Mamie Walker, rosy red
Allan Kerr, rosy red	Mary Auberton, red
Angus Paul, heavy red-purple	Modesty, rosy purple
Bertram, heavy red	Mrs. Fred Hooper, bright rose
Boiard, very dark	Mrs. J. Cronk, rosy purple
David Saunders, dark rosy purple	Ne Plus Ultra, dark red
Device, dark purple	Noble Grand, dark purple
Dr. Masters, bright red	Pirate, dark red
Dr. McLean, rosy purple	Robert Stafford, very dark red
Egeria, dark red	Tom McCrorie, bright rosy red
Emerald, red	Tottie, purple
Empress of India, dark red	Undine, rose
Fairest of the Fair, pale lilac	Vanessa, dark red
Harry Hooper, dark red	Wm. Paul, clear rose.

—*Barngill Nursery, Bridge of Weir, N.B. (late of Paisley).*

Carnations from Chesterfield.

A few days since Mr. R. W. Proctor, of Chesterfield, a well-known Derbyshire florist, sent me a box of blooms of Carnations, cut from the open border, and though Mr. Proctor does not state so I presume they are in the main seedlings raised by himself. Four of them appear to me to be very distinct. and well worthy of cultivation—viz., Miss Proctor, pale bright golden buff, with carmine flakes, and edged with the same—a very pleasing and distinct flower; Beethoven, yellow, with wire edge of rosy crimson – a true yellow-ground Picotee, which while thoroughly good in itself, is likely to make a very useful parent, and give us what is badly wanted—a race of true yellow-ground Picotees. I know that our good friend, Mr. Dodwell, is endeavouring to obtain a race of yellow-ground flaked Carnations, and everyone interested in the development of the class wishes him all the success he can desire, but I sincerely hope the yellow-ground Picotee will not be overlooked, and as Mr. Proctor has a good parent I hope he will make all the use of it possible as a progenitor. The other two are John Huss, yellow flaked and suffused with delicate pink, and Emilie Galothée, in the same way, but with a little white on the petal edges, both very distinct, charming in the extreme, and likely to be great favourites with the ladies.

Mr. Proctor has a good batch of seedling yellow-ground Carnations, several of which are named, also a good lot of fancies, all of which will prove useful for cutting from.—*R. D.*

Revival of Tulip Cultivation.

In view of the imminent revival of the Florists' Tulip Messrs. Stuart & Mein have just completed the purchase of the famous collection of Mr. David Barber, Stanton-le-Dale. The collection contains several thousand bulbs of the best varieties in existence, many of them never having been offered for sale to the public. Mr. Barber, who has several times won the Champion Cup and other prizes open to all England, is one of the last of his generation of enthusiastic Tulip growers. He is upwards of seventy-three years of age, and for a period of upwards of forty-three years he has gathered together and grown his favourites. It is satisfactory to record that this famous collection has come to Scotland, and we are sure that nothing will be left unaccomplished that skill and enterprise can do to make the collection equally famous in this country.—*Kelso Chronicle.*

New Dahlias Certificated.

Dahlia growers had a grand field day in Westminster on Tuesday, when a considerable number of new sorts were submitted for the judgment of the Floral Committee. The show and fancy varieties certificated were Agnes, a rich canary-yellow self; Hugo, a large globular, rich crimson flower; Maud Fellowes, white ground, petals tipped with purple, very fine; and Admiration, deep crimson, tipped with white, from Mr. C. Turner. John Cooper, a fine large, flat, fancy variety of a pale buff ground colour, and the petals spotted and flaked with rose and purple; extra good, from Mr. Humphreys, Kington Langley, Chippenham; and Matthew Campbell, fancy, orange-yellow ground, striped and flaked with crimson, very pretty, from Messrs. Keynes, Williams & Co. The pretty Pompon section was also well represented, and the following were selected for awards:—Juliette, lemon-yellow ground, tipped with crimson; Vivid, crimson-scarlet; and Lothair, orange-yellow, tipped with crimson, from Mr. Turner. Whisker, yellow, faintly tipped with buff; Eurydice, pink ground, tipped with rosy purple; Little Ethel, pure white; and Little Darkie, dark maroon, and exceedingly neat, from Messrs. Keynes, Williams & Co. In the Cactus section, Panthea, salmon-red, and Honoria, clear yellow, from Messrs. Keynes, Williams & Co., also gained the Certificate, while the only single variety which gained distinction was Lady Montefiore, clean canary-yellow centre, and the petals tipped with rose, from Messrs. Cheal & Sons.

DECORATIVE AND CACTUS DAHLIAS.

The show and fancy Dahlias have for a long series of years been held in high esteem by the public at large and florists in particular, many of whom have devoted their best energies to its cultivation and improvement, and whenever the results of their labours have been displayed upon the exhibition tables, they draw forth the most unqualified admiration from the crowds who press around the prize-winning stands. The richness and variety of colour of these flowers at the great autumn shows is not surpassed by any other subjects similarly brought together. One drawback, however, with regard to these displays has been the want of variety in form, resulting from the florists setting up an ideal standard and adhering too rigidly to it. By so doing, they have deprived the public at large of many variations from their ideal, which would have pleased the eye and given an impetus to Dahlia culture, which the introduction of the single and so-called Cactus varieties a few years since has done.

Complaints are sometimes heard respecting Juarezii, that it is late and shy flowering, and under ordinary treatment it is so; but by a little extra care in getting strong and well-established plants this difficulty can be got over, and a good display of flowers secured. We have noticed that it is one of the last to succumb to frost, and can assign no reason for this, unless it be that there is some constitutional peculiarity about it. The introduction of this sterling novelty has given rise to the formation of a class called after it, Cactus Dahlias, some of them being the counterparts of it as respects form, and others having a greater or less resemblance to it; these, by the singularity of their flowers are of immense service for the decoration of the mixed borders of the flower garden in the autumn, and harmonise better with the other occupants of the flower beds than their more formal rivals.

Some of the recent introductions are more floriferous than the original Juarezii, and as we are gradually getting in them all the shades of colour so long known to the show and fancy varieties, the inferior ones being weeded out, there will soon be sufficient variety to call for competing stands of these at the flower shows. The following list is partly made up from flowers kindly given me by Messrs. H. Cannell & Sons, of Swanley, and I have endeavoured to frame it so that anyone starting a collection can, by taking the first six or twelve, secure a good variety:—

Charming Bride.—White ground, with rose-tipped petals, and very free flowering; a gem. See p. 69.

Constance.—White, well known and popular.

Yellow Juarezii.—Canary-yellow; rightly named.

Prince of Wales.—Rich orange-red; a splendid flower.

Lady Kerrison.—Amber-yellow, with a distinct lacing of bright red; a very pretty variety.

Lilian Abery.—Petals white, broadly margined with red, semi-double; wonderfully pretty. See p. 65.

Annie Harvey.—Crimson-maroon, a highly-coloured variety.

Juarezii.—Red; well known.

Lady M. Marsham.—Reddish salmon; a large, bold flower, and distinct.

Mr. A. W. Tait.—White, petals partly fringed; novel.

W. T. Abery.—Similar to L. Abery, yellow margin.

Sir Trevor Lawrence.—Claret, shaded purple; beautiful.

Lady E. Dyke.—Yellow, very double, distinct, and free.

Black Knight.—Almost black, free flowering.

Empress of India.—Large, crimson, shaded maroon and magenta.

Lady H. Campbell.—Plum, shaded claret; unique.

Our Leader.—Semi-double, rich scarlet-crimson; attractive.

Prince Albert Victor.—Long narrow petals, reddish crimson.

Mrs. Hawkins.—Rich sulphur-yellow, shading off towards the tips to a lighter colour, very free and good.—*W. B. G.*

FRUIT CULTURE FOR PROFIT.*

Our meeting to-day is, I hope, the first of a series of meetings on the very important subject of fruit culture in England for profit. Within the last few years a very great advance has been made in this direction by the force of circumstances, and not by the speeches of any one man, however eminent. When Wheat was worth from 40*s.* to 60*s.* per quarter there was no need to apply the resources of the land to any other purpose, as the price of Wheat governed the price of produce, and was amply sufficient to support the different interests depending on the land. We have now, however, to face an altered condition of affairs. The land is with us, and is as productive as ever; but the consumer no longer pays the price required by the English producer; and although it is absurd to suppose that Corn is not still the ruling crop, yet all cultivators are forced by circumstances to consider whether they cannot be assisted by other crops. One of these helps or aids is undoubtedly the cultivation of fruit, which is of daily consumption, and is, or ought to be, on the table of every individual in the United Kingdom. We have, therefore, to deal with a very large subject—nothing less than a national industry, and an increasing one, the development of which enters into conflict with no British interest, treads on no man's toes, is strictly non-political, will suffer no decay but improve as the years roll on, and in which succeeding generations are quite as much interested as we are, and is a pursuit from first to last which never wearies. A man between seventy and eighty can make the superintendence of orchards both his pleasure and employment.

We have not, I think, in England held enough meetings of this kind; they are frequent enough in the United States, where fruit is an important factor in national life, and takes rank with the most advanced agriculture. In Belgium, a country which profits largely from the exportation of fruit, pomological congresses are constantly held. I have attended several, my first introduction to Belgian pomologists being at Namur in 1862, when the hospitality of the town was profuse and splendid. There can be little doubt that these meetings are of great public utility, and now that we are entering the lists and preparing to meet an enormous and increasing domestic want, it does not become a great and wealthy country like England to be anywhere but first in the race. Our climate is good, our soil so varied that we can find land for all ordinary crops. Although we are subject to cold and late springs yet we do not suffer from the extreme of heat and cold to which great continents are subject, storms which destroy the fruit, and cold which will destroy the trees. Neither is it so equable that fruit trees are exhausted by continual bearing, a condition under which eight to ten years would be the term of the natural life of the tree, conditions which would no doubt be satisfactory to the fruit tree grower, but with the inevitable result of the supply overtaking the demand, and of the usual disastrous consequence. Of this, however, we need have no fear. We must, in order to secure early profits from a garden orchard such as I propose, plant on a different principle to that of our forefathers, who have bequeathed the hoary and lichen-covered trees dear to the artist and fruit-loving boys and girls. These picturesque old trees are as much things of the past as our wooden three-deckers, and instead of the acre of grass land with the customary 108 trees often broken down by stock, and producing more wood than fruit, the modern fruit orchard must be condensed into a compact compass, give more fruit in one rood of land than in two or three acres of the old-fashioned style.

Quality of Soil for Orchards.

The most important part of the preparation of an orchard is, of course, the quality of the soil, and the intending planter should not hesitate to spend a few shillings in obtaining an analysis. I attribute a great part of my success in fruit growing to the nature and qualities of the soil. An analysis made by Dr. Voelcker for Mr. Prout, of Sawbridgeworth, gives the following constituents of the land on his farm, mine being the same formation and closely identical. The quantities are contained in depth of 6 ins. per acre:—

Phosphoric acid	2½ tons	Sulphuric acid ...	2½ tons
Potash	5½ tons	Nitric acid ...	22 lbs.
Lime	37 tons	Nitrogen ...	1 ton.
Magnesia ...	4½ tons		

I shall show presently by an analysis of fruit that the inherent qualities of this soil are vastly favourable for certain classes of fruits, and if the depth instead of 6 ins. is extended to 20 ins., to which the roots of fruit trees will reach in searching for food, the aliment afforded is of inexhaustible amount. With our present knowledge of artificial manures all deficiencies in other soils may, however, be easily supplied; but I hope you will agree with me that an analysis of the soil is indispensable, and that it is necessary not to judge only by appearance, but to gain an intimate knowledge of the soil constituents. A deep rich loam is sometimes misleading, and trees, though apparently vigorous at first, being deprived of their requisite food will become cankered and stag-headed. The cultivator must make it his business to cure this defect, which an elementary knowledge of chemistry and of the application of chemical manures will enable him to do. The position of the orchard is another important point. It is, I think, well known that frosts are more severe in low-lying lands near rivers, and fruit trees should consequently be planted above the line indicated by the rising mists.

The preparation of the soil is the next point, and I will assume that a man with 100 acres of land can afford to devote one rood for the cultivation of an orchard; this must be fenced with wire netting high enough to keep out hares and rabbits during snow, as one night's visitation of these animals would suffice to destroy the growth of years, and to ruin the plantation. In my own case I have sunk a barbed wire to prevent burrowing. Wire netting is so cheap that this expense is not great, and with proper care it will last for years. At all events, it must be incurred, for although rabbits may be utterly destroyed, hares will travel for miles in search of food. In Belgium in the fruit-growing districts they are altogether absent, but it is not likely that this will ever be the case in England. The land, if at all infested with twitch, should have a summer's fallow to eradicate this pest, as it cannot be easily destroyed when the trees are planted. It will grow amongst the roots, and is then most difficult to deal with. As early in September or October as practicable, the rood of land, having been previously dressed with some twelve or fifteen tons of good farmyard manure, should be trenched to the depth of 24 ins., the top soil being kept at the top, and the bottom broken up and turned over. I am convinced that this costs about 1*s.* 6*d.* per square rod, or about £3 for the rood, according to the tenacity of the soil, and is absolutely necessary, as I have found from experience that my plantations, made in a soil which has been frequently trench-dug, bear more abundantly, and give finer fruit, and are more healthy than those which I have planted in holes only without moving the surrounding soil.

The rood of land trenched and fenced will be ready for the reception of the trees in November, the soil being pulverised and settled. Considerable expense having been incurred, I propose to show that the planter will be able to recoup himself by the number of trees he can plant, and the consequent produce. The rood of land will accommodate about 400 trees—that is, 200 trees planted 9 ft. apart row from row, and 6 ft. apart in the rows of Plums, Apples, and Pears, and 200 bushes of Currants and Gooseberries between at 6 ft. apart in the rows. The rood, therefore, will contain as many

Cactus Dahlia, Charming Bride.

* A paper read by Mr. T. Francis Rivers, Sawbridgeworth, at the Crystal Palace Fruit Conference on September 7th.

Apples and Plums as two acres of the ordinary farm orchard, and enough bush fruits to pay all rent and expenses, and will be protected from all injury from stock and game, for without such protection it is useless to plant.

SORTS OF TREES TO GROW—THE PLUM.

In my own district the plum is the most valuable fruit I have, and it is not difficult to explain the reason of this superiority. The Plum, according to an analysis drawn out by Mr. Edmund Tonks, of Birmingham, contains:—

59·21 potash	15·10 phosphorus
10·00 lime	3·83 sulphur
5·46 magnesia	2·36 silicon.
3·20 iron	

All of which constituents are largely present in my soil. It is one of the most valuable fruits of our domestic economy, it makes a delicious and nutritious preserve, and during the months of July, August, September, October, and even in November, it may be present daily on the dinner table either cooked or uncooked. I believe that certain classes of the Germans almost exist on the fruit, such are its nourishing qualities. The sort which I plant the most extensively is the Early Rivers or Early Prolific; this was raised by my father some fifty years since, and in the most disastrous seasons I have never known it completely to fail. I believe this immunity to be owing to the fact that from its precocity (as I have known the whole crop gathered by the 5th August) the tree has time to recover its strength in the period of nearly eight months which elapses between the gathering and next season's blooming. The density of the fruit is very great, as it weighs 70 lbs. to the bushel. This is against the producer, and it ought to be sold by weight. I believe that as a dried fruit it will fully equal the dried French Plums. Close to the gathering of the Early Prolific I have the Czar, a large purple-blue Plum of abundant fertility; then the Sultan, and at the end of September Prince Englebert and Pond's Seedling; and beginning of October the Monarch, Archduke, and Grand Duke. I have discarded the Diamond, Reine Claude de Bavay, Reine Claude d'Oullins, and Belgian Purple, as too uncertain for market Plums. For the farm orchard the interval between the Sultan and Pond's Seedling should be filled up by the Victoria, Greengage, Gisborne's, and the Pershore, all of which are well-known market Plums, and are equally suitable for cooking, preserving, and drying, and I hope one day to see the grocers' shops continually supplied with these Plums of British manufacture. The Cluster Damson, well known for its enormous fertility; the Prune and Shropshire Damsons are also very important fruits which should find a place. The sort of tree to be planted should be what are usually called two or three years unpruned standards, the younger the better, as the transplanting causes little injury to young trees. I may here mention that the Early Rivers does not prosper in my soil when grafted on the Mussel stock. The future health of a plantation depends very much on the stocks used, and it is therefore necessary to be particular on this head.

(To be continued.)

NOTES ON RASPBERRIES.

THIS exceptionally wet season following the drought of last summer did not enhance the prospects of obtaining a good crop of this favourite fruit, the canes for the most part being weak and sparse, while the continued rainfall prevented the fruit being gathered in good condition, and what was picked lacked flavour, at the same time being so soft that it did not travel well.

The rainfall, however, has been the means of giving us a plentiful supply of strong canes for next season, and no time should be lost in cutting out the old and weakly ones, so that the sun and air may ripen up those intended for fruiting next season. Tie the canes to their supports, but do not top them, that is better performed later on; hoe the plantation through, and should there be a superabundance of weeds, rake them off and remove them to the rubbish heap. It is a bad practice to dig among Raspberries, as by so doing many roots are disturbed, if not actually destroyed; after cleaning give them a good mulching of well-rotted manure, the autumn rains will wash the nutriment down to the roots, and it will prove a subsequent protection from frost.

If the formation of a new plantation is intended, the site should now be trenched, working in plenty of manure; the ground will settle down before planting in a month or so. The Raspberry delights in a cool situation, though at the same time they must not be encumbered by overhanging trees, which would be detrimental to them, both root and branch. Raspberries may be planted about 2 ft. apart in rows, trained to strained wires, or be put out in rows 4 ft. apart, allowing 3 ft. between the hills, and about four canes being tied to a good stout stake.—*George Potts, Junr.*

DAHLIAS AT SALISBURY.

THE Salisbury Nurseries of Messrs. Keynes, Williams & Co. are as widely famed for Dahlias as they are for Roses and pot Vines. A few days ago I paid a special visit for the purpose of taking notes concerning those varieties which have done best this unpropitious season, thinking thereby that information of much value might be obtained, and that it might be acceptable to amateurs and private growers generally. The present year has been such a trying one for Dahlias, that it may be asserted with something like confidence that those which have given the best results as regards floriferousness, or quantity of bloom, will be found the most satisfactory in any season, be their characteristics what they may. Of show varieties, the following merit special notice, viz., Hon. Mrs. Percy Wyndham, yellow ground, edged with rosy purple, very pleasing in colour, of fine form and well up in the centre; Henry Walton, yellow ground, deeply edged with vermilion, quite distinct from all others; Crimson King, this is one of last year's introductions, and may already be said to have established a good reputation, colour deep crimson-scarlet, well-built flower and good habit; Nellie Tranter is also a new one of last year, and must be noted as one of the best medium-sized yellow selfs we have, and almost the equal of Mrs. Gladstone, a variety so well known to specialists, and which has proved one of the most reliable this season; Prince Bismarck, of rather pleasing colour, puce, shot with purple, good size, and excellent form; Robina, deep rose, shaded and veined, and of good bright colour; Burgundy, a well-known sort, and looks like maintaining a position in the front rank for a considerable time to come, colour rich dark puce, shot and diffused with light purple-maroon, with good form, centre and substance; Seraph must be noted as rather backward this season, but at the time of my visit there were some good substantial blooms, colour blush, well up in the centre, and a fine bold flower suitable for a prize stand; Hon. Sidney Herbert, rich shaded crimson, very free; Mrs. Doods, blush centre, outer petals light lilac, very pretty.

Concerning fancy varieties, the following were conspicuous: Hercules, yellow, striped and speckled with crimson; Rebecca, lilac, striped with crimson, good flower; James O'Brien, yellow with crimson stripes; Prince Henry, lilac, with purple stripes, and quite distinct; Hugh Austin, orange-scarlet, striped with dark red; Rev. J. B. M. Camm, yellow, flaked with red, of fine form and good centre; Duchess of Albany; Gaiety, certainly a very attractive flower, yellow striped with red; General Gordon, yellow, striped with scarlet; George Barnes, rich lilac, striped with crimson; Henry Eckford, yellow, striped with scarlet, good flower.

Of Pompons, mention must be made of Royalty, light orange; Mabel, lilac; Little Duchess, white; Gem, scarlet; Flora Macdonald, primrose, good flower and rather large; White Aster, probably the best free-flowering white variety we have; Fashion, orange; Lady Blanche, very good white, but difficult to keep through the winter; and Rougier Chauvière, light blush. Cactus Dahlias are now very fashionable, and for decorative purposes no other section will be found so useful, so that it is quite likely they will hold their own for a considerable time to come, provided raisers of new varieties do not exceed the present size of bloom. There appears to be a tendency to go in the direction of large flowers, but that, I think, would be a mistake if carried too far, and would detract greatly from their value for cutting and mixing with other flowers. One of the best of this season will be found in Lady Marsham, a new variety sent out by Messrs. Cannell, colour deep salmon, and certainly an acquisition. Henry Patrick, white, is a decided improvement on Constance, a variety well known; Mrs. Hawkins, light yellow, is also very good, and the same remark applies to Juarezii and Empress of India. Zulu is a dark variety and very appropriately named, distinct from all others.

Some idea may be formed of the number of plants grown at these nurseries when it is stated that two acres are devoted to their culture; they are planted at a distance of 6 ft. between the rows and 4 ft in the rows. The raising of new varieties is quite a specialty at this establishment, and certainly I should say that it is work which must be interesting and instructive, as well as a fruitful source of pleasure and disappointment. I may mention that 100,000 seedlings are raised annually, from this number about fifty of the best are selected the first year, these in their turn being reduced to something like twelve the second year, and are put in commerce the following year; add to this the fact that each one sent out is supposed to be distinct or an advance on existing varieties, and it will at once be seen that the work is extremely hazardous, and requires to be carried out with exceptional skill where a high reputation has to be maintained.

Among the new varieties noted at the time of my visit were Matthew Cambell (Fancy), fine, bold handsome flower of good shape, well up in the centre, very evenly marked; colour buff, splashed with crimson; this variety was certificated recently at the Crystal Palace. Panthea, a decorative variety, and Little Ethel (Pompon) received similar honours at the same time. A few other equally good varieties were also seen, but as they were only numbered and not named, details can hardly be entered into further than to say they will doubtless be heard of again in due season.—*J. Horsefield, Heytesbury.*

THE AMATEURS' GARDEN.

CARNATIONS.

Such as are intended for wintering in frames should be lifted without delay, and potted up or planted out as the case may be. Those intending to force plants, or grow them on in a greenhouse in order to have their flowers earlier, should select strong and healthy specimens when those plants whose shoots were layered are lifted. The best results are, of course, obtained from good crowns, so that the grower may be guided accordingly in his selection of plants for pot work. It is useless to spend time over weak and worthless specimens. Now is a good time to see whether any seed has been produced, especially in the case of flowers that were manipulated or fertilised with the view of obtaining new and improved kinds. After it becomes black and firm, the sooner it is gathered the better, before it gets rotted and spoiled by the rains and heavy dews that occur at night. Seedling Carnations, and also such sorts as are plentiful and hardy, may be planted out in well-prepared beds where they are to bloom. Deaths may occur during the winter, but this is unavoidable, as there are generally individual plants of weak constitution that succumb during severe winters when unusually wet, or when frost and thaw are frequent.

REPAIRING THE GREENHOUSE.

Preparations must now be made for having all tender plants housed that are now in the open air, as we may after this expect bad weather at any time, and the occurrence of a frosty night when little expected may necessitate the sudden removal indoors of Pelargoniums, Heaths, Fuchsias, Trumpet Lilies (Richardia africana), and succulents which the amateur has used for various decorative purposes out of doors during the summer. Before doing so, however, it is necessary to see that everything is sound and in good working order. All broken glass should be repaired, and the flues or other heating apparatus seen to before it becomes necessary to light fires in case of frost—the house, in fact, should be put in order for the winter. If the house is heated with a boiler and hot-water pipes see that the joints are sound, and all the flues properly cleaned out. Where a brick flue is the means of heating employed it should be opened at intervals and thoroughly swept out. After replacing and cementing the covers allow the cement a little while to set, and then light a quantity of straw, wood shavings or other loose material to create a smoke, in order to detect whether there are cracks in the flue by which sulphureous fumes or other noxious gases could enter the house and injure the plants. Thoroughly wash the glass and woodwork inside and out, not only for appearance sake, but to remove insects or their eggs.

CHOICE BULBS FOR AUTUMN PLANTING.

Few fail to admire bulbous plants when they come into flower in spring; but there are those who object to the blanks they create when the leaves die down early in summer. This may easily be avoided by judicious planting. All the stronger-growing kinds may with propriety be planted in the herbaceous border, between the other subjects occupying lines, and planted at regular distances apart, so that when they die down their absence will not be noticed owing to the growth of the regular occupants of the border. The front line or two may be planted with such things as Scilla bifolia, S. b. alba, S. sibirica, Crocuses, varieties of C. vernus,

and of other species, including the yellow C. aureus and C. susianus, all of which are perfectly hardy. The Glory of the Snow (Chionodoxa Luciliæ), Erythronium Deus canis, E. giganteum, Puschkinia scilloides, Snowdrops in variety, Daffodils and several others may be employed with fine effect. The little beds dotted about the lawns and planted with standard Roses would be rendered very interesting in spring by having a margin of Crocuses. There are some parts of the lawn where they are not required to be mown very early in spring; such might be greatly beautified by being planted here and there with irregular clumps of bulbs, making the whole appear as natural as possible. Suitable places can also always be found on a rockery for the disposal of a few choice bulbs.

GOOSEBERRY BUSHES.

The value of this popular fruit cannot be over-estimated, and seeing that the crop has just recently been gathered, the size, colour, and qualities of the different kinds will still be fresh in the memory. The present is therefore a suitable time for setting about the propagation of the more important and useful kinds. Nearly a season is gained by making the cuttings at the present time, and inserting them in some slightly-shaded border. Strong young shoots of this year's growth should be selected, and the buds at the base, for a distance of 8 ins. or 9 ins., entirely cut away, to prevent suckers from developing afterwards to the injury of the bearing powers of the bush. Shorten back to the firm wood, leaving the cutting about 12 ins. or 14 ins. in length, which will allow of a sufficient length for insertion in the ground, and also for a clean stem to carry the bushes well above the soil. Leave about four buds on the top, which will be almost certain to make three shoots, with one to spare in the event of an accident, or in case some of the buds should not start. It will be necessary to remove the blades of the leaves to prevent the weakening of the cuttings by the evaporation of their moisture. Insert them in rows 12 ins. asunder, and from 4 ins. to 6 ins. apart in the row, so that they may readily be kept clean by hoeing and weeding. Tread them in firmly as each trench is dug over, and by spring the cuttings will have rooted, and be ready to grow away strongly.

NOTES ON FRUITS.

EXTENSION OF FRUIT CULTURE.

Your correspondent "J. S. T.," whose letter on this subject was published in your last, harps on an old string, the music of which has long lost its virtue. He asks why so many special societies and associations, why not one central one? Well, the reason for the establishment of so many diverse special bodies is found in the fact that the spirit of the age is decentralisation, and also distrust of great central bodies. As long as these central or big bodies choose to work hard and make themselves worthy of confidence, all goes well; but the moment they become sluggish and inert, or ignore the special claims of horticulture for some other considerations, then is a great harm done. With a number of smaller bodies in operation, each one stimulating the other, and further, each one more fully amenable to the pressure of its members, really active work is done, and as the accomplishment of good work in horticulture is the chief end in view, better that be done well by many small bodies than not at all, or perhaps badly, by one sluggish, inert body.

We might just as well attempt with Mrs. Partington to stop the flow of the Atlantic with a broom as to hope to check the formation of special societies, for the performance of special work. Here we have "J. S. T." bravely suggesting a departure from ordinary operations in proposing to form a company or association to buy up land and to let it out for the purpose of fruit culture. That may be a good thing, but it seems as if the moment farmers and others are willing to embark in fruit culture, and have learned how to set about it, that the land will yet be wanting. Still further, your company may prove in the end to be a commercial speculation; it must be a very hard taskmaster, and like the Irish mortgagee, may soon grind the unfortunate tenant to death. A company undertaking the collecting, transit, and sale of fruit and vegetables might prove a valuable aid to rural fruit growers, provided its charges were not permitted to exceed, say 10 to 15 per cent. of the return; but if allowed to make its own charges for such purposes, then would the unfortunate vendor soon find this intermediary to be a sort of Frankenstein, which literally ate him up.—*Leo.*

APPLE, STIRLING CASTLE.

Some good-sized bush trees of this fine Apple worked on the free Doucin stock are just now a great sight at Gunnersbury Park, for they are literally breaking down with the great crops of fine fruit they bear, and have to be supported to prevent partial destruction of the trees. This is the Apple to cultivate for profit, as it is a certain and very free cropper, while as a culinary Apple it is almost unsurpassed. It is an early Apple, being in use at the end of August and beginning of September. Gardeners of all classes make a note to plant Stirling Castle this autumn.—*R. D.*

NITON HOUSE APPLE.

In a fine collection of hardy fruits exhibited by Messrs. James Veitch & Sons, at the meeting of the Fruit Committee on Tuesday last, were some good samples of this variety, which we do not remember to have seen before. It is, however, a sort that will come to the front, being of a similar character to the Stirling Castle, but keeping quite a month longer than that variety. The tree is said to be a tremendous cropper, and we should be glad to know something of its origin.

WHICH IS RIGHT?

In the report of the Apple Congress at Chiswick in 1883 I find the following:—"The Professor, cul., small, round, ovate, greenish yellow, acid, mid-season; worthless." In Messrs. J. Cheal & Sons' catalogue of fruits just published—a very useful one indeed—I read: "The Professor. Kit. and Tab. Sept. to Oct. Large, conical, golden yellow, first quality, and free bearer." This is my impression of this variety as I saw it at the Messrs. Cheals' nurseries at Crawley a few days ago. But was it a false or a true Professor that put in an appearance at Chiswick?—*R. D.*

A NEW MELON: GLENHURST PERFECTION.

THE standard of perfection, with regard to Melons, adopted by the Fruit Committee of the Royal Horticultural Society, is a high one, consequently it is not a matter of surprise that so few varieties gain the coveted award of a First Class Certificate. This season the committee have been specially unfortunate in having to taste so many bad ones, but on Tuesday they had a welcome change in the form of a really high-flavoured fruit, which was shown under the name of Glenhurst Perfection, by Mr. C. J. Waite, gardener, Glenhurst, Esher. It is of medium size, round, slightly ribbed and heavily netted; the rind thin, and of a dark lemon-yellow colour; the flesh green, deep, with little waste, melting, and exceedingly rich. It was awarded a First Class Certificate.

GARDENING MISCELLANY.

Reading Express Savoy.

AMONG the subjects received by me for trial this season is the above-named Savoy, sent by Messrs. Oakshott & Millard, of Reading, and I must say that by reason of its early development it will unquestionably prove an acquisition. I am very much pleased with it. It is one of the partially crinkled-leaved section, is of compact growth, and consequently does not require much space. It has large, whitish, well-formed heads of good quality.—*G. T. Miles, Wycombe Abbey.*

Bronze-leaved Ampelopsis tricuspidata (A. Veitchii).

WITH regard to the shape of the leaves there is always considerable variation in this plant, whether grown under glass or out of doors. The variation is moreover not confined to large plants, as may be seen when a large collection of young plants is grown in pots. Some of these seem inclined to produce undivided leaves only, while others have a greater or less number of them deeply three-lobed, so that in whichever way we look at them there does not seem to be any regular order of development. They also vary greatly when a number of plants are grown on walls apparently under the same conditions. There is a very distinct variety in the nurseries of Messrs. John Laing & Sons at Forest Hill, where a large plant covering a wall exhibits various tints of bronze, bronzy red; and later in the season, but yet much earlier than in the case of the typical form, the leaves assume brilliant shades of red and crimson. The plant in any form is always a neater-growing subject than A. quinquefolia, better known under the name of A. hederacea, and which loses somewhat in value owing to the coarseness of its foliage and the length of the petioles.

New Cannas.

IN the Cannas that are now being introduced so freely to public notice we have handsome foliaged, still more handsomely flowered, and easily grown subjects for the decoration of the greenhouse in autumn and winter, that all who want good and striking plants for this purpose would do well to take in hand. At the Floral Committee meeting on Tuesday, Messrs. Cannell & Sons again showed a series of admirable varieties, one of which received a First Class Certificate. This bore the name of Paul Bert, and it had good points to recommend it in its handsome, broad, bronze-coloured leaves and massive crimson-scarlet blossoms. Messrs. James Veitch & Sons also showed a plant of a variety named Geoffry St. Hilaire, about 5 ft. high, with bronze-green leaves, somewhat narrower and more pointed than the last named, and large flowers of a bright orange-scarlet colour. This also was awarded a First Class Certificate.

Eucomis punctata.

I OWE this deliciously scented bulbous flower a special debt for the sweet perfume it has thrown around my sitting-room for several weeks past. I cannot remember where I got the small bulb last spring. I potted it up and put it in a frame on a bed of leaves. It must have been frozen there at times, but it seemed none the worse for that. Leaves burst out, and it grew vigorously in a 3½-in. pot. The spike elongated in July and August, and the first blooms opened the end of the latter month. This spike is now about 2½ ft. long, and cylinder-shaped, the blooms forming and opening up along gradually all around. The scent is very peculiar, unlike anything else I know, resembling Lilium speciosum Kratzeri and Cinnamon combined. Those flowers, like many other Cape bulbs, are shaped like small Ixias or Sparaxis, but are more massive and wax-like. The best is now opening—about 200 in all—and the first has not yet decayed. Surely this is a bulb no one should be without.—*W. J. Murphy, Clonmel.*

Calliopsis coronata.

I PUT this variety at the head of all the annual Calliopsis. The flowers are pure golden yellow; they are large in size, of a very showy character, and it is very free blooming. A selection of twelve choice hardy annuals should include this fine form.—*R. D.*

Carnation, Souvenir de la Malmaison.

THIS beautiful summer-flowering greenhouse subject deservedly retains the foremost place in this extensive genus, and on account of its popularity no pains should be spared which will tend to its successful culture. Plants layered in the middle of August should now be ready to pot into 60's, soil composed of loam, leaf-soil and sand suiting them admirably. Lift with a nice ball of earth attached, although if well rooted the soil will, as a matter of course, adhere to them. After potting, place them in a frame where they can remain for the winter, care being taken to exclude frost. In the spring give a shift into 32's., in a compost similar as before. Some can remain in that size, if desired, to flower the same year; but for flowering twelve months later a final potting into 8-in. or 10-in. pots should be given. Plants layered last year and grown on as observed above, ought to be making nice material for next summer. Give plenty of air, and if green-fly appears fumigate at once, as it soon cripples them, while occasional doses of soot-water will be found beneficial. Let the operation be performed carefully, especially at the present time and through the coming winter, as neglect in this respect may tend to over-watering, causing rot, which no after treatment can remedy. In the spring and summer more water will be wanted, and liquid manure can be given two or three times a week.—*F. R. S.*

Aster Townshendi.

UNDER this name Mr. T. S. Ware exhibited on Tuesday some cut blooms of the perennial species, most generally recognised as A. Bigelovii, but which—whatever is its correct name—is undoubtedly one of the finest of the genus. It was introduced some ten years ago from Colorado, and has large flowers, most freely produced, with the disc yellow, and the ray-florets mauve shaded with cerise, a bright and pleasing colour, somewhat difficult to accurately define. It grows about 2½ ft. high, and is a very handsome plant for the herbaceous border. Awarded a First Class Certificate.

A New Decorative Beet.

A very pretty Beet for general decorative purposes was exhibited by Mr. B. S. Williams at the Floral Committee meeting on Tuesday, under the name of McGregor's Favourite. It grows from 6 ins. to 8 ins. high, and has narrow arching leaves of a rich rosy bronze colour; it is neat in habit, fairly compact, and much resembles a small dark-coloured Dracæna. It will make a capital bedding plant, and with many would be useful in pots also, for its colour. A First Class Certificate was awarded to it.

Cornish Moneywort.

The variegated form of this, namely, Sibthorpia europæa variegata, is not so frequently grown as its beauty would warrant, for when thriving freely its trailing shoots covered with orbicular leaves having a silvery white margin are very elegant indeed. Some have tried and failed in its culture, giving it up in despair, owing in most cases to the plant being grown in the dry airy atmosphere of a greenhouse or some similar place. Unless protected with a hand-glass it should be grown in an atmosphere that is continuously moist and cool, associated with Ferns or Orchids, as we saw it the other day in Messrs. Shuttleworth, Carder & Co.'s Nursery at Park Road, Clapham. Under these conditions it grows freely, and the contrast between the silvery white margin and the green centre is very marked. It is a rare British plant, the green form being found in a few places only where the rocks are continuously moist. S. peregrina, better known under the name of Disandra prostrata, is an old-fashioned greenhouse trailer or basket plant of much stronger habit than the Cornish Moneywort, and comes from Madeira. The latter is more adapted for a dry atmosphere.

Nerine excellens.

This very pretty form of N. flexuosa was well shown at the Floral Committee on Tuesday, by Mr. T. S. Ware, and notwithstanding what it lost by comparison with Baron Schroder's grand specimens of A. Fothergillii, it was awarded a First Class Certificate. It is a small-growing, free-flowering plant, with bright rose-pink blossoms, having crimson bars down each segment. For autumn blooming it is surprising that the members of this handsome and easily grown genus are not more generally cultivated.

Germinating Primula sinensis in Coke Ashes.

Experiments have recently been made by Messrs. J. Carter & Co. at their Perry Vale Nurseries with the view of testing what percentage of the seeds of Primula sinensis would germinate if sown in coke ashes. The latter are sifted and pans filled with them entirely, no drainage being needed. The seeds are sown, lightly covered, and kept watered regularly every morning. Under this treatment nearly the whole of them germinated, that is nearly 100 per cent. Amateurs frequently fail in raising seeds of this useful Primula through lack of knowledge in the matter of soil, watering and other cultural matters which it is necessary should be understood more or less in order to be successful. To such the plan above described might prove useful, inasmuch as water is not given merely when the state of the ashes actually show that it is wanted, but the rule is to give water at a stated period —that is, every morning. Temperature is, however, another important matter; but with a little knowledge of stoking, and a good thermometer, the amateur can easily surmount the difficulty. The seedlings must be potted off, however, as soon as they can be handled easily.

Agapanthus umbellatus maximus.

This is probably the largest of the many forms of the African Lily, and bears huge umbels of flowers, ranging in number from twenty to fifty-four on specimens which we noted in the nurseries of Messrs. J. Carter & Co., at Perry Vale. They were of a light blue, with a dark blue midrib to each segment. The flower scapes of this giant form were 3 ft. and 4 ft. in height. Seeing that the type is a useful plant for outdoor work and becoming more and more popular, the larger form would be even more acceptable for outdoor work, on account of the huge size of the umbels of well-grown plants. The flowers are also darker in colour when thus exposed. For balconies, terrace gardens, and similar places the Agapanthus is not only suitable, but flowers grandly during the summer months.

Lilium Wallichianum.

This fine central Himalayan species was exhibited before the Floral Committee on Tuesday last, and received a First Class Certificate. Its long narrow leaves, resembling those of L. Philippinense, are borne on a slender stem about 3 ft. high, surmounted by a solitary flower, which is large, about 8 ins. long, white, but greenish towards the base; fragrant, and much resembling L. neilgherrense in general appearance.

Crinum Powelli.

In the beautiful gardens of Leopold de Rothschild, Esq., Ascot, Leighton Buzzard, an illustration of which we gave in our issue of January 24th, 1885, a fine lot of this handsome out-door Crinum goes far to confirm the character advanced for it, viz., that it is the handsomest and most stately of hardy bulbs. The numerous tall spikes of delicate pink or blush flowers give a telling effect wherever they appear. The very rare pure white variety is also in flower in the same garden, along with many other good hardy plants, the whole garden being under the good management of Mr. John Jennings, and which has always been a model of what an enjoyable garden should be, improving steadily every year. Crinum Powelli is perfectly hardy in any part of Great Britain and Ireland if properly planted deep in some good rich soil. So planted it needs no protection of any kind—mulching nor anything else.

Lobelia Tupa.

This is a most stately growing Lobelia of the herbaceous section, attaining in favourable seasons a height of quite 10 ft. A large clump in the herbaceous grounds at Kew is now in full bloom, but the plant is not so largely developed as it was last year, when the summer climate approximated more closely to the climate of its natural habitat (South America) than it has done this summer. The flowers are of a dull red, somewhat resembling a Clianthus, the foliage being large, bold, and rather pubescent. Outside Kew I do not know where to find the plant; after looking through many lists, I found it in the catalogue of a well-known nurseryman, but only in time to learn that they had no stock of it for sale. For large herbaceous borders, or clumps on grass, it would be a useful and effective plant, and one that should not be lost sight of. Perhaps some readers may know where to find it; if so, I should esteem it a favour if they would kindly give the information in these columns.—*J. W. O.*

Dimorphic Conifer.

There is a great amount of dimorphism in Conifers, especially amongst the species of Juniper, Thuja, Retinospora, and even in some of the Pines, or, rather, in all of them when in a seedling state; but we occasionally find instances of a very striking nature, such as that we noted recently in Messrs. Wm. Cutbush & Sons' nurseries at High Barnet. In a bed or square planted with Chamæcyparis squarrosa, generally recognised under the name of Retinospora squarrosa (which according to some authorities is considered a true species), one plant has given rise at its apex to a large branch of Chamæcyparis pisifera. Both are natives of Japan, and although considered distinct, it is evident that one is only a juvenile form of the other. It would appear that C. squarrosa is the juvenile form, as seedlings in this tribe of Conifers have linear, spreading leaves that give place to others that are almost wholly adnate to the stems and branches before the plant gets to any size. The leaves of C. squarrosa are glaucous, linear and spreading, while those of C. pisifera at its apex are green, and almost wholly adnate to the shoots. It constitutes about a third of the whole of the plant, and the lower portion shows a gradual transformation of the leaves.

Galtonia candicans.

The beauty of this hardy bulbous plant can hardly be over-estimated, whether planted in a bed by itself, amongst the occupants of the hardy herbaceous border, or mixed with various bedding subjects of a shrubby nature, such as Fuchsias, Abutilons, Wigandias, and others used in the sub-tropical garden. It is seen to best effect when rising above, or showing itself very prominently amongst the subjects mentioned. The leaves are usually about half the length of the flower stem. We noted a fine mass of this Cape Hyacinth in the Perry Vale Nurseries of Messrs. J. Carter & Co.

The Cold Storage of Fruit.

As the experiments continue, it may not be without interest to briefly report progress. At the last meeting of the committee, held on the 13th inst., Mr. John Lee presiding, examples previously placed in the chill room were examined. The temperature of this room ranges about 35°. Figs, quite ripe when placed in store on August 30th, had kept surprisingly well; the dark-coloured fruits appeared quite unaltered, but two of the lighter coloured were spoilt. Plums from Chiswick, stored at the same time, were as good as ever. Of a dozen out-door Peaches, eight were in good condition, two fair, and two spoiled. Peaches and Nectarines grown under glass at Sawbridgworth, also Oullin's Golden Plums, placed in store at the same time —the 30th ult.—were in fine condition. Peaches from Messrs. Cheal & Sons, stored on August 31st, were in good condition, but a Melon with them was quite spoiled. Bradshaw Plums from Chiswick, placed in store at the same time, were unaltered, but Tomatos, except a few yellow fruits, were spoiled. This is the second failure with Tomatos, and they do not appear to be able to endure the cold. Many of the Cherries—a bad sample stored wet on August 8th—were still sound, and it was thought that those which failed were crushed or injured at the outset. It is the opinion of the committee that for keeping purposes the fruit must be free from blemish. Some of the Cherries (red) in the freezing-room—temperature 21°—were quite hard, others (black) being yielding to the touch but frozen inside. Some Cherries taken from the chill-room a fortnight ago and steadily thawed were good and well flavoured the following day, after a cool sojourn of twenty-three days, and there are doubtless others that have now been in the chamber forty days equally good. Can northern friends oblige by posting a few Gooseberries and Currants to Mr. D. Tallerman, Cold Storage Company, Leadenhall Market, 79½, Gracechurch Street, London? They will be gladly accepted and fairly tried. They should not be over-ripe, and packed to arrive without being bruised if possible. Peaches are best enclosed in tissue paper before being packed in boxes with wadding. All fruit is best stored in closed boxes as if for transit, as when exposed Cherries at least lose their bright, fresh colour, and it would probably be the same with other fruits.—*J. Wright.*

The Gardeners' Calendar.

THE STOVE.

Climbers.—Fresh arrangements will soon have to be made in the stove for the winter season, but independently of that, the occupants now want more light, and especially so as the days get shorter. Therefore, with that end in view, it will be necessary to prune back to the old wood such as flower from the current season's growth, and to thin out the rest. Clerodendron Thompsoni and Plumbago capensis may be cut hard back, so that they may have time by spring to break again vigorously. This will also facilitate the work of cleaning them greatly, especially if they have become infested with mealy bug. The Stephanotis is particularly subject to that pest, and before cleaning is attempted the young shoots should be thinned out, removing old wood, of course, where that can be done without leaving any place absolutely naked. Most thinning will be required where space is restricted owing to the small dimensions of the house. From the shoots that are left a crop of bloom may be expected in spring. Thin out the shoots of Allamanda, so that those left may be better exposed to light, and also admit more light to the interior of the house. Climbers in pots should also be reduced in size, and they may even be removed from the stove altogether where a pit can be placed at their disposal.

THE GREENHOUSE.

Hard-wooded Plants.—Such things as Boronias, Heaths, Epacris, Cytisus and Camellias will have to be removed indoors before long, as they cannot safely be left out much longer. In the meantime due preparations should be made for their reception by thoroughly cleaning and repairing the pits and houses in which they are to be wintered. Keep the houses well ventilated night and day should the weather prove mild after they have been taken indoors. Should mildew make its appearance on the Heaths either before or after being housed, dust the affected parts with flowers of sulphur, which will soon check the disease.

Azaleas are very subject to thrip, which soon destroys the foliage if not checked. Before housing them, syringe thoroughly with tobacco-water, to which 2 ozs. of soft soap and a small lump of soda has been added for every gallon of water. These substances must be dissolved in warm water, and afterwards kept well stirred. In syringing the Azaleas, lay the plants in a slanting direction with the heads over a tub, so that the liquid mixture may be used over again until all the plants have been thoroughly done. Syringe afterwards with clean water. Camellias should have their leaves sponged with a solution of soft soap, Gishurst Compound or Fir Tree Oil before they are taken to their winter quarters or placed amongst other subjects.

THE FORCING HOUSES.

Vine Borders.—If the Vines in any of the houses have been showing any serious lack or loss of vigour during the past season it may almost be taken as evidence of something wrong at the roots. This may result from the roots having got into a bad medium, or the soil of the borders may have got into a bad state, and the roots have suffered injury. In any case the best plan is to have the soil removed, commencing at the front, where a trench should be taken out, gradually working towards the back. All this should be done with care, and the material carted away at once. Take particular care that the roots of the Vines which may be encountered do not get injured as the work proceeds. In low-lying situations it will be necessary to concrete the bottom of the border, and place 1 ft. of rubble on the top of this, making proper provision for the escape of surplus water by means of drains. On the top of the drainage place a covering of turves with the green side down, to prevent the soil getting amongst the drainage. Before commencing these operations, however, it is to be taken for granted that the careful cultivator has provided himself with the requisite compost for filling up the border again. Two-thirds of this should consist of soil from the surface of good old pasture land, with a liberal quantity of bones, bone-dust, brick rubble, and some half-decayed animal manure, the whole of which should have been well mixed and lain in a heap for some time.

Melon Pits, &c.—Before forcing is again commenced, Melon, Cucumber, and forcing pits generally should undergo a thorough cleansing to free them from insect pests, as no matter what care may have been exercised during the growing season, it is very difficult to keep them clear of insects. The woodwork should also be painted when the pits and houses are at rest or empty, not only for appearance sake and the preservation of the wood, but for the destruction of insect enemies.

THE KITCHEN GARDEN.

Cabbage and Cauliflower Planting.—For early spring use such Cabbages as Ellam's Early, Early York, and Early Etampes may now be planted. The first-named being a particularly dwarf grower, requires a distance of 18 ins. only each way. Where Cauliflowers are grown under hand-lights, they may now be planted, putting a number under each light, according to its size. Close the lights after planting until the roots have become established, when the top may be wholly removed in fine weather.

Strawberry Borders.—The weather still being favourable to the growth of runners, the beds, borders, and breaks should be gone over, and all runners thoroughly cleared off, together with weeds, so that the whole may present a tidy appearance. A good mulching of manure laid between the rows of recently-made plantations will assist the young plants greatly, and if the plantations were made in August, a crop may reasonably be expected from them next summer.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

Although it is best not to be too hasty in removing the blinds from the Orchid houses in autumn, care should be taken that they are not used more than is absolutely necessary, for a good bright light and a fair amount of sun is of great benefit to the plants, by hardening their tissues and better fitting them to pass over the long sunless periods during winter. The blinds should therefore only be used at times, when injury to the plants by the unbroken rays of the sun is anticipated. At doubtful times, when the sun only peeps out strongly occasionally, the blinds need not be let down if a little extra ventilation be put on as a safeguard.

Barkerias, Brazilian Lælias and Cattleyas, Mexican Lælias, Schomburgkias, Stanhopeas, Brazilian and all other Oncidiums, except O. macranthum and other cool-house kinds, Epidendrums, and other things of a like nature may with benefit be kept wholly unshaded for the rest of the season if carefully tended. The cool houses, Phalænopsis, and East Indian plants, however, should be carefully shaded as in summer when occasion requires it. From many quarters I learn that this summer has not been a good one for Orchids generally, probably on account of the dull and wet weather. While guarding the plants therefore from injury from sun-heat now, care must be taken to shade as little as possible, so that a hoped-for sunny autumn may repair the errors of the summer.—*James O'Brien.*

Cattleya Dominiana.

This rare and magnificent hybrid between Cattleya Mossiæ and C. Dowiana, raised in Messrs. James Veitch & Sons' nursery, is now in flower in the fine Orchid collection of Baron Schroder at The Dell, Egham. The flowers, which are large and beautifully formed, have rich amethyst sepals and petals. The labellum, which is finely expanded and frilled, as in C. Dowiana, is of the richest velvety purple, and the disk golden yellow, heavily streaked with maroon-purple—a wonderful beauty.

Dendrobium Falconeri.

Many cultivators experience considerable difficulty in flowering this Indian species, even although they manage to grow it pretty strongly for years. Others there are who succeed but indifferently in getting it to produce any really good growths at all. A fair-sized plant of it, grown in a basket by Messrs. Shuttleworth, Carder & Co., at 191, Park Road, Clapham, has been flowering profusely for some time past. The flowers bear a curious resemblance to those of D. Wardianum, and the latter has by some authorities been considered as a variety merely of D. Falconeri. The much-jointed and knotty stems of the species under notice, however, is quite sufficient to separate the two at any stage of growth. The ground colour of the flower is white, all the segments, including the lip, being tipped with purple. The latter organ is characterised by two large blackish purple blotches at the base, surrounded by orange, so that the close resemblance of the two species mentioned is rather paradoxical, seeing that the stems or pseudo-bulbs are so dissimilar. The plant is grown in the Cattleya house, and is hung up near the glass.

Cypripediums at Clapham.

There is always a considerable amount of bloom on the Cypripediums of Messrs. Shuttleworth, Carder & Co., at Park Road, Clapham, even although Orchids are professedly out of season, and the plants moderate in size. One of the prettiest of the hybrid forms on the occasion of a visit the other day was C. Ashburtoniæ expansum. The upper sepal is furnished with blackish purple blotches in lines, while the apex and margin are white. C. javanicum superbiens is also a marked improvement on the type, and has the white standard striped with green lines, and the petals closely covered with small purple spots. Very distinct in its way is C. tonsum, which is noted for the petals being much the broadest at the apical end. The flowers of C. Dautheri are both large and dark-coloured, with a shining lustre. One of the newest and most recent additions to the collection is C. Wallertianum, the standard of which has deep brown lines on a greenish yellow ground, and a white margin. The petals have two different shades of brown on the two longitudinal halves. The beautiful C. Godefroyæ and C. Schlimii album are also flowering at present.

Oncidium dasytyle.

The dwarf habit and attractive appearance of the flowers of this Brazilian species have already made it popular with a large number of growers, and its cultivation is likely to become extended. It has not inaptly been termed the Bee Orchid by some on account of the large fleshy black crest on the lip, which is so shaped as to resemble an insect of some sort crawling up that organ. The sepals are of an ochre-yellow colour, while both they and the petals are blotched with brown. With the exception of the black disk, the lip is of a bright yellow, and by far the largest and most conspicuous part of the flower. Its usual month of blooming has been given as January; but, like O. Jonesianum, it flowers at any time of the year almost, while individual plants remain a long time in bloom. A large number of plants from a recent importation are now becoming finely established in Messrs. John Laing & Sons' nursery, at Forest Hill.

HORTICULTURAL SOCIETIES.

Royal Horticultural.

Tuesday's meeting will be remembered by the few—very few we grieve to say—who visited the Drill Hall, for the superb display of Dahlias made by the leading trade growers. It is not often that Dahlias of such size, perfect form, and clear brilliant colours are seen at any time, but at the end of September they were somewhat of a surprise, and a most agreeable surprise too. Other special features worthy of high commendation, were a glorious group of Nerine Fothergillii, set in Maidenhair Ferns, from Baron Schroder's garden at The Dell, Egham, and who was awarded a Silver Banksian Medal; a charming collection of autumn Roses, from Messrs. William Paul & Son, which took a Bronze Banksian Medal; a remarkable group of Nepenthes, from Mr. B. S. Williams, a sturdy set of plants, in perfect growth and well pitchered, which secured the highest award of the day, a Silver-Gilt Banksian Medal; a large and pretty group of cut herbaceous plants from Mr. T. S. Ware; and interesting hardy plants from Messrs. J. Veitch & Sons, which each secured Silver Banksian Medals.

The Dahlia show was made up of extensive contributions from Messrs. Keynes, Williams & Co., Mr. Charles Turner, Messrs. Paul & Son, Mr. G. Humphreys, Chippenham; Messrs. H. Cannell & Sons, J. L. West, Esq., Messrs. J. Cheal & Sons, and Messrs. Rawlings Brothers, and medals were as freely awarded as they were well deserved. A number of new varieties were certificated, and these are noticed in another column. Mr. Sidney Ford, Leonardslee, contributed a beautifully-grown and brightly-coloured collection of plumes of the pyramidal Celosia, and the Floral Committee highly commended the strain. Mr. R. Dean, Ealing, contributed some good Pentstemons; and Mr. Cowley, gardener to F. G. Tautz, Esq., a plant of the singular Cycnoches chlorochilon, with two spikes of four of its monster lemon-yellow flowers, to which a Cultural Commendation was awarded.

At the meeting of the Fruit Committee, Messrs. James Veitch & Sons exhibited a fine collection of Plums, Apples, and Pears, &c., for which a Silver Banksian Medal was awarded. Mr. G. H. Richards, Somerley, Ringwood, showed one of the handsomest Queen Pines we have seen for a long time, and received a Cultural Commendation. A most interesting collection of hardy fruits came rather late in the day from Mr. Fairgrieve, of Dunkeld, N.B., but the various samples created much interest among the growers present. They were a very fine lot, and in several cases were as fine and as fully ripe as the same sorts in the south. The collection included Hale's Early, Early York and Early Silver Peaches, Pitmaston Orange and Lord Napier Nectarines, and Jefferson, Magnum Bonum, Cox's Emperor, Lawson's Golden Gage, St. Catherine, Pond's Seedling and Ickworth Impératrice Plums, all of good size and fine colour.

Berkhamstead Horticultural.

The thirty-ninth annual show of this society was held in the Town Hall, on Monday the 24th inst. The central hall was devoted to exhibits of gardeners and amateurs, the principal feature being the large groups of plants set up, not for competition. At one end of the hall was shown a fine group of stove and foliage plants from the gardens of A. G. Lucas, Esq., Ashylens; these were tastefully arranged by Mr. Higgins. A similar group in size was set up by Mr. Hillier, gardener to the president of the society, H. H. Cooper, Esq.; in this exhibit good taste was shown, especially in the arrangement of fine-foliaged grasses amongst the heavy-foliaged plants. One long table was devoted to a display of fruit, by Captain Curtis, of the Hall, Berkhamstead, whose gardener, Mr. Finch, evidently knows what are the best sorts for exhibition, and also how to show them to advantage. Grapes were well shown for competition, especially black kinds. In the latter class some really fine bunches were shown by Mr. Tarbox, gardener to Lady Sarah Spencer; not being quite ripe, however, they failed to secure first honours.

Plants in the gardeners' class were not a very strong feature, but very noticeable was a specimen plant of single Begonia, Primrose Queen, shown by E. Mawley, Esq. Unfortunately it was shown in the class for best specimen stove plant, and failed to get in front of a large well-flowered Eucharis for first place; against another plant of its own class it would have been invincible.

Hardy flowers were only second rate, and another year the managers should exclude such things as Roses and Dahlias from competition amongst hardy herbaceous plants, such practice not being satisfactory either to the exhibitors or judges, especially the latter. The collection awarded first honours in this class contained some good specimens of Pentstemons, Echinops, Saponaria officinalis fl. pl., Anemone japonica, and perennial Sunflowers. The feature of the show was a magnificent collection of Roses set up by E. Mawley, Esq., a gentleman well known in the Rose-world. His Roses were simply superb, and arranged with great taste and refinement. The same gentleman also contributed a fine plant of Encomis punctata, for which the judges awarded a Cultural Commendation. A small but very praiseworthy collection of Roses was shown by Mr. Dawson, of Berkhamstead (joint secretary of the society), and if Rose growers are capable of feeling envious, certainly that feeling must have been common amongst them when looking at Mr. Dawson's famous blooms of Devoniensis. A small group of Orchids was shown by Captain Alcock, and early Chrysanthemums were represented by a stand of fine blooms from Mr. Mawley.

In the cottager's section the cut flowers and plants were exceedingly creditable and well grown; but the wild flowers, although numerous, were spoilt by being arranged in hideous shapes and designs, the only exception to this being a basket of wild fruits and flowers arranged naturally—we hope other exhibitors will copy another year. The vegetables of the cottagers were wonderful productions, and many a professional gardener must have rubbed his eyes at the fine samples of Peas, Cauliflowers, Salads, and other seasonable and choice productions. The reason of this is not far to seek. Berkhamstead has acted liberally in the matter of allotments, there being as many as four large allotment grounds in the town, all under the management of a representative committee, consequently a healthy spirit of emulation exists amongst the cottagers, and really good useful vegetables are the result. A fine collection of fruit was shown by the Messrs. Lane, whose famous fruit nurseries are in the vicinity. Messrs. Dawson and Mawley are to be congratulated upon the increased usefulness of this old established society.

Manchester Botanical and Horticultural.

The autumn show, held in the Botanical Gardens at Old Trafford on the 21st and 22nd inst., was in every way a success, the entries being plentiful, the competition good in all departments, the weather fine, and the attendance of visitors large. The display of Dahlias, Gladioli, Roses, and other autumn flowers was particularly effective, while the fruit classes were good all round. The leading prize winners with fruit were Mr. Dawes, Temple Newsham; Mr. Goodacre, Elvaston; Mr. Lambert, Onslow Hall, Shrewsbury; Mr. Pratt, Longleat; Mr. Chuck, Brodsworth Hall; Mr. Hunter, Lambton; Mr. Gillman, Ingestrie; Mr. Blair, Trentham; and Mr. S. Barlow, Stakehill House, Castleton.

In the vegetable competitions, Mr. Lambert, of Onslow, cleared off all the first prizes, having the best collection of twelve dishes, and the best single dishes of round and kidney Potatos, Onions, red and white Celery, &c. In the cut-flower classes, Messrs. Heath & Son, Cheltenham, and Mr. W. Boston had the best Dahlias; Messrs. Cocker & Son, Aberdeen, the best Roses and hardy cut flowers; Messrs. Harkness & Sons and Mr. S. Barlow the finest Gladioli; Mr. S. Barlein, Didsbury, the best Asters; Mr. A. Heine, Fallowfield, the best cut stove and greenhouse flowers; and Messrs. Perkins & Sons, Coventry, the best bouquet and basket of cut flowers. Among miscellaneous contributions, which much increased the interest in the show, we noted a fine collection of Tomatos from Messrs. Dickson, Brown, & Tait; a beautiful collection of Pansies and Violas from Messrs. Dobbie & Co., Rothesay; a choice collection of Carnations, &c., from Mr. Frank Law, of Rochdale; a handsome collection of hardy flowers from Messrs. Dickson's, Limited, Chester; a very interesting group of cut hardy flowers from Mr. S. Barlow; and a group of Gladioli from Messrs. Kelway & Son, Langport. Certificates of Merit were awarded to Mr. S. Barlow for a handsome form of Lilium auratum var. rubro vittatum, a white-ground flower, beautifully spotted, having a rich deep purple-brown band down each segment; to Messrs. Kelway & Son for three new Gladioli; to Messrs. Ryder & Son, Sale, for a new white Carnation, named Salisbury; to Messrs. Dobbie & Co. for their Lemon Queen African Marigold; and to Messrs. Dickson, Brown, & Tait for a new Melon.

Obituary.

I am sure that many of your readers will hear with as much regret as I did of the somewhat sudden death, on the 17th inst., of Mr. William Court, Messrs. James Veitch & Sons' able and much-respected propagator at the Chelsea Nursery. He was interred in the Brompton Cemetery on the 21st inst., in the presence of many sorrowing friends, for William Court was not only a clever man at his business—he had a quiet, unassuming manner, had travelled much, and possessed the happy faculty of making warm friends. Cut down in the prime of life, for he was only forty-five years old, Mr. Court's death will be as much regretted in America as here, for he had travelled through the States some dozen times, and had made troops of friends there. He had been with the Messrs. Veitch some twenty-five years, and was previously with Messrs. Lucombe, Pince & Co., at Exeter.—*A. O.*

QUESTIONS AND ANSWERS.

Powdered Charcoal.—*A. B. Kingswood:* The best method of applying this to your Roses is as a top-dressing to the pots. Mix a quantity of fresh soil with it, and use the compost when giving the annual top-dressing. If the Roses require re-potting, of course you can add a quantity to the potting soil. It supplies a small quantity of food to the plants, but is also valuable on account of its power of decomposing salts, which furnish important articles of food to plant life. It also retains within itself ammoniacal substances, and assists in the production of ammonia. The flowers of Roses are said to be improved in colour by the application of charcoal dust.

Birds and the Fruit.—Will you kindly tell me the best way of getting rid of birds (chiefly blackbirds and thrushes), who continually take great quantities of fruit, and are now busily engaged in eating and spoiling unripe Pears? Would poisoned corn laid about in sancers during the winter be any good? If so, can I buy, or how shall I make it? I am very loth to kill them, but unless I do so I may as well give up growing fruit at all.—*H. H.* [Birds are, undoubtedly, a great source of annoyance in many districts, but we should hesitate before resorting to such a strong and dangerous measure as poisoning them wholesale. We should much prefer to invest in some blank cartridges, or some form of bird scarer, for use while the fruit is about. Perhaps some of our readers would give us the benefit of their experience.—Ed.]

Peaches and Potatos.—Which are the best Peaches and Nectarines to plant against a high south wall? Also could you tell me the best early Potatos for planting in a good rich loamy soil?—*Enquirer, Guernsey.* [Of Peaches we should plant Alexander and Hale's Early, as first earlies; and Noblesse, Royal George, Gladstone, and the Nectarine Peach to follow on, with Walburton's Admirable and Golden Eagle as the latest. These are all free bearers, and of fine quality. Of Nectarines the Pine Apple and Lord Napier would answer well. A selection of the best early Potatos may be made from the following:—Kidneys: Midsummer Kidney, Snowdrop, and Cosmopolitan are all early, and of the best quality. Rounds: Snowball, dwarf top; Sunrise, second early; and Fidler's Prolific, a fine cropper, and of good quality. White Beauty of Hebron is a great cropper also, and very early.—Ed.]

Erratum.—In our report of the National Chrysanthemum Society's September Show at p. 41, we inadvertently credited Mr. Holmes with taking the first prize for a group of plants in pots, instead of Mr. J. H. Witty, of the Highgate Cemetery. Mr. Holmes' collection was exhibited not for competition.

Bulbs for Flowering at Christmas.—*Omega:* The only bulbs likely to flower at Christmas, without artificial heat, are the Roman Hyacinths, and they would want careful nursing somewhere out of the reach of frost. The common Christmas Rose, Helleborus niger, might be got into flower then by covering some plants with a frame in a few weeks' time, but you cannot be certain of them without a little warmth.

Tea Roses.—*J.B.:* If you get some nicely-grown plants carefully lifted in two or three weeks' time, pot them in good silky loam, and keep them in a cold pit plunged in leaves and safe from frost, you need anticipate no difficulty with them. Thin out the smaller shoots of the Maréchal Niel, shorten back the stronger ones and keep the plant quiet for a time to ripen the wood, then prune hard back before starting it into growth. You cannot do better under the circumstances.

Names of Plants.—*Omega:* The orange flower is Calendula officinalis var., and the Gardener's Garter, Phalaris arundinacea variegata. *Scotia:* Jasminum Sambac. *Ireland & Thomson:* Nægelia Mrs. Fox Strangeways, probably.

Communications Received.—W. G.—J. A.—S. B.—J. W. O.—F. R. S.—Historicus.—J. F.—J. D.—R. S. O.—J. D.—T. W.—S. O.—A Disgusted Exhibitor (what you say is quite true, but you have your remedy—do not go again).

TRADE CATALOGUES RECEIVED.

J. Cheal & Sons, Crawley, Sussex.—Ornamental Trees and Shrubs, Roses, Fruit Trees, &c.

Aut. Roozen & Son, Overveen, near Haarlem.—Choice Dutch and Cape Bulbs.

Edward Webb & Sons, Wordsley, Stourbridge.—Catalogue of Selected Seed Corn.

Chantrier Frères, Mortefontaine, Plailly (Oise) France.—Fine-foliaged Stove and Greenhouse Plants.

James Cocker & Sons, 59, St Nicholas Street, Aberdeen,—Dutch and other Bulbs for Autumn Planting.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending Sept. 22nd was 30·06 in.; the lowest reading was 29·95 in. at the beginning of the week, and the highest was 30·12 in. on Wednesday morning. The mean temperature of the air was 57·2°, and 0·4° above the average in the corresponding weeks of the twenty years ending 1868. The mean was slightly below the average on Tuesday, and showed a small excess on each of the other days of the week. The general direction of the wind was N.E., and the horizontal movement of the air averaged 8·8 miles per hour, which was 2·5 miles below the average in the corresponding weeks of sixteen years. No rain was measured during the week. The duration of registered bright sunshine in the week was 32·6 hours, against 49·0 hours at Glynde Place, Lewes.

LONDON SEED TRADE

September 26th.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a brisk trade for Winter Tares and moderate sale for Trifolium incarnatum at unchanged rates. All Clovers are firmly held, and a considerable quantity of Alsyke and White Clover has changed hands this week, owing to speculators operating. Rye Grasses are firm. Bird seeds unchanged.

COVENT GARDEN MARKET.

September 27th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½-sieve	2 0	4 6	Pine-apples, St. Michaels, each	2 0	5 0
Cobs ....per 100 lbs.	65 0	70 0	Pine-apples, Eng., lb.	1 6	2 0
Grapes .....per lb.	1 0	2 6	Plums, ½-sieve	2 6	4 0
Melons	1 0	3 0	Peaches.....per doz.	2 0	8 0

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 6		Lettuces ..per dozen	2 0	3 0
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	0 9	1 3
Cabbages .... per doz.	1 6		Onions, per bushel	7 0	9 0
Carrots, New, per bun.	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	3 0	4 0	Radishes, per dozen	1 6	
Celery, per bundle	2 0		Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	0 9	
Herbs, per bunch	0 2	0 4	Turnips, per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Asters .....per doz.	3 0	6 0	Ficus elastica each	1 6	7 0
Balsams ....per doz.	2 0	4 0	Fuchsia, per doz.	3 0	6 0
Chrysanthemums, per dozen	4 0	9 0	Heliotrope ..per doz.	3 0	6 0
Cockscomb, per dozen	3 0	6 0	Hydrangea, per doz.	9 0	18 0
Coleus .....per doz.	2 0	4 0	Liliums, var., doz.	18 0	30 0
Cyperus, ..per dozen	4 0	12 0	Marguerites per doz.	6 0	12 0
Dracæna term., doz.	30 0	60 0	Mignonette ..per doz.	3 0	6 0
— viridis, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, scarlet, per dozen	2 0	6 0
Ferns, in var., do.	4 0	18 0	Pelargoniums, dozen	6 0	12 0
			Scented Verbena doz.	4 0	6 0
			Solanums....per doz.	9 0	15 0

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Asters, doz. bunches	1 6	4 0	Marguerites, 12 bun.	3 0	6 0
— (French), 1 bunch	1 0	1 6	Mignonette, 12 bun.	1 0	2 0
Bouvardias, per bun.	0 6	1 0	Pansies, doz. bunch.	1 0	2 0
Carnations, 12 blooms	1 0	2 0	Pelargoniums, 12 sprys.	0 6	1 0
Carnations, 12 bun.	4 0	6 0	— scarlet, 12 sprays	3 0	6 0
Chrysanthemums annual, 12 bunches	1 0	3 0	Pinks, 12 bunches	3 0	6 0
Chrysanthemums, 12 blooms	0 6	3 0	Poppies, 12 bunches	4 0	6 0
— 12 bunches	2 0	6 0	Primula, double, bun.	0 9	1 0
Cornflower, 12 bunch.	1 6	3 0	Pyrethrums, 12 bun.	2 0	4 0
Dahlia, 12 bunches	3 0	6 0	Roses (colrd.) 12 bun.	2 0	4 0
Eucharis, per dozen	3 0	6 0	— Tea ....per dozen	0 6	1 6
Forget-me-not, 12 bun.	2 0	4 0	— Red .....per doz.	0 6	1 0
Gardenias, 12 blooms.	1 6	4 0	— Saffrano ..per doz.	0 6	0 9
Gladiolus, 12 sprays	0 6	1 6	Stephanotis, 12 sprays	3 0	4 0
Heliotropes, 12 sprays	0 6	1 0	Sunflower, 12 bunches	3 0	9 0
Lapageria, 12 blooms	1 0	2 0	Sweet Peas, 12 bunches	2 0	4 0
Lavender, 12 bunches	3 0	4 6	Sweet Sultan, 12 bunches	2 0	4 0
Lilium longiflorum, 12 blooms	3 0	5 0	Tuberoses, per dozen.	0 4	0 9
Lilium speciosum, 12 blooms	1 0	3 0	Violets ..12 bunches	1 0	1 6
			— Parme, French, 12 bunches	3 0	4 0

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VEITCH'S LILAC	15	0	2	3
VEITCH'S CRIMSON ...	15	0	2	3
VEITCH'S BRIGHT RED ...	15	0	2	3
VEITCH'S PINK	17	6	2	6
VEITCH'S PURE WHITE ...	22	6	3	0
VEITCH'S WHITE-TINTED..	21	0	3	0
VEITCH'S YELLOW ...	21	0	3	0

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UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—THE ANNUAL DINNER of this Society will be held on Thursday, October 11th, 1888, at the Cannon Street Hotel, E.C., at 5.30 p.m. CHAIRMAN, Dr. ROBERT HOGG, F.L.S.; VICE-CHAIRMAN, H. J. VEITCH, Esq., F.L.S. Tickets 5s. each; to be obtained of the Secretary, W. Collins, 5, Martinhoe Terrace, Balham, S.W.

Next Week's Engagements.

MONDAY, Oct. 8th.—Sales of Dutch Bulbs at Stevens and Protheroe & Morris's Rooms.

TUESDAY, Oct. 9th.—Royal Horticultural Society: Meeting of Fruit and Floral Committees at 11 a.m. Sale of Nursery Stock by Sample at Protheroe & Morris's Rooms. Sale of Nursery Stock at the Milford Nursery, Godalming, by Protheroe & Morris (4 days).

WEDNESDAY, Oct. 10th.—National Chrysanthemum Society: Floral Committee Meeting at the Aquarium. Sale of Dutch Bulbs at Stevens' Rooms. Sale of Lilies, Plants, &c., at Protheroe & Morris's Rooms.

THURSDAY, October 11th.—Fruit Show and Fruit Conference at the Crystal Palace (3 days). Annual Dinner of the United Horticultural Provident and Benefit Society at the Cannon Street Hotel. Sale of Dutch Bulbs at Protheroe & Morris's Rooms. Sale of Orchids from Mr. R. Warner's collection at Stevens' Rooms.

FRIDAY, Oct. 12th.—Sale of Orchids at Protheroe & Morris's Rooms.

SATURDAY, Oct. 13th.—Sales of Bulbs at Stevens' and Protheroe & Morris's Rooms.

For Index to Contents & Advertisements, see p. 90.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.
SATURDAY, OCTOBER 6, 1888.

CURRENT TOPICS.

HARDY FRUIT CULTURE.—If the subject of hardy fruit culture in the British Isles does not become one of burning interest shortly, it will not be for want of effort on the part of those who desire to promote national fruit culture to make themselves heard. We have before us the prospectus of an "English Apple and Fruit Growing Company," which may, if properly conducted, accomplish in time considerable things. Then we have proposals which should, in a few days, take practical shape—to form a British Fruit Growers' Association, and a National Fruit Growers' League; also to hold yet another conference, though chiefly with the former object in view, at the Crystal Palace, whilst there is coming, no further off than the week after next, the expectant important Apple and Pear Conference at the Royal Horticultural Gardens, Chiswick, and which will continue for some five days. Some other gatherings and proposals will doubtless crop up in other directions, but these four alone indicate which way the wind is blowing.

With respect to the company previously mentioned, we wish it every possible success, and certainly it is promoted at what would seem to be a very auspicious moment. The men at the head of it are severely practical in their aims, and deserve success, which we hope they will attain. It is difficult to refrain from asking Why "'Apple' and Fruit Growing Company?" We have always thought that Apples were the very embodiment of fruits, but in this instance they are distinctly regarded as otherwise. The title would be shorter and far more concise if the word "Apple" were eliminated from it.

THE BRITISH FRUIT GROWERS' ASSOCIATION.—In another column, p. 88, we give the proposed rules for the working of this Association, and at the outset it is hardly possible to avoid some criticism of the title, although that designated seems wide enough. The term "British" limits the range of the society's operations to the British Isles, and excludes Ireland, whereas these operations should fully include the whole of the United Kingdom. If not too late, we hope it may be possible to vary the designation, so as to include the sister kingdom. Then why limit the title to that of "Fruit Growers" when no such limitation is intended? So far as we can gather, the association proposes the very widest range and the broadest aims, and whilst the title "Fruit Association of the United Kingdom" would have been short and expressive, it may in the estimation of some be thought not sufficiently inclusive; we therefore hope ere the association is finally floated the term "Consumers" will be included, as without doubt it is of the highest importance that the interests of the consumers of fruit should be considered by the association as thoroughly as the interests of the producer.

The proposed new body, which it is hoped will be fairly floated at the Crystal Palace on Thursday next, starts on a broad basis. It is no little hole-and-corner affair, promoted by persons of doubtful status or lacking practical knowledge. It purposes, by having a low rate of subscription, to embrace all classes of the community interested in fruit culture; to promote conferences respecting this now vital subject, both in London and the provinces; to gather information from every available source which may be of value, and to disseminate it again widely through the instrumentality of the press, and, if possible, also by means of annual reports. The aims of the association, whilst so far national that they are chiefly devoted to the encouragement of fruit cultivation in the United Kingdom, yet are so purely catholic that they will know no distinction within that area. That great good may be accomplished by such a body in relation to fruit there can be no doubt, and we cordially wish it all possible success.

THE CHISWICK APPLE AND PEAR CONFERENCE.—The objects of this gathering, which bids fair to be one of great interest, and marked by particular success, are rigidly defined by the above title, as, in addition to being practically an exhibition of those fruits, it will also be a conference in relation to them. The congresses of previous years were severely limited to exhibitions of the respective fruits, but no literary work was conducted

in association with them. On this occasion the literary work promises to be considerable, as of the five days over which the conference will extend, two of them will be devoted to the reading of papers and discussions. Of papers, some considerable number—embracing various topics relating to Apples and Pears—have already been promised; and although it is admittedly hard to say much that is fresh in relation to hardy fruit culture, yet it is very probable that some of the papers may prove to be of particular interest.

Specially so will any which bear upon the broad question of national fruit culture as an industry and for essentially national purposes. These are topics needing broad dealing. We are pleased to note that the executive committee which has charge of the arrangements of the conference have declined to accept proposals to give to the various collections of fruits staged at Chiswick any form of distinction. The press and the public can do that for themselves. Only in the case of new varieties of special merit will certificates be granted, whilst further, in the case of very meritorious examples of older kinds, special commendation will be given to such, but not to the entire collection or to the exhibitor. The limitation of the number of sorts shown by exhibitors in the respective classes, whilst materially reducing the gross total of dishes as compared with previous exhibitions, should also materially raise the average quality of the display—indeed, the good kinds should be as prominent as the bad ones should be as conspicuously absent. It is hoped that every effort will be made to have all samples staged early on the 16th, and certainly none will be removed until the evening of the 21st. The week of the conference promises to be an exceptionally busy one, and we hope that the attendance will be large also.

Kew Gardens.—"A North London Vicar," a few days ago, made the odd suggestion in *The Standard* that Kew Gardens offered great attractions for parochial gatherings and mothers' meetings. The spectacle of a clergyman conducting a large body of poor women through the various Kew collections, and expounding to them the modern ideas which exist in relation to development and evolution—dipping now into botany, now into Genesis, and now into Lubbock or Darwin, would indeed be a sight for the gods, and to which we could hardly object under any circumstances, however inconvenient it may be.

But whilst clerical information is rarely of the practical or scientific order, it is exceedingly doubtful whether any object higher than securing at a cheap rate a sort of happy hunting ground for parochial gatherings animates the breast of the worthy clergyman of North London. There is a peculiar touch of human nature—indeed, very human nature, over the display of which the Kew authorities may well utter a groan of horror—in this clergyman's suggestion that the new refreshment chalet is too inconveniently placed. Visions of mothers' meetings held in this refreshment department, the chief elements of which are cake, tea, and parochial gossip, are bad enough; but if the idea be carried a little farther, and Kew be made the playground of the London schoolboy on the occasion of his annual outing, then indeed may we expect these grand gardens converted into a saturnalia of boyish riotousness, and a wilderness of wanton mischief.

Whatever may be our private views in relation to some Kew matters, at least we are very jealous for its reputation, and desire to see it maintained as a grand garden having world-wide fame. To associate such noble objects with mothers' meetings and parochial gatherings does indeed indicate a fall from the sublime to the ridiculous. We are as anxious as any that all classes of the community should have full access to Kew; but let us at least draw the line at clerically-conducted mothers' meetings and parochial societies.

The Chrysanthemum Season.—In spite of the fact that Chrysanthemums begin to bloom in August, and may be found in abundant flower in September and October, it is evident that these precocious bloomers create but trifling interest in the minds of the average grower, whose thoughts are more largely centred upon those which make such grand displays from the beginning of November onwards. Already anxious inquiries are being made as to the probable nature of the season's product of flowers, and we believe so far the reports are favourable. A cold wet summer has not badly affected a plant which naturally revels in a cold temperature, but the chief fear was lest the wood which was to produce exhibition blooms should not be fully matured. The warm dry weather of the past month, with some trifling breaks, has done growers great service, and now hopes run high that a really fine season of bloom is before us.

Death of Mr. F. A. Dickson.—As we go to press we regret to hear of the death of Mr. Francis Arthur Dickson, for many years senior partner of the firm of Francis and Arthur Dickson & Sons, of Chester, now merged into Dicksons Limited.

Gardening Engagement.—Mr. Charles Beranek, of the Imperial Botanic Garden, St. Petersburgh, as head gardener at Gorbanevka, Poltava, Russia.

Clay Cross Horticultural Society.—Exhibitors and judges who have been in the habit of attending the very successful flower shows, held at Clay Cross, will regret to hear that Mr. J. Stollard, who for twenty-six years has been the secretary of the society, has found it necessary to resign the office into younger hands. Mr. Stollard has been unwearied in his attention to the duties of his office, and his uniform courtesy gained for him the goodwill and respect of all who had business with him. May be long enjoy his well-earned repose.

Early Frosts: Severe Weather in the North.—Very severe weather for the season has been experienced in the early part of the week, and the glories of the garden have departed for this year. In Aberdeenshire the roads were covered with hail, and a friend coming south on Tuesday reported the Cumberland hills as being covered with snow. In the midland counties snow also fell heavily in many parts where the corn was still standing. A Burnley correspondent writes:—On Sunday morning we had 6° of frost, on Monday 10°, and on Tuesday morning 16°. All tender plants outside are completely ruined, a disaster all the more annoying inasmuch as many things were only just coming to their best form after the cold wet summer. Monday morning's frost was succeeded by a snowstorm of four hours duration, the general appearance of the country on Monday afternoon being that of December more than the 1st of October. On Wednesday morning in London the frost was very severe, completely settling the bedding plants.

National Apple and Pear Conference at Chiswick.—A meeting of the executive committee was held in the Royal Horticultural Society's Gardens at Chiswick, on September 27th. Papers to be read at the conference were promised by Messrs. G. Bunyard, J. Cheal, J. Douglas, E. Tonks, S. Hibberd, J. Fraser, W. Wildsmith, E. J. Baillie, M. Dunn, McDonald, Tallerman, T. F. Rivers, Saunders, Bear, and W. Paul. Great interest was manifested in the proceedings, promises of support being received from the leading growers. It was agreed that the conference be held in the conservatory on Wednesday and Thursday, October 17th and 18th, the first day (October 16th) being devoted to the examination of the fruit, the general committee meeting at 3 p.m. for the formal opening of the proceedings. It was agreed that no prizes be awarded, but cards of commendation for special merit will be given by the committee. It was decided that the various papers be put in type, previous to the conference, for the more convenient use of the committee and press. The gardens will be opened to the public at 1 p.m. on October 16th. Notices of intention to exhibit should be sent to Mr. A. F. Barron, Royal Horticultural Society's Gardens, Chiswick, not later than Wednesday, October 10th.

The Society of American Florists have elected as their fourth president Mr. John N. May, the son of a Middlesex gardener. Mr. May is a descendant of an old Yorkshire family, who for several generations have been nurserymen and florists in that county. At the age of fourteen years he was apprenticed to the late J. B. Whiting, of The Deepdene, Dorking, Surrey, who was at that time well known as one of the best practical gardeners in England. After serving his time there he was employed in several large places, principally in the north of England, in various capacities—as journeyman, foreman, and head gardener, till in 1869 he landed in America. After working in various places in Canada and Vermont he finally located in Madison, N.J., where he shortly took charge of the Rose-growing establishment of the late E. V. Haughwont, and where he remained till April, 1880, when he started in business for himself at Summit, N.J. Mr. May is a very busy man, attending personally to the details of his large Rose-growing establishment at Summit, and has often remarked to his friends that he has never been idle or out of employment a single day since he was fourteen years of age. The unceasing care and attention to his business is undoubtedly what has brought him success.—*American Florist.*

Gardeners' Reunion at Preston.—On Saturday evening last a very interesting gathering was held at the Old Legs of Man Hotel, Preston, under the auspices of the Preston and Fulwood Horticultural Society—namely, the annual reunion of the gardeners of the district. There was a good attendance; Mr. Roberts was voted to be chairman, and he was supported by Alderman Galloway, J.P. (the ex-president), A. Tullis, Esq, (the newly elected president), J. Sellers, Esq., J.P., J. Foster, Esq., Mr. J. Atherton (secretary), Mr. Wm. Troughton, Mr. Ed. Paine, Mr. Blench (gardener to Lieut.-Gen. Fielden, M.P., Witton Park, Blackburn), Mr. Winn (Brindle Lodge), and Mr. Burns (gardener to Sir Henry de Hoghton, Bart., Hoghton Tower). After an excellently served dinner a number of toasts were honoured, and in submitting those of a loyal and patriotic character, Mr. Roberts spoke of the pleasure he experienced in finding so many gardeners present from the district. He also alluded to the perfect unanimity that prevailed among the members of the society under whose auspices they were assembled, and remarked upon the benefits arising from their social gatherings held each month. Alderman Galloway gave "Success to the Preston and Fulwood Horticultural Society," and coupled with the toast the name of Mr. Alex. Tullis, their chosen president for the ensuing year. Mr. Tullis acknowledged the compliment. Mr. Foster, in a few appropriate remarks, gave "The Honourable Profession of Gardening." Mr. Brindle proposed "The Town and Trade of Preston," and Mr. Swan submitted "Success to the Gardeners' Orphan Fund and Gardeners' Royal Benevolent Institution." "Our Employers" having been drank, Mr. Atherton gave "The Press" in eulogistic terms.

NOTES ON THE LILY SEASON.

As the Lily season is now drawing to a close, I send you a note of what it has been with us. The early-blooming Lilies were very good, we never before had such fine Lilium Brownii and L. Hansoni. L. Szovitzianum, L. tenuifolium, and some L. longiflorum bloomed well. L. candidum simplex in a few situations were good, but in most the leaves were attacked, became brown, and made no growth. L. Humboldti in sheltered situations were fine, but exposed on the hill went off quite suddenly in a few cold wet days, and all the buds became brown and spoilt. L. pardalinum and L. californicum where moderately sheltered were fine, L. auratum in exposed situations in full sun were good, and much less affected by the wet weather than most of those which were sheltered from wind. It seems that with our two largest beds of these, the one exposed on the hill-side is finest in cold damp years, and the large beds sheltered in the wood in dry hot years.

The varieties, L. rubro-vittatum platypetalum or platyphyllum and L. macranthum had some very fine flowers, but most had one or two damaged by the drip, or bruised by the unusually heavy rain to which they were exposed. The finest growths we had were in beds in a wood at Weybridge; here the ordinary L. auratum had several stems from 9 ft. to 10½ ft. high, and perfect blooms, which showed finely among the trees; but even here, where bad weather has not till this year injured them, a good many were damaged. L. martagon dalmaticum in most situations were good; L. tigrinum splendens flore pleno and L. Fortunei bloomed well,

but L. tigrinum jucundum had its buds injured, as was also the case with L. Batemannii. L. Leichtlinii and L. Parryi were damaged, and had no good flowers; L. polyphyllum was not strong, our finest plant was damaged by the stem being cut to the ground for exhibition last year. L. giganteum bloomed well, L. cordifolium moderately, L. superbum was very fine in some situations, but very bad in others. L. neilgherrense has grown well, but will be too late to flower satisfactorily.

The season was such a late one that I feared the varieties of L. speciosum (lancifolium) could not bloom before the frost came upon them, but the recent hot sun has brought them on fast; those exposed on the hill-side had their buds damaged by the heavy rain, but in most of the sheltered situations they were little injured and in some not at all, and are now blooming well. L. Krameri bloomed well; we had one of the very high-coloured varieties. L. columbianum and L. avenaceum were good.—*George F. Wilson, Heatherbank, Weybridge Heath, Oct. 1st.*

COTTAGERS' SHOW & HARVEST HOME AT ENGLEFIELD HOUSE.

On Wednesday, the 26th inst., the Squire of Englefield, near Reading (Richard Benyon, Esq.), added another proof to the many he has previously shown—in fact, is constantly showing—of the real interest he takes in the welfare of the workmen on his extensive estates. The day was observed as a general holiday, and every man, woman and child in the parish had an invitation to partake of dinner or tea at the Hall. Sports of every description were provided, not the least interesting being the presentation of useful gifts, in the shape of clothing, &c., to the youngsters, who did not mind adding to the pleasure of their seniors by the display of their athletic proclivities. It is, however, the horticultural section of the day's proceedings that most nearly concerns your readers, so that to this subject I will now confine my remarks. The show of vegetable produce, limited in competition to workmen on the estates, was by no means the least important feature. The prizes were all provided by the liberality of the Squire, and though they were not large, they were ample to secure a keen competition in all the classes.

The schedule is divided into two sections, one for mechanics and the other for labourers, an excellent arrangement, inasmuch as it prevents the latter being, as it were, handicapped by the mechanics, whose better wages might enable them to pay for a day or two's labour. As a matter of course, Potatos were the main feature of the show, and of their kind no better specimens need be; but, with one exception, they were all Americans, a fact due, no doubt, to their supposed superior cropping qualities, but it is only supposition, and the sooner the Englefieldians come to recognise the fact, the better will it be for their palates, there being no comparison in respect of quality between the Americans and that of an average English variety. The collections of vegetables were the best I have seen at any cottagers' show this season, Celery, Onions, Carrots, Peas, and Runner Beans being generally of extra fine quality. The effect of this department of the show was somewhat marred by the collections being allowed to be of an unlimited number—"not less than five" was stated—and in all, there were not less than a dozen, so that necessarily inferior produce detracted from the appearance of the good.

Another season, those responsible for the arranging of the schedule would do well to state an exact number, and also to erase the rule which prevents the best competitor from winning the best prize, the rule in question being to this effect—namely, "that the winner of any prize for two years in succession shall not compete for the same prize a third year." A moment's thought will convince anyone that such a rule is calculated to cripple the energies of the greatest enthusiast. No, the best man should on all occasions be the winner. Cabbages were shown splendidly; there was not a bad exhibit amongst the whole sixteen competitors. Carrots were still finer, Onions good, Turnips ditto, Parsnips poor (too early), and Cauliflowers middling. The latter vegetable does not appear to be appreciated according to its merits by the cottagers of this model Berkshire village. It should be added that prizes are offered for the best cultivated gardens, and the judges, whoever they are, that perform this part of the work must have a difficult task where all are so good.

And now a word with regard to the gardens and grounds in which the show was held. My visit was necessarily a hurried one, but being a true brother of the spade, it was a matter of conscience with me that as soon as my judging duties were over, I must have "a run round," and this I did with the gardener-in-chief, Mr. Coombes, as my guide. Our first move was to the flower garden, an immense terrace, laid out in true geometrical style; but the beds are so large, and intersecting turf so wide, that there is an entire absence of the appearance of the slightest undue formality. The planting of the beds is of the colour-massing order, which plan suits the position admirably. On an elevation overlooking the flower garden is a conservatory of large dimensions, and furnished with plants for permanent effect—Oranges, Citrons, Myrtles, and Camellias principally—which, with the exception of two or three of the Oranges, are in magnificent health.

The houses devoted to plant culture are numerous, and well adapted to the varied uses. The Fernery was the one house that most aroused my envy. The plants are placed out, and arranged on what I call the natural system, the undergrowth being a carpet of Maidenhair—Adiantum cuneatum—and various kinds of Selaginellas, Adiantum Farleyense, A. formosum, and A. gracillimum, are growing here like weeds. Stove plants and the more popular species of Orchids are grown largely, and in the stove is a grand plant of Allamanda Schottii, one mass of flower covering the entire roof of one side of the stove some 40 ft. long, from which plant Mr. Coombes assured me he had cut flowers daily for months past. In an adjoining house devoted to greenhouse plants, the roof climbers are red and white Lapagerias; a plant of the latter has on it at the present time over 200 bunches of flowers, and, as showing its vitality, in spite, too, of such free-flowering, it is throwing up several extra strong new growths. The red variety, though not quite so floriferous, is a model of cultivation.

Kentia australis.

Calanthes are very good, and already throwing up strong spikes of flower; but the feature of this department of the garden is undoubtedly the Poinsettias. A span-roofed pit, 16 ft. by 10 ft., is entirely devoted to these, and they are planted out hot-bed fashion on a bed of leaves and litter in light loam. The plants are now some 4 ft. high, with foliage to the base; of size and texture near akin to Cauliflower leaves, so that if all goes well, of which there would appear to be little doubt, bracts of an abnormal size is a certainty. This mode of growing Poinsettias is quite new to me, but Mr. Coombes has practised it for years, and there is no doubt of the utility of the plan being of first-rate importance to those having a demand for cut spikes of these fine plants. Bouvardias for cutting are grown in the same fashion, and occupy a pit of like construction and dimensions. Bushels of flowers might be gathered from the plants at the present time, which fact is proof positive of the excellence of the plan.

Fruit is grown extensively, Pines, Grapes, Figs, Peaches, and Strawberries being in great demand. Some 4,000 of the latter are forced, the varieties being La Gros Sucrée, President, Sir Joseph Paxton, and British Queen. Of Pines, ripening at the present time, there are some superb specimens of Black Prince and Smooth Cayenne. Mr. Coombes pots entirely in sandy loam, no other admixture; but he waters freely with liquid manure as soon as the roots have reached the sides of the pots. With regard to out-door crops it is here as elsewhere, namely, great scarcity. The crops and cropping of the kitchen garden bespeak both skill and painstaking, and, I might add, a regard for the ornamental also, there being lines of plain-leaved Endive, then a line of curled, then Lettuce, Carrots, Beet, and so on; and if one were asked why this ornamentation, the only reply I would give would be, why not?—*W. W.*

KENTIA AUSTRALIS.

Like the other well-known Palms, Howea Fosteriana and H. Belmoreana, popularly called Kentias, that under notice also comes from Lord Howe's island. The leaves are comparatively short considering that they are pinnate, with linear or lance-shaped segments. They also spread regularly, and the pinnæ drooping at the upper end give the plant a graceful appearance for table work. On this account the plants above-mentioned, including that under notice, are very serviceable for table and general decoration, and are used in large quantities, even when small, on account of their assuming the adult character and form of the leaves even when quite young. To this must be added the fact that Kentia australis is rather dwarfer in habit than its congeners mentioned. Palms for decorative purposes are now being more and more largely grown, and while this is the case Kentia australis will not be neglected. Loam and peat in equal proportions, with the addition of some silver sand constitute a suitable compost; and while making their growth stove temperature and copious supplies of water are requisite.

THE BIRMINGHAM BOTANICAL GARDENS.

A visit to these gardens at any time affords pleasure to anyone fond of plants. Just now one of the show houses is very gay; some good well-grown early Chinese Primulas occupy one half of the house, the other portion being filled with tuberous Begonias of all shades and colours, beautifully grown and profusely flowered. These intermixed with Palms and Celosias of a fine strain make a grand display. I was pleased again to meet with the old and too much neglected Callicarpa purpurea, grown as standards with fine heads. The shoots being fully 3 ft. long, and covered profusely with the bunches of bright intense purple berries, makes this a grand plant for the decoration of warm greenhouses at this season of the year.

Another good old plant, but seldom seen nowadays, is Odontadenia speciosa (Dipladenia Harrisi). This is growing upon the roof of one of the stoves, and is flowering very freely. It is certainly well worthy the attention of those growing good climbers. There are many trusses of flower expanded, some with as many as two dozen blooms on a truss, the peculiar orange-buff colour and blood-red veined throats rendering it very attractive. Grown also in the same way is the singularly beautiful Gloriosa superba, which is also worthy of a suitable place, for it flowers very freely, and the combination of the colour, viz., orange and scarlet, and the peculiar character of the flowers render it an attractive curiosity.

The greenhouse roofs are adorned in various positions with Lapageria alba and L. rosea. These are growing side by side and are allowed to hang carelessly. The fine racemes of the flowers, for they are here in great abundance, are very showy, and they are seen to greater advantage than when trained in so close and formal as we often see them. Many good Orchids are in flower, and Mr. Latham, the able curator, was about to draw my attention to a fine healthy plant of Vanda Sanderiana, with two spikes, but one of them with expanded flowers was gone. It had been seen by him a short time previously, but some miscreant had limbed the spike off in a careless manner, and an attempt had also been made to steal a spike of three fine flowers of Cattleya Gaskelliana alba. The thief had been disturbed, no doubt, as the spike was cut through but not taken away. This variety is a very fine one, the flowers being of great substance, sepals and petals pure white, orange throat, with only just the slightest tracing of rose in the lip. It is a pity such dastardly conduct could not be detected and adequately punished.

Mr. Latham drew my attention to his hybrid Cypripediums, some of which will shortly flower. He has already flowered one, the result of a cross between C. Spicerianum and C. villosum, and which was named after him by Professor Reichenbach. He has also raised some hybrid Todeas, some of which will prove valuable additions to this beautiful family.—*Rusticus.*

[We have been favoured with specimens of the beautiful old-fashioned plant Odontadenia speciosa by Mr. Latham. The leaves are large and light green, with crimson mid-ribs on the young ones, and a conspicuous and beautiful venation. The tube of the large, slightly scented flowers is scarlet, and curiously contracted immediately above the insertion of the stamens, so that the lower pouch-like portion encloses the five toothed glands which give rise to the generic name, and which produce a great quantity of nectar. The flowers are yellow shaded with orange or scarlet, and are produced in terminal and axillary cymes on the ends of short lateral branches.—Ed.]

GARDENING NOTES FROM IRELAND.

TOUCHING A MATTER OF TRADE INTEREST.

A DUBLIN daily paper came out with a leader last week, commending one of the Dutch bulb firms to the notice of the public. Evidently the Dublin seed merchants were as one against the system of running advertisements into the editorial columns, as the following day another leader appeared commenting upon the fact of their previous article having "attracted much attention." The whole gist of the "much attention" appears to have been whether reliable bulbs could be had from seed merchants in Ireland, and the editorial answer was "of course they can." While asserting that it was not their "custom to recommend private firms," the writer swallowed the Leek like a man, for as he had already recommended one Dutch firm in particular, the remonstrance of the "private firms" had its effect, and the names were given of the leading private firms in Dublin, who were considered as capable of doing justice to their customers. The highly reputed firms, however, if they obtained a promiuent and gratuitous advertisement, were not to be let off with flying colours, aud accordingly the writer has a slash at both Irish and English seed merchants and nurserymen, for the manner in which they bring out their catalogues as contrasted with those of continental production. A gentle hint was also given as to the prices charged.

As to the catalogue part of the question I think both Dublin and English firms bring out very meritorious productions, and I think they ought to be the best judges of what is likely to suit the public taste. The leadiug daily paper complains, however, that English and Irish catalogues are too pictorial and delusive, and enough space is not given to descriptive matter. Well, this is news to me. I have been looking for years through almost all the seed catalogues for the different seasons, and I can say that while some of them are highly pictorial, none of them are wanting in concise and explanatory literary matter. So far I think our seed merchants have no need to go to Dutch bulb growers to learn how to illustrate or compile their catalogues, whatever they may have to rectify in the matter of price or advertising. The paper in question admonishes Irish seedsmen in this fashion, "Our Irish merchants must realise the fact, that in this free-trade era people will buy in the market that which is cheapest and best known to them. They must beat their competitors in price and, above all things, publicity." There is, it adds, "no other safe rule of the road."

THE VEGETABLE GROUNDS AT THE RATHDOWN UNION, LOUGHLINSTOWN, CO. DUBLIN.

THIS place is convenient to Shankhill Station on the Dublin and Wicklow Railway, and is within easy distance of the town of Bray, the Brighton of Ireland. To those who may have read of the beauties of the Vale of Shanganagh, I may say that the Rathdown Uuion is situated almost in its midst, and that from various standpoints surrounding it, many glimpses of splendid natural scenery can be had. It is always useful, from a gardening and farming point of view, to look in here at this time of year, and see what Mr. Conway—who is the teacher of the boys, and a most enthusiastic and practical agriculturist to boot—has been doing during the season. Before I deal with the various crops of roots and vegetables, I may say that all the tillage and other work necessary for the productiou of the vegetables grown here is chiefly done by a little army of small boys, who are always under Mr. Conway's superintendence. The work performed by these little fellows is admirable, and their teacher may well be congratulated on the traiuing they are receiving in this department, and although it may hardly come within the scope of my observations, I think I may say that in all that concerns these poor boys educationally, Mr. Conway deserves very great praise for the excellence they have attained. In comparing the growing results of the root-growths this year with those of last, I fear that in some cases, and notwithstanding the drought of last season, the average return will be much less this year.

MANGELS AND SWEDES.

OWING to the cold sunless summer the first named are not, I think, equal to what I saw growing in these grounds last year; they evidently want more time to grow, which at this advanced period of the season they are not likely to get. Numerous varieties are grown, and all are of fair average growth taking the season into account. Those sown on the 5th of April are solid and good, while others not sown till later on are only of medium size. Yellow Globe, Oval Yellow and Long Red are decidedly fine crops, while Oval Red, Long Yellow and Tankard are not nearly so good. Among the later-sown varieties is one known as Gate Post, which was sent here on trial from Sir James Mackey's seed establishment in Upper Sackville Street. Nothing could illustrate better how much inferior the growth of Mangels is now as compared with those of last year. I remember seeing on exhibition last year, at Sir James Mackey's, roots of enormous size of this very variety, and here they are only of a medium size. Unlike Mangels, the Swedes are certain to turn out a very heavy crop, chiefly for the reason that they can be trusted to have a longer time to complete their growth. They are grown here not as cattle food, but to help out the usual vegetable supply. Some of the varieties grown were supplied for trial by Messrs. Sutton & Sons, Reading. These were all doing well, as were others supplied by Messrs. Drummond & Sons, Dawson Street, Dublin; Messrs. W. Tait & Co., Capel Street, Dublin; and Sir James Mackey. The varieties consisted of Dwarf Top, Defiance Purple Top, Bronze Top, and the very useful White-fleshed Swede. Of the softer varieties of Turnips many are grown, such as Dale's Hybrid, Foster's Hybrid, Green Top Aberdeen, Devonshire Greystone, &c. These all come in useful and help to prolong the supply.

ONIONS.

I FOUND these a remarkably heavy crop, and some of the sorts of fine size, and as close iu the lines as they could stand. A number of sorts were on trial for the first time, including several sent by the Messrs. Sutton. As it may be useful to some of our gardening friends if I mention such as are not generally known, I will do so. The first is Crimson Globe, a fine clean large Onion, and one to be recommended, if its keeping qualities are good. Golden Globe is a grand sort for a heavy crop, and being very thin in the neck, shows every indication of being a good keeper. Silver Globe is an equally fine kind. Improved Reading is a very handsome, straw-coloured Oniou, a good cropper, and I should say a fine keeper. All the older kinds, such as Strasburgh, James's Keeping, Yellow Deptford, Nuneham Park, Banbury, &c., gave good returns.

POTATOS.

AN actual digging trial of the Potatos, I am sorry to say, pointed to the probable scarcity of these during the coming winter and spring. So far as it is possible to avoid Potato disease, Mr. Conway's mode of procedure ought to effect it. His crop of these tubers always succeeds his heavily-manured crop of Mangels, and receives no other manuiing whatever. Under such treatment one would not expect to find disease prevalent, but among some of the sorts, however, this was so. Under the general description of good kinds I may mention Imperator, Early Rose, Adirondack, St. Patrick, American Giant, Bountiful Red Kidney, Reading Hero, Magnum Bonum, and Sutton's Best of All. Some newly imported Champious were good and sound, while other stocks, not of recent introduction, were very uusound. Some kinds which turned out well last year are very bad this season, and although not long introduced, and said to be disease-resisting, are by no means of that desirable character. Some of these are Village Blacksmith, Fiftyfold, Beauty of Hebron, Scottish Queen, Scottish Star, Lord Beaconsfield, Fillbasket, Puritan, Maggie, and Scotch Downs, a variety which I thought was out of cultivation years ago; then there were a lot of Sutton's introductions, all badly diseased and poor in crop. These were Abundance, a fine Potato, where sound; Early Market and Satisfaction, both badly diseased; Seedling Kidney and Masterpiece. I have the names of many others in my list, but I have given enough to show what havoc the disease has wrought.

OTHER VEGETABLES.

BRUSSELS SPROUTS, Borecole, Broccoli, and Cabbages are fine in growth, as are also Parsnips and Carrots. Celery and Kohl Rabi are very well done indeed. The general tendency of the season has been to develop the foliage of the plants to an unusual degree; hence we need not be surprised that this large increase of leafage, while telling well for such plants as we grow for their leaves alone, has had an opposite effect on subjects grown for their roots only. In this way I find Turnips and Mangels are carrying a large amount of the most luxuriant foliage; but the late dry weather has had the effect of hardening it somewhat, and this must act beneficially on the roots.

IRRIGATION AND DRAINAGE.

IN trying to get rid of a system of sewers which formerly deposited laundry and other slops in a small river close by, and which was regarded as a nuisance by the public, the Guardians are constructing works by which the land in their possession, after being thoroughly drained, can be irrigated, and the sewage, free from all impurities, turned into the river. The works have been executed at a large expenditure of money; but while effecting a work of so much importance to the public health, I believe the Guardians will, by the adoption of a certain course, have it in their power by-and-bye to recoup the ratepayers for the outlay. The same difficulty that existed elsewhere of keeping down weeds has been found here, but although they were troublesome, Mr. Conway, with his "little men all," succeeded to perfection, and at the time of my visit all his crops were entirely free from them.

EXPERIMENTAL STATIONS.

IN thinking over the experience to be gained in comparing the growths of roots and vegetables as done at a few of the public institutions, I often feel that if we had more of them scattered over the country, and that a little more means were afforded, what an easy matter it would be to establish stations for experimental purposes, in an humble way it might be, but still, n a country like Ireland, they could hardly fail to produce good results among our farming population. At all events, the efforts of Mr. Conway, and men like him, deserve every encouragement and full recognition at the hands of those they are serving, for are they not training up youths to habits of industry which must fit them bodily to help in the world's work, as well as form their minds to receive and retain the information imparted to them?—*W. D.*

SOME GOOD APPLES.

FOREMOST among these I place Lady Sudeley; it was sent out by Messrs. George Bunyard & Co., of Maidstone, for the first time iu 1885, having been obtained by them from Mr. Jacobs, of Petworth, and provisionally named Jacob's Strawberry. Its origin seems involved in obscurity. Mr. Jacobs states that he purchased a bundle of Apples at a nursery sale, and among them he had two which bore the fruit subsequently named Lady Sudeley. It is an early dessert Apple, ready in September, and keeping until November. It is strongly recommended for its fertility, fine flavour, and singularly haudsome appearance, for when it becomes ripe it is beautifully stained and striped with crimson, and in this form has great attraction for the eye. I saw a few plants of this Apple two years old on the French Paradise, bearing really splendid fruit, in Messrs. J. Cheal & Sons' nursery, at Crawley, a few days ago, and it is bound to take a high place among our early dessert Apples. For exhibition purposes in September it is, I should think, unrivalled. I think it will make a remarkably fine market Apple.

Domino is a variety not largely known; it is of the Codlin type, very prolific, and of extra fine quality, and cannot fail to make a fine market variety; it is also well adapted for small gardens. The Professor is another fine Apple, culinary, ready in September and October, and represented by a large and somewhat conical golden yellow fruit of extremely attractive appearance; a great cropper, and boils remarkably well, sweet, and requiring scarcely any sugar. It was exhibited at the Apple Congress at Chiswick in 1883, but is stated in the report to be worthless. Messrs. J. Cheal & Sons, in whose nursery I recently saw it in very fine condition, term it of the first quality, and I think they are right. Small trees upon the French Paradise were bearing very fine specimens.

The Queen, recently seut out by Messrs. Saltmarsh & Son, of Chelmsford, is also another very fine new Apple, and like the preceding, can be seen in very fine condition at the Crawley Nursery, bearing freely and finely upon small trees. It is a large and very handsome Apple, ready in October, and will keep a long time. It does well on a standard, and succeeds in a heavy soil. I regard this as one of the Apples of the future. Lord Grosvenor is uot nearly so new, but it is a large and very free-bearing Codlin, a robust grower, with vigorous foliage, and valuable as an early variety. It is au Apple that should be planted in heavy soils, as it will succeed where Lord Suffield will not. I could not help being struck with the appearance of the trees of the two varieties in the Crawley Nurseries, where the soil is heavy. Lord Grosvenor was as healthy as possible, bearing fine fruits; Lord Suffield looked woebegone, and the fruits were spotted. The latter should be planted in a good loam upon the gravel in a sunny position, when it may be expected to do well and bear fine fruit.—*R. D.*

CHRYSANTHEMUM NOTES.

EARLY-FLOWERING VARIETIES.

I have read with much interest the suggestive letter of your correspondent, Mr. Francis Mead, and also the instructive one of Mr. Witty in your last. I like these early-blooming sorts, and shall add some of those mentioned by Mr. Witty to my stock. Would you allow me to ask him a question or two with reference to La Petite Marie? This is an especial favourite of mine, but I have great difficulty in keeping it through the winter, and consequently in getting stock. My cuttings are always very small, but by putting five in a thumb-pot, and afterwards potting on to 48's, I get lovely little bushes 6 ins. high. If I planted them out, would they suffer much from lifting in August? How does Mr. Witty manage it, and has it a match in diminutiveness of any other colour?—*A Country "Mummer."*

CHRYSANTHEMUM BURNABY.

In reply to Mr. Potts, p. 67, I may say that I have found the foliage of this Chrysanthemum to be quite like that of Comte de Germiny in all respects, and not like Japonais. I thought the bloom of Burnaby, which I saw last season, resembled one of Japonais, hence my reason for doubting its being a sport from Comte de Germiny. At the present time the blooms are opening quite like Comte de Germiny, but they may change later on. In any case I shall have much pleasure in informing your correspondent what the variety ultimately develops into.—*E. Molyneux, Swanmore Park, October 2nd.*

CHRYSANTHEMUM SHOWS.

The following is as complete a list of the Chrysanthemum shows for the coming season as we have been able to obtain. We should be glad to receive intimation of any additions or corrections:—

OCTOBER.

10, 24.—National: Floral Committee Meeting.

NOVEMBER.

5.—Surrey, at Peckham.
6, 7.—Southampton
7, 8.—National, at the Westminster Aquarium, and Bath.
7, 8, 9.—Portsmouth.
9, 10.—Crystal Palace, and Leicester.
13, 14.—Brighton, Winchester, Maidstone, Lambeth, and Southwark.
14.—Ealing.
14, 15.—Bromley, Hampstead, Market Harborough, and Kent and County at Blackheath.
14, 15, 16.—Southgate, and York.
15.—Chiswick, Taunton, and Dublin.
15, 16.—Hinckley, Weald of Kent, and Salisbury.
16.—Exeter.
16, 17.—Provincial Show of the National Society at Sheffield.
19, 20.—Wolverhampton.
20.—Oxford, and Finchley.
20, 21.—Liverpool, and Edinburgh.
21.—National: Floral Committee Meeting.
21, 22.—Birmingham, and Rugby.
22 23.—Hull.
23, 24.—Bolton.

DECEMBER.

5.—National: Floral Committee Meeting.

VIOLETS IN FRAMES.

THE return of the autumn mouths once again reminds us that preparations must be made for the coming winter, and as there is so much to be done it is not wise to leave a great quantity till the last week or two; indeed, plants grown outside throughout the summer should be at once potted, or what is better still, should have already been done. No time should now be lost in planting Violets in the frames destined for their accommodation, as it is imperative that they should get established before the short sunless days come upon us.

The frames should have a quantity of litter put into them, treading it firmly down during the process of filling, then allow a few days for it to cool, as violent heat at the bottom is detrimental to the well-being of Violets, and, necessarily, successful culture is non-existent. Soil composed of loam, leaf-soil, and sand, can in the meantime be prepared, subsequently filling the frames with it to about 3 ins. to 4 ins. from the top. The Violets can then be planted, and should touch the glass when in, so that all the light possible can be accorded them, as the beds will naturally sink in time, therefore, if not well up at the commencement it will be obvious that much light will be denied them when so low, also the vigour and floriferousness of the Violets will be proportionately less. Give a good watering when the planting is done, and afterwards care must be exercised in this matter, as little will be required till the spring comes round. The lights can remain off for a week or two, until the nights become colder. In severe weather protection must be given, in the way of mats and litter; in mild weather air should be freely admitted.

The most useful and best varieties are Marie Louise, and Neapolitan, doubles; The Czar, and Comte de Brazza, singles, the latter being white and much admired.—*F. R. S.*

NOTES FROM EASTBOURNE.—II.

RESUMING my observations on things arboreal, I should like to make a few additional remarks on this subject, before passing on to the other domain of floriculture. In my last, p. 48, I dealt mainly with Elm trees and Euonymus shrubs; but in respect to the former I am disposed to admit, that although the Elm seems to be the favoured tree here, yet there are others, such as the sweet-blossomed Lime, the quivering Poplar, the elegant Robinia, the stately Plane, &c., which appear quite as much at home as our welcome umbrageous friend—the noble Elm. As to the shrubs, which apparently are quite prosperous in their homes by the sea, I append the names of some of the most noteworthy. They are, in addition to the ubiquitous Euonymus, the Holly, the Privet, the Bay, the Berberis, the Laurel, the Laurestinus, the Veronica (which forms large bushes), the Yew, and the Conifer tribe generally.

The charming Elizabethan residences, which abound on the north and west, or what may be termed the suburbs of Eastbourne, are, for the most part, detached from their neighbours, each occupying their own "desirable situations," and thus forming quite elegant and independent estates. The *modus operandi* generally adopted in constructing the gardens of these palatial villas consists in throwing up mounds of earth level with the enclosures, which are of ornamental brick and stone, graduating or undulating these to the desired configuration, planting evergreen and deciduous shrubs upon the top, with a margin for flowers, and finishing off with sloping banks of turf. In the larger gardens provision is duly made for that most healthy and invigorating of all modern outdoor games, in which both sexes can unite—namely, lawn tennis; and I need hardly insist that the turf is maintained in the most velvety and beautiful condition. About these architecturally and charmingly-devised modern mansions creepers freely climb—notably the pale blue hardy Passion Flower (Passiflora cœrulea), which simply luxuriates in the saline breezes, exhibiting its curious blossoms with such a wealth of freedom as to stand unrivalled in the matter of bloom. The purple Clematis (C. Jackmanui) also appreciates its southern home, judging by the quantity and quality of its showy flowers. Roses do well considering the nature of the soil, as also Cratægus Pyracantha, Jasmine, and many other graceful subjects, never omitting the many-hued and gorgeously-tinted foliage of Ampelopsis tricuspidata.

As to the flower gardens, most of them are laid out in the usual stereotyped style, but here and there some very pretty effects are produced by a rare selection of some of our choicer half-hardy annuals. Conspicuous amongst these are Phlox Drummondi grandiflora, Godetias, Gaillardias, Scabious, Calliopsis, &c., the brilliancy and beauty of which surpass all conception, and must be seen to be appreciated.

The geometric or carpet bedding on the Grand Parade I have rarely seen equalled, the designs being meritorious and the colouring superb. The zonal Pelargonium seems perfectly at home in the sunny south, and a bed of Mrs. Turner and Henry Jacoby, edged with Golden Harry, rivetted my attention.

Other flowers, such as the Dahlia, the Petunia, the Fuchsia, the Japan Anemone, the Tritoma, &c., develop severally their floral beauties whenever the necessary attention is bestowed upon them, and a great amount of that must be required in a dry season. Wherever a garden of any pretensions whatever is acquired, a necessary adjunct is a greenhouse or conservatory, and that desideratum has been compassed here by the erection of one or more such structures to most of the villa residences built in recent times. I am pleased to see that a real spirit of, and love and taste for, floriculture predominates amongst the occupiers of these pretty villas, and that in consequence a wholesome and exhilarating rivalry prevails.

Devonshire Park, the veritable "lion" of the place, owes not a little of its attractiveness to the admirable manner in which the gardens have been laid out. Trees and shrubs of the best description have been planted without stint, and with a due regard to effect, and a raised terrace running round the park beneath a wealth of foliage affords a delightful promenade in fine weather. The beds and borders are artistically disposed, and besides the customary bedding out we have groups of Palms, Tobacco plants, Phloxes, and Verbenas; while in the borders rise up for our approval clumps of Rudbeckias, Antirrhinums, Sedum spectabile, or the rosy Stonecrop, Godetias, &c., &c., the interior being laid out at different levels for cricket and lawn tennis, with a floral hall or music garden to complete the scene.

Before I conclude these rambling remarks, I must, perforce, mention Gazania splendens, Campanula isophylla, Othonna crassifolia, and Sedum Sieboldii medio-variegata. These plants, it is hardly necessary to add, are grown either in suspended pots or baskets, and the charming way in which their elegant gracefulness and intrinsic beauty is thus displayed, leaves nothing else to be desired, except it be a tinge of sorrow that one cannot transport them, in all their loveliness, to the hearths and houses of those who daily toil in the great city—the modern Babylon.—*C. B. G., Acton, W.*

NOTES FROM SCOTLAND.

A Holiday Trip to Scotland (*continued from p. 67*).—Half an hour's walk from Ravenswood, across some fields, with lovely scenery in every direction, brought us to

PRIORWOOD, MELROSE,

The residence of A. Curle, Esq., a great Orchid enthusiast, and the owner of a very rich collection. Although not the season of the year for many species to be in flower, yet throughout the houses there was a good display of bloom. In a large span-roofed Cattleya house many good things were in flower, amongst others being an exceedingly fine variety of Cattleya aurea, deliciously scented, and the valuable autumn-flowering C. Gaskelliana represented by several good varieties. A fine specimen of the true and much-coveted C. G. alba would soon be at its best. C. gigas Sanderiana and C. crispa also added to the show, the former being of extra quality. Of others not in flower I noted two fine plants of C. exoniensis, a large specimen of C. Skinneri alba, and also one of the much-sought-after autumn-flowering C. labiata. Lælia elegans and sundry other things added their quota to the show in this house. Several specimen Vandas and Aërides occupied the centre stage, amongst the former being the finest-furnished specimen of V. cœrulea I have ever seen, it having no less than forty-six leaves on one growth, and the variety, I was informed, is superb. Amongst the Aërides were fine examples of A. Sanderiana and A. Lawrenciana. In the Cypripedium house were some wonderful examples of high cultivation; a specimen of C. Druryi with twenty growths is not often met with. C. Harrisianum, C. villosum, C. Sedeni, and others were several feet through, whilst the finer and scarcer sorts were represented by smaller plants. Zygopetalum Gautieri was remarkable for its size and healthy appearance, having ten spikes of flower, some of which were past their best.

The cool house Orchids are exceedingly well done; Odontoglossum crispum and O. Pescatorei are grown in large numbers, and it is seldom one meets with such a houseful of large plants, the majority occupying pots ranging in size from 6 ins. to 10 ins. Several fine forms were in flower, not with the usual spike 1 ft. or so long, with eight to a dozen flowers, but branching spikes several feet long, and that number of flowers multiplied many times. A large specimen of O. Uro-Skinneri with six spikes of flower was very effective. A pan of the pretty yellow Oncidium cheirophorum 2 ft. through, and a correspondingly large specimen of the not very plentiful Mesospinidium vulcanicum, are more easily imagined than described. Masdevallias are largely grown, especially the large-growing kinds; and special attention is paid to the Harryana section, being special favourites of Mr. Curle, and many fine varieties are included amongst them. Not only these, but the entire collection is faultlessly grown by Mr. Sharp, Mr. Curle's able and courteous gardener, whose ability is not only apparent amongst the Orchids, but in every other department under his charge.—*R. C. Fraser.*

FLORICULTURE.

Carnations—Split Pods.

By E. S. Dodwell.

My esteemed friend Mr. R. Dean, at p. 22 of your issue for the 8th September, refers to Carnation Mrs. Reynolds Hole, and expresses the fear that this variety possesses the radical defects of a split pod. He enlarges, and very properly, on the advantage of varieties which in the process of blooming retain the calyx intact—that is, which open equally all round only so far as the upper lobes of the calyx—deplores the existence of the "split pod in not a few of our finest Carnations," and compliments me by citing from my little book "the reason impelling the disqualification of a flower possessing a split pod is, of course, to be found in the fact that were a split pod tolerated its symmetry would be fatally impaired."

I feel the compliment implied in the reference, yet nevertheless shall be glad to be permitted to say one or two words on this subject. Incidentally I should not have supposed the variety named Mrs. Reynolds Hole had been open to the charge. We bloomed it, were much pleased with it, and I did not note any marked evidence of the defect; but as to this fact, Mr. Dean's observation is just as good as mine, and all we can ever do is to speak according to our experience.

Upon the general subject I wish to say, my friend, citing from my little book, quotes from the *conditions referring to competition*—conditions I have done my best during a long life to uphold, and which I have no desire to see relaxed. Other reasons beyond that adduced might readily be given to justify the maintenance of the rule disqualifying the split pod upon the exhibitiou table; but it is not necessary to adduce them. For the home stage, however, and for all the purposes of decoration—granting equality of refinement, textnre, brilliancy and harmony of colour or colours, and large well-shaped petals—the split pod is as effective (in some cases more so) than the flower which presents its beauties in exact and equal measure from its five-lobed encasement. Such a statement coming from me may excite some surprise, and possibly, from friends who have not given careful consideration to the question, or had the advantage of a wide experience, some condemnation. Be that as it may, I feel bound to make the statement, and I am well assured the facts will sustain the assertion. How often have I watched the beauty of flowers afflicted—if those interested choose so to speak—with this habit, pouring out their wealth of inflorescence—a veritable cascade of glowing colour! And how constantly the admiration of visitors has been drawn to their glory! Then the wonderful variety of their form, rivalling the Lily in its diversity, and plainly showing how little nature cares for trammels. It is no new thing to me to have become sensible of their beauty, as for forty years I have watched and admired it, and for at least half of that time wife and daughters have chosen flowers of this habit for the decoration of the table, the mantel-shelf, or the sanctum of sanctums—the withdrawing room.

Saying thus much of the split pod, and defending the retention of flowers with such a habit, let me go yet another step forward, and say a word upon the fimbriate edge. No one who has read my little book with attention will assume it a new thing for me to uphold within certain limits the fimbriate (fringed) edge. In the fully-developed bizarres, the flakes, the section now called Picotees, with its lovely curved markings of narrow or broader widths—in many fancies, and in many selfs, the fringed edge would be an insufferable defect, destructive to their harmony and incompatible with their enjoyment. In these the smooth edge is imperative, and wherever the fringed edge is put on it is seen at once to be a drawback. But there are others, and many, to which the fimbriation of the edge gives additional life and expression, and especially is this the case in the yellow-grounds, which occupy such a prominent place in the public favour, and amongst which as many unmistakeable indications show we are plainly upon the threshold of a great development.

In his plea, written just forty years ago, for the improvement of the yellow-ground Picotee, Dr. Horner, at the close of his exordium, spoke of its "countless combinations and diversities," both of the ground colour and markings, and urged because of these, "its great natural beauties and loveliness as a flower," the effort too long delayed "should be commenced in earnest to raise it to its true position—the chief of the Dianthus class, and constitute it the most perfect, as it is the most beautiful and attractive."

It is most natural in this movement that florists shall revert to past experience and propose to follow old lines. Be it so. As I have already said, I have done my best during a long life to maintain laws educed from wide experience and intelligent observation, yet, nevertheless, as in all things in human life there ever will be, there have been in our path many haltings, and partings of the ways. New and unforeseen circumstances have arisen, novel conditions to be determined, and men and opinions have widely differed. Will it not seem strange when I say forty years ago a whole class of florists who resolutely held themselves to be most orthodox, ignored the sweetest section, the pink and purple, amongst bizarres, and frowned upon the most lovely of Picotees, the rose-edged class. Yet this is history, buried in the past beyond doubt, but yet history.

Souvenir de la Malmaison if placed upon the exhibition table would be rejected by the florist almost with contempt, and I should sustain the rejection, yet no florist of experience would deny its beauty or its great utility for decorative purposes. When the Japanese Chrysanthemums, with their wonderful wealth of beauty, were first introduced, many an eye, trained to admiration of the incurved section, looked askance at their tasselled, fringed, and fantastic forms, and declined to find delight. I will hope neither habit nor prejudice will prevail to prevent my fellows in the coming days recognising the great breadth of variety, and the marvellous beauty and glory of colour vouchsafed to us in the yellow-ground Carnations.—*The Cottage, Stanley Road, Oxford.*

THE PAMPAS GRASS.

In the early part of the season, those who avail themselves of the subjects at command, have their lawns decorated with the showy and feathery plumes of Arundo conspicua. As these become tarnished, or so much destroyed as to be useless for ornamental purposes, the Pampas Grass (Gynerium argenteum) takes its place, proving a handsome object in the landscape. However ornamental it may be amongst shrubs, it is never seen to better purpose than when planted by itself in an open position on the lawn, or when an isolated bed of circular form is filled with it. The stamens and pistils are on separate plants, and there is, from a garden point of view, greater differences than these. Our illustration shows the female plant, which has upright plumy panicles of a beautiful silvery white. The male plant differs in having the branches of the panicle of the flowers less densely arranged, and distinctly drooping, while the whole has a decidedly reddish brown or pnrplish tinge. The male plant usually flowers earlier than the female, but both ultimately adorn the lawn together, and are, therefore, most useful for that purpose at this season, when most flowers are being spoiled by bad weather. The two forms should be grown together in the same bed, or in contiguity, so as to show off one another by contrast. A well-drained position is the best for this noble Grass.

HARDY PASSION FLOWERS.

Until the charming white variety of Passiflora cœrulea was introduced, the latter was practically our only hardy Passion Flower. P. cœrulea Constance Elliott is a delightful companion to it. I saw the other day a fine plant of it on the front of the new stables at Hanger Hill House, Ealing; and it must be admitted that it is unusual to see a stable decorated in this way. I may remark parenthetically, that not only has Mr. E. M. Nelson made his stables to smile with flower and foliage, but he has given gardens to the coachman and stablemen, which gives them very pleasant employment during their leisure hours, when the weather admits of their being in the open air.

In reference to P. cœrulea, the term "hardy" must be used in a qualifying sense. Trained to a wall or house front, aud with some protection to the stem in very severe weather, this plant will thrive and flower freely in most parts of England; and if not so gorgeous as its congeners under glass, it has the immense advantage of disporting itself freely in the open air, and casting its vestment of beauty over our house walls. And then its flowers are followed by its yellow fruit, and in the autumn flowers and fruit alike are seen blending themselves on the same plant. All this can be written of Constance Elliott.

The hardy Passion Flower is an accommodating plant, as it will do well in any good garden soil. When planted a good dressing of manure should be placed in the soil, and a surface space should be reserved so that water can be given in hot, drying weather, and a good mnlching of manure applied also. This shonld be given every summer, as the plant is a very free and even rampant grower, and needs to be sustained in its work of house decoration. In the antumn it can be pruned back hard, as it is such a free grower and soon covers a great space of wall. I would strongly recommend that the stem and roots be protected during the winter, as they are likely to suffer during a time of unusually severe frost.

What a quantity of plant lore has gathered round this charming wild flower of the South American forests! It is closely associated with religious ideas, for did not the Spaniards, when they first saw the lovely bloom of this plant as it hnng in rich festoons upon the branches of the forest trees, regard them as a token that the Indians should be converted to Christianity, as they saw in its several parts the emblems of the Passion of our Lord. Dr. Masters is of opinion that the species called Passiflora incarnata, the flesh-coloured Passion Flower, also a native of South America, is the species in which the semblance of the parts of the flower to the instruments of our Lord's passion was first observed. The cross, the scourge, the hammer, the nails, the crown of thorns, even ten of the apostles—Judas, who betrayed, and Peter, who denied, being absent—all may be seen by the imagination in the Passion Flower. Monardes, in 1593, was the first to call attention to this peculiarity. Soon afterwards the plant was in flower at Bologna and at Rome. There appears to be some little confusion as to the exact date, but it may safely be said to have been in cultivation in Italy before 1609. Then it was probably introduced into Belgium, and is known to have been grown in this country in 1629.—*R. D.*

FRUIT CULTURE FOR PROFIT.

(*Concluded from p. 70.*)

The fruit which stands most in national importance is, of course, the Apple, and it seems strange that we should allow foreign nations to usurp our position in the supply of this very necessary want. In the 200 trees required for the rood I should apportion 100 Apple trees, and for a continual supply of culinary fruit, Keswick Codlin, Duchess of Oldenburg, Lord Suffield, Stirling Castle, Worcester Pearmain, Manks' Codlin, Ecklinville Seedling, Lord Grosvenor, Warner's King, Blenheim Orange, Baxter's Pearmain, Lady Henniker, Tower of Glamis, Betty Geeson, and Dumelow's Seedling will last from August to the end of April; of dessert Apples, Red Juneating, Irish Peach, Summer Golden Pippin, Devonshire Quarrenden, Williams' Favourite, Ribston Pippin, Cox's Orange Pippin, King of the Pippins, Blenheim Orange, Mannington's Pearmain, Lord Burghley, Sturmer Pippin, and Allen's Everlasting will give a supply from June to May.

On the Paradise stock all these Apples will form fruitful and profitable bushes, and are all marketable Apples, and, in my opinion, are very much better than any Baldwins or Newtown Pippins. Some of these kinds, such as the Manks' Codlin and Stirling Castle, can be planted 6 ft. apart. Worked on the Crab stock, they are so fertile that they are soon dwarfed by the production of fruit. As with Plums, I should recommend trees of two or three years old being planted. Of Apples of recent introduction I have not found Mr. Gladstone so good as it was represented. It is not earlier than the Juneating, is very unequal in size, and has the unpleasant habit of being in a constant perspiration. Lady Henniker is a large and fine Apple. Peasgood's Nonsuch is very handsome and large, but does not bear so freely in my soil as the Apples I have named. The stock English Apple, Blenheim Pippin, is a long time coming into bearing, but when fruitful always commands a high price. This and the Dumelow's Seedling would, no doubt, be valuable for cutting into chips and rings.

The aualysis of the Apple differs from the Plum. There are present:—

Potash	35·68	Iron	1·40
Soda	26·09	Phosphorus ...	13·59
Lime	4·08	Sulphur	6·09
Magnesia	8·75	Silicon	4·32

The Pear is the next in rank as an industrial fruit, but it by no means equals the Apple or the Plum in importance; indeed, during a great part of the year it is seen only on the tables of the wealthy. I have, however, had a considerable experience of Pears as standard trees. Within my recollection I have seen planted and destroyed the following sorts:—Summer Bergamot, Lammas, Passans du Portugal, Windsor, Williams' Bon Chrêtien, Dunmore, Beurré d'Amanlis,

Marie Louise, Louise Bonne of Jersey, Winter Crassanne, Beurré de Capiaumont, Beurré Bosc, Comte de Lamy, Hessle, and Spring Beurré, none of which ever paid the rent of the ground they occupied. I have, however, raised three sorts of Pears, which will reverse this position. These are the Beacon, ripening at the end of August and beginning of September, which is so fertile that grafted on the Pear stock it may be planted at the same distance as the Plum and Apple; the Fertility, which is equally fertile either on the Pear or Quince; and the Conference, which is not yet introduced to the public. The two former are already well known. Of recent foreign Pears which are hardy, Madame Treyve, Souvenir du Congrès, Marie Louise d'Uccle, and Emile d'Heyst are marketable sorts; of baking Pears the Catillac is probably the best. The Pear differs in analysis from the Plum and Apple. It contains:—

Potash	54·69	Iron	1·04
Soda	8·52	Phosphorus ...	15·20
Lime	7·98	Sulphur	5·69
Magnesia	5·22	Silicon	1·49

The best class of trees for planting is the two and three years old on the Quince stock, excepting the Souvenir du Congrès and the Beacon, which should either be double grafted or on the Pear stock.

The Morello Cherry on the Mahaleb stock makes a very prolific bush. Grown in this way or trained to iron wires it may be easily protected with netting. Between the rows of pyramid or half-standard trees Currants and Gooseberries can be planted without in any degree injuring their produce, care being taken to return to the soil by chemical manure the constituents of which it is deprived by the growth and fruitfulness of the trees. By attention and occasional analysis there will be no more difficulty in doing this than in providing for the ordinary farm crops.

Pruning Orchard Trees.

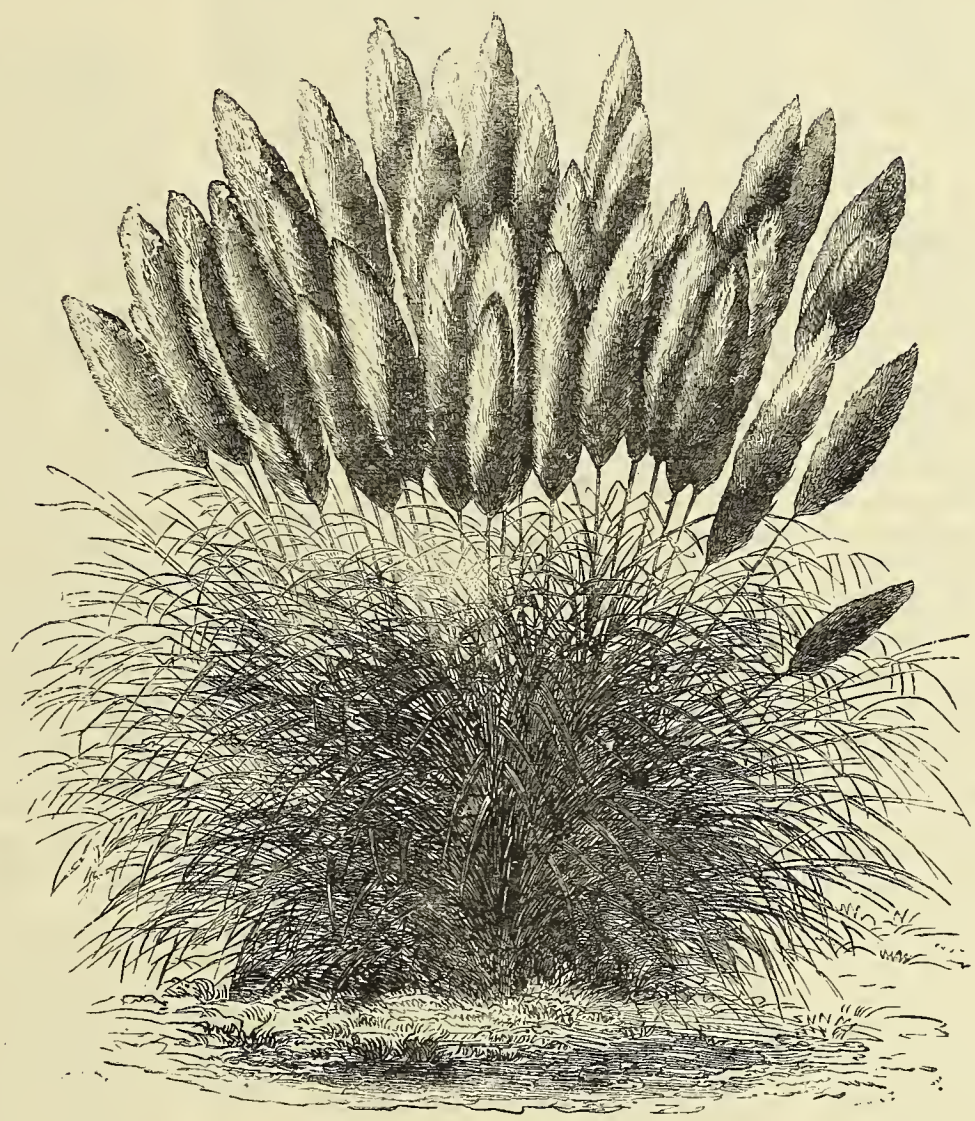
In a farm orchard it is not necessary to prune trees severely. Pears and Apples in unfruitful seasons should have the shoots stopped in June, and should be occasionally examined and the inner growth lightened to let in the sun and air. About the end of September the shoot made after the first pruning should be shortened to four or five buds. As soon as the trees are fruitful very little pruning is required. Plum trees require as little pruning as possible, but all gross shoots should be removed when observed. The sorts of Plums I have named fruit so early that they do not grow into very large trees. In these garden orchards it is not well to allow the trees to grow to more than 10 ft. to 12 ft. Avoid the use of long ladders as much as possible, and the consequent expense and delay in picking, which ought to be done by women and boys.

Drying Fruits.

It is lamentable to hear of the shameful waste undergone when we have what is called a glut of fruit, and we shall hear, no doubt, in another paper of the proper means to be taken to prevent this loss. I have heard of tons of Plums in Worcestershire rotting because of the excess. There is no doubt that all this material could be saved and turned into food. The Persian shepherd goes out to his work provided with a bag of dried Peaches, which are so hard that he chastises his dogs with them. The dried Misch Misch Apricot is a staple caravan food, made into cakes and carried in a small compass. We pay a large sum to the French for dried Plums, and the ladies in Portuguese convents are properly employed in preserving the delicious Guimaraens Plums. The absence of sun is no excuse for our being so backward in these matters. We can and do ripen Grapes as well as the hot sun of Spain, and artificial help will serve us as well for drying fruit as for ripening Grapes.

The disastrous malady termed canker may be much alleviated by attention to the soil constituents, and in a paper read at Birmingham Mr. Tonks stated that he had removed the disease by the application of chemical manures, potash being the principal ingredient. The trees in my soil are almost entirely free from the disease, and this immunity is probably owing to the abundance of potash, which should be returned to the soil at every opportunity. The dressing applied by Mr. Tonks consists of nearly equal quantities of superphosphate of lime, nitrate of potash, nitrate of soda, sulphate of lime. Although pruning may be carried to excess it must not be neglected, as it is desirable to grow fruit and not wood. It can be seen by measurement that much room is wasted by profitless and barren shoots. With judicious pruning this need not occur.

The Royal Agricultural Society has, for the first time, offered prizes for preparations of fruit next year. It has been a long time recognising the fact that land produces other necessaries than corn and cattle. We fruit growers have done very well without this recognition, which has come a little late in the day. It is, however, a step in the right direction. The advance of pomology during the last thirty years has been quite as rapid as the advance of agriculture, and we may be certain that there is no finality. Fruit-growing, I beg leave to state, is not the handmaid, but the helpmeet of agriculture, and I believe the best interests of the land would be served if landlords and tenants would meet to discuss the conditions under which they can advance the cultivation of fruit to their mutual advantage, and if these meetings were made public every village in England would be benefited. In time competent advisers would be provided, and as the interests are national, it is hoped that means would be found of advancing money at a low rate of interest. There can, I think, be no fear of the supply overtaking the demand, and it is certain that foreign competition would not prevail against home-grown fruit if produced in sufficient quantity and of good quality.



Gynerium argenteum.

Fruit Culture under Glass.

The production of fruit under glass requires capital and skill, and although not national, is and will become an industry of great importance. Nearly forty years since my father proved that the cultivation of Peaches and Nectarines could be carried on in unheated glass houses with a certainty of success unknown to wall culture. The orchard house has now become an established fact. For some time before this system had been in full work, the only early Peaches—that is, those ripening in July—were the Early Nutmeg, the Early Ann, the Double de Troyes, all of them almost worthless except for precocity; now, however, we have ripening on the 1st July the Alexander, an American Peach, closely followed by the Early Beatrice, Early Louise, Hales' Early, Rivers' Early York, ripening during a month in which thirty years ago there was not a Peach worth having. During the months of August, September, and part of October there can be grown a continuous series of Peaches. The advance in Nectarines is equally conspicuous, the Lord Napier beginning a supply of Nectarines of high quality in August, which other sorts continue until the end of September, and ceasing with the Victoria. With these varieties—which were certainly not available thirty years since—an orchard house will give a continuous supply of Peaches and Nectarines for four months; a house 100 ft. by 24 ft., properly managed, will produce over 3,000 fruits of high quality. Such a house was built in 1855 at a cost of £147, and has produced for the last twenty-five years between 3,000 and 4,000 fruits annually. The cultivation of Grapes is advancing in our own islands with extraordinary rapidity, and although we hear complaints of the lowness of price, we do not hear that building Grape houses is declining—a good proof that no fear is entertained of the future prospects of Grape-growing.

Cold Storage of Fruit.

The principle of cold storage is likely to be of very great importance in the future, and experiments are now being made with regard to the preservation of fruit under the influence of cold. Now, I am convinced that if a low temperature cannot be usefully applied to keeping fruit it may be very useful for the storage of trees, particularly Pear trees on the Quince stock. What I have to suggest is that Pear trees on the Quince stock may be placed in pots in a cold storage in a temperature not lower than 36° Fahr., and retarded until the middle of April. By this means the blooming season may be kept back until all danger from spring frosts is past. The fibrous roots of the Quince and the slow growth of the Pear render this class of fruit tree particularly suitable for this method; and as large Pears are worth in November and the succeeding months from 6*s.* to 8*s.* per dozen, cold storage, if possible, and if room for trees can be provided, will give a handsome profit. I tried some few years since to find a system which I could employ, but I was then offered small receptacles like a miniature chest of drawers, when I wanted room for hundreds of trees. I was not then acquainted with the premises for cold storage in Leadenhall Market.

In Belgium it is customary to form clubs of fruit growers to compete at the various horticultural shows; the combination of growers enables each man to choose his own particular fruit to show with his club. These contests are very interesting, and would, I think, if carried out in England, cause much friendly rivalry, and advance the interests of pomology. I have, I am afraid, set a bad example of exceeding the time allotted to the speakers, and if so I must ask to be forgiven, and conclude by saying I cannot, I am afraid, hold out any hopes of creating a large fortune by fruit-growing, but it is an investment and occupation with a more or less certain income, which will become more certain with improved means of preservation.—*T. Francis Rivers.*

The Amateurs' Garden.

Bedding Plants.

Pansies and Violas may still be propagated in frames or in sheltered warm borders at the foot of a south wall. In recent years the cultivation of this beautiful class of plants has been greatly neglected in the south; but the many extremely beautiful forms of bedding Violas now in cultivation, it is to be hoped will find many not merely admirers, of which there are plenty, but cultivators. They require no sheltering under glass at all, and are, therefore, highly suitable to the requirements of amateurs. By mulching the beds with cocoa-nut fibre moisture is retained, and the beds look tidy rather than otherwise, even before they have been covered by the plants themselves. After pricking the cuttings into light rich soil give a good watering to settle the soil, and unless the autumn proves unusually dry no further trouble is necessary. No covering up or coddling is required. Calceolarias, the last of bedding plants that may be propagated, may now be put in. Prepare a light sandy but rich compost, and put it in a frame to the depth of 3 ins. or 4 ins. A hand-light may be used, and will answer the purpose equally well, should a frame not be at command or should the quantity required not be great. All bedding plants now rooted should be thoroughly exposed to the air night and day, except during rainy weather or when frosty nights are expected. They will keep all the better for this treatment.

Auriculas.

For the better keeping of choice kinds in pots it is necessary to house them now in frames with a southern aspect. They are still in a vigorous growing condition, and some of them may even be inclined to flower, in common with many other species of the genus, such as Primroses and Polyanthus. It is not desirable, however, to weaken the plants by flowering at this season; therefore, remove the trusses with the finger and thumb whenever they make their appearance. Remove decayed leaves, and otherwise keep them clean. Should green-fly make its appearance, fumigate the plants on two succeeding nights so as to destroy the pest. Should any of the plants appear sickly, there is a great chance that something is wrong with the roots or underground portions of the plants. It is undesirable to pot any at this season, but in order to save the life of some weakly growing kinds it may be necessary to turn them out and examine the roots. Cut away all decayed portions with a sharp knife, and re-pot in fresh soil. Comparatively little water will be required by any of the plants at this season; but those that require treatment of the above kind, and are re-potted, should not be watered for a week or more. A hand-light may be placed over them till they recover themselves. Healthy plants not undergoing such treatment should be kept fully exposed night and day except in severe weather, such as we have had this week, when it becomes necessary to place the sashes over them. Even then plenty of ventilation should be given.

Primula japonica and P. Sieboldi.

Where these have been grown in the open air during the summer they should now be potted up ready to put under cover if necessary, that is if they are required for decoration of the greenhouse in spring. Being perfectly hardy it is not necessary to disturb them nor to give any protection when grown merely for the decoration of the rockery or the flower border. No fear need be entertained for them when they die down, as they are naturally deciduous, at least in our climate. The choice improved garden varieties, including the finer kinds of P. Sieboldi and P. japonica alba, are amongst the choicest of plants, and well repay cultivation in pots under glass, as the flowers are greatly improved in size, especially those of the former. They do best when kept perfectly cool in an unheated frame, close to the glass till coming into bloom, when they may be removed to the greenhouse, where their beauty will be greatly appreciated.

Tree Carnations.

The perpetual-flowering Carnations need not longer be left out of doors, but housed where they will be more directly under the eye, and escape the dashing rains and rough autumn weather. Such as require potting may now be done, taking care not to give them too great a shift. Use nice mellow loam with a good quantity of well-decayed stable manure, leaf-soil, and sand. Where potting is not required see that the drainage is perfect, as they dislike stagnant moisture. Stake the shoots neatly.

Potatos.

Lift and store the crops of such late kinds as are still in the ground, but in doing so be careful to have all showing any symptoms of disease sorted out. What is intended for table use should be exposed to light as little as possible after they get sufficiently dry for storing. If there is no convenient shed or cellar in which to place them, make them up in ridges on the soil and cover with a layer of straw or turves if they can be conveniently obtained, placing the green surface outermost. Those intended for seed may be exposed until they become green, for the matter of that; but at this late period of the year it is necessary to guard against frost.

The Flower Garden.

Much will depend upon the neatness of everything in this department as to the amount of pleasure which may be derived by the owners. As everything out of doors begins to decay and leaves become strewn about, the contrast produced by a well-kept garden is only known to those who take pleasure in having everything kept trim and neat. All decaying flowers, plants or their flower-stems should be cleared away to the rubbish heap at once, together with weeds and decaying matter of every description. If a hidden out-of-the-way corner can be spared as a receptacle for such rubbish, all woody material may be placed in a heap to be burnt, while the softer material is thrown into a heap to ferment, turning it occasionally so that all weeds and seeds may be killed. The residue forms excellent material for top-dressing or manuring.

CONCERNING PEAS.*

Without entering into any elaborate remarks upon the origin of the garden Pea, its chemical composition or nutritious qualities, I may plunge into my subject by saying that the garden varieties of Pisum sativum are by no means difficult to grow, but it is necessary that their various qualities in regard to habit, time of flowering and duration of bearing should be correctly known, to enable the amateur or the gardener to keep up a succession of fresh green Peas throughout the season. Peas delight in a good deep rich alluvial soil with a cool bottom, and if it contains a preponderance of lime, so much the better. The past season has been the worst I have experienced for a number of years as regards the yield of Peas; we have had an exuberant amount of growth, but too many abortive pods, owing to the sunless weather and deficiency of pollen; and as regards the later sorts, it seems quite evident that they will not crop before the frost crops them.

The Seeds.

These are generally classed in four divisions—viz., white and blue rounds, which are hardy, and the best for early sowing; and white and green wrinkled or marrows, which are more tender and sweeter than the first-named. These primary characters of colour and form are better seen in a dried state than when the Peas are fresh, notwithstanding that everyone does not seem to know it. A querist once asked a contributor to one of the horticultural papers what colour the seeds were of some varieties that he had been eulogising, and the reply was that he could not tell, as the crop had been saved for seed!

Autumn Sowings.

We are now on the verge of October, and may expect to see any day in the garden calendars:—"Sow Peas for early use under walls, or on a south border"; but the writers never say who the advice is intended for. Possibly in the southern counties it may be followed with fair success, but it will not do in our case. Such advice reminds me of the man, who, having told a ghost story, on being asked if he had ever seen a ghost, replied, No, but he had a friend who knew a person whose grandmother's great-grandfather had seen one. So with the Peas from early sowing; some have seen them, but I have not. I have myself tried to see such a ghost so late as the year 1885. I sowed in October, but in spring, so far from there being a ghost in substance, there was not even a shadow. Every gardener must be his own guide, philosopher and friend in the matter of sowing Peas in our cold northern counties, or on a cold late soil anywhere. It is better to wait until spring and warmth returns, for if those sown in the autumn escape, the February-sown ones are seldom much behind them.

Spring Sowings.

As to the proper time for sowing in spring, each one's special circumstances form the best guide. On sharp dry soils, resting on lime or sandstone, sowings may safely be made from the second week in February if the weather is at all congenial; but on stiff heavy loams, with clay beneath, I have found it best to sow between the 20th of March and the second week in April. When seeds are sown they immediately absorb moisture, whether the soil be warm or cold, and if there is not sufficient heat to assist germination the embryo is either soon exhausted altogether or greatly reduced in vigour.

Sowing in Pots.

If we cannot get heat outside when we want in spring, we can secure it under glass, and there are various means by which Peas can be brought forward in this way, such as sowing on turves, in troughs, or in small pots. Last spring I was fairly successful with a lot sown in some 120 11-in. Chrysanthemum pots. The plants had been cut down, but the pots had not been put outside, so we stirred up the soil round the crowns with a three-pronged hand-fork, and sowed Lightning, Earliest of All, and Chelsea Gem on February 21st. The plants were kept slightly on the move, with plenty of air, planted out in trenches early in April, and despite the cold spring, gave us fine plump pods by the end of May. The 120 pots when planted out gave us a row 120 ft. long, and 10 in. wide.

Sowing for General and Late Crops.

For these I strongly advocate the plan of sowing over trenches with 1 ft. of good manure in the bottom, and 6 ins. of fine soil on the top, putting in the seeds 2 ins. deep in furrows the width of a spade. I believe also in sowing moderately thick to provide against contingencies, for be it remembered that if the rows present a straggling appearance time is lost that cannot be regained, and if the seeds come up too thickly, well, they are very easily thinned. The soil in every case is sifted through a ½-in. mesh, and directly on to the Peas, and ashes are put over all to keep away mice. Old fish netting fixed with Y-shaped pegs about 1 ft. long is used to keep off birds, and under the nets ducks are freely allowed to roam in search of snails and slugs. When high enough the Peas are staked, and when the acknowledged height of each variety is attained the tops are pinched off, which not only helps the pods, but imparts a sturdiness to the haulm which materially helps the plants to withstand strong winds. As to the width between the rows, that is made to correspond with the heights of the varieties grown. We make a sowing of Telephone, Telegraph, Duke of Albany, and other sorts in the second week of April, and in the first and last weeks of May the last-named sowings, including general and late-cropping sorts such as Ne Plus Ultra, which are longer in coming to maturity, and in an ordinary season last until frost cuts them down. If dry weather sets in, all are mulched with stable manure and well watered.

Peas for Exhibition.

These are sown or planted in the same way as the ordinary crops—that is to say, in trenches; but I have found that pig-manure is the best if well worked with the soil. Seeds should be sown 3 ins. apart in single rows, and be thinned out to 6 ins. when up. Guard against vermin, as before described, and when 3 ins. to 4 ins. high, stake carefully between each plant. A sprinkling of soot will impart vigour to the plants. They should not carry more than six or seven pods, selecting the best, which can easily be determined by holding the "slats" up to the light, and counting the number of Peas formed in them. When the right pods have been selected, pinch off the top of the plant at the first point beyond the topmost "slat," and all side laterals as fast as they make their appearance. When the pods are formed, weak liquid-manure may be given once a week, occasionally slightly diluted with lime-water if the soil be deficient in that element. The best sorts are:—Green Marrows: Duke of Albany, Abbott's Duchess, Evergreen Surrey, and Telegraph. White Marrows: Prodigy, Magnificent, Telephone, and Jubilee.

Conclusion.

The trench system has not this season given such good results as usual, and the lateness of the season did not necessitate late sowings. We have several sorts yet in flower which were sown on the 27th of May, and I am afraid that Jack Frost will have them instead of my employer, which I shall much regret, as some of them are new ones. However, I must console myself by hoping for the best, and if the worst comes must say, Alas, poor *Empress*, poor *Sir Frederick*, poor *Bruce*, I have watched in vain for you, but the *Jubilee* is gone and your or rather my *Superiority* too. You have been the *Ne Plus Ultra* of an *Autocrat-ic* mind, and your loss has nearly knocked the *General Wynd-am* out of me.

* Condensed from a paper read by Mr. B. Lockwood, Lindley, Huddersfield, at a meeting of the Huddersfield Paxton Society, on September 29th.

Still I shall endeavour next year to *Champion England's* cause in *Anticipation* of attaining a *Prodigy* which will give *Satisfaction* all round, and *Bliss's Everbearing* in *Abundance*. You may think I am *green*, and getting away from my subject. That may be, but I am full of *Marrow-fat*, if furrowed with *wrinkles*; and I am a real *Yorkshire Gem*—aye, and a *Yorshire Hero* too. The *British Queen*, *Prince* and *Princess of Wales*, *Dukes* and *Duchesses*, *Premiers*, *Presidents*, *Chancellors*, and even *John Bull* render me homage, and pronounce me *Magnificent*. Yes, I am the *Earliest of All* and the *Best of All*; I am *Sangster's No.* 1, and am often called the *American Wonder*. Whether I am in front of *Blue Prussians* with their glistening *Scimitars*, or a *Cook's Favourite* in *Paradise Marrow* Square, I am declared to be a *Pioneer* and a *Marvel*. I reign *Supreme* and in *Triumph*, for have I not been a *Prize-taker* in a contest with *Gladiators*? *Multum in Parvo* is my motto, and I am the *Alpha* and *Omega* of *Perfection*, while from *Day's Early Sunrise* until the sun goes down I am the public's *Little Gem*, the *Stratagems* of *Daniel O'Rourke*, *Blue Peter*, *Tom Thumb*, and the *Bishop's Dwarf* notwithstanding. *William I.* was the *Ringleader*, but turning on the *Electric Light* with *Lightning* rapidity, and making use of the *Telegraph* and *Telephone*, I am yet master of the situation—the *First and Best*.

NOTES ON VEGETABLES.

What a grand autumn we are having for the winter vegetables! From present appearances there will be no lack of green stuff during the coming winter, unless we suffer from severe frost. Should the fine dry weather continue, however, it will do a vast deal of good in hardening the stems of all the Brassicas, and so enable them the better to stand up against frost. All green crops are growing rapidly in this neighbourhood, thanks to the more genial warmth. What a contrast there is between the present and last season, when everything was dried up, so that when the rain did come all things were so hard and dry that they never started into growth again. We had several plots of Cauliflowers planted at the end of May, which never headed-in properly for the want of moisture, and watering was quite out of the question, on our hot and dry soil. This season the conditions are quite reversed, and we have been cutting good heads for the last fortnight from plants put out at the end of June. The lesson we learn from this is, that if one wants good, tender, and quickly-grown Cauliflowers, one must do the land well—dig deeply or trench, put in plenty of manure, and keep the soil moist.

As an illustration of the rapid growth made this season, I may say that in February, on a south border, we sowed some American Wonder Peas, and when these were all gathered at the end of June, we put out a crop of five or six different kinds of Cabbages, without preparing the ground other than clearing it of weeds. They were all small-growing sorts, planted 12 ins. apart each way, and to-day, September 25th, we have cleared off more than half the border and sent the heads to market. Several of the kinds under notice are good ones, but Sutton's All Heart deserves to be mentioned as specially good. A selection of my own, Little Gem, is a good early kind too, and very quick growing, but hardly large enough for market work. When the ground is quite cleared we shall put out some strong Endive plants for winter use.

The Early Purple Munich Turnip is a very quick-growing variety, and sown on the first Saturday in August the plants were fit to draw for use at the end of September. Beauty of Hebron Potatos were dug up in the morning and the Turnips sown in the afternoon. Late Vegetable Marrows are a poor crop, the cold weather rendering them unfruitful. Potatos about here are not satisfactory this season as regards flavour, and many are badly diseased. I have not tasted a really good tuber yet this season. This I attribute to their haulm having been cut off so early by the disease. Abundance is our best as yet, and some of the newer kinds we have been trying are quite worthless.

Brussels Sprouts are very promising where they were planted early; and Scarlet Runners have grown to a great height, and in many places are still abundant, but terribly low in value. Two shillings per bushel is a good return to the grower this season, but in a town near here they have been offered as low as 1*s.* 6*d.* One man after paying for gathering and carriage had 7*s.* 6*d.* returned to him for 30 bushels. This is a dreadful price when rent, labour, and taxes, &c., have to be considered. Again what a difference there was in the value of early Potatos. A tenant on this estate last year sent Beauty of Hebrons to market, and had £8 per ton returned to him; this year the same firm offered him £3 10*s.* It has been difficult to dispose of Lettuces at any price. A too abundant supply is clearly not a gain to everybody.—*Con.*

COOMBE WARREN.

The residence of B. W. Currie, Esq., Coombe Warren, Kingston-on-Thames, is beautifully situated among trees on the sloping side of a hill, with an old plantation or wood of low Oak trees behind. The wet summer has been beneficial rather than otherwise to everything out of doors, owing to the thin or poor nature of the soil, which, like Richmond Park and Wimbledon Common, consists of "plateau or hill gravel" of doubtful age. Whenever ornamental trees have to be planted the original soil has to be dug out and replaced with something more substantial, a fact which indicates the difficulties with which Mr. J. Dowsett, the gardener, has to contend in the cultivation of plants generally in the open ground. Part of the pleasure ground was laid out in an old gravel-pit, where the gravel had been dug out to the depth of 7 ft. to 8 ft. or more, leaving the old trees standing on little knolls, and in many cases having their roots partly exposed. No attempt has been made to level the ground after having a good surface for grass, and it is, of course, very pleasingly and sharply undulated.

A small square piece of ground on a terrace enclosed by a low wall is devoted to carpet bedding, and although the Alternantheras had not acquired their customary brilliancy as in ordinary seasons, yet they, as well as Mesembryanthemum cordifolium variegatum, Herniaria glabra, and other carpet-bedding plants had made satisfactory growth, and were very neatly kept. On two sides of this the walls were higher than the rest, and were covered with Pelargoniums, trained on trellis-work, and intermixed with the variegated Abutilon Thompsoni, the yellow-leaved Fuchsia Meteor, and the variegated Duke of Edinburgh Pelargonium, forming a pleasing contrast to bare walls.

Close by this and in front of the mansion a novel and striking effect is produced on the lawn by the use of Ivy-leaved Pelargoniums and Heliotropes planted out in little beds, and trained over wire trellis-work to the height of 8 ft. 6 ins. The whole is conical in shape, and at a little distance they appear like huge bushes flowering freely. There was no evidence of wirework, except on close inspection. The Heliotropes are propagated by cuttings in August, and are potted on and encouraged to grow so as to be of large size late in spring, when they are planted out and trained in the above fashion. Fine-foliaged plants, such as Eurya latifolia (9 ft. high), Euonymus japonicus latifolius albus, and E. j. l. aureus (each 11 ft. 6 ins. high), as well as Elæagnus pungens variegata (11 ft. high), are grown in large tubs, and pruned into narrowly pyramidal form. They associate well with the trained Heliotropes and Pelargoniums on the lawn, while they constitute a feature not often met with in modern gardening. There are also standards or globular-headed specimens of Oranges, Laurus nobilis, and Viburnum Tinus in large tubs. The variegated specimens previously mentioned are, however, the finest, and seldom seen of such handsome proportions. Here also may be mentioned eight large specimens of Hydrangea hortensis, with about 100 trusses of bloom on each, grown in tubs and arranged in a semi-circle round a low spreading tree. They were about 6 ft. in diameter, and exhibited various shades of pink, changing in some cases to a fine blue.

In another part of the pleasure grounds is a large bed of Hollies, which when originally planted contained 800 plants. It is circular in contour, and trimmed into flatly conical outline; the outer band consists of the common green Holly, then comes a band of Golden Queen, followed by one of Silver Queen, and that again by the Golden Milkmaid, while the tallest plants in the centre consist of Silver Queen. Near this bed, and under the shade of old trees planted long before the garden was made, is a summer-house of octagonal shape, with numerous hand-painted figures representing Japanese scenery, including pictures of spring, summer, autumn, and winter scenes. A round-bay house of an ornamental character has recently been built as a terminating point to the kitchen garden wall, and overlooks part of the pleasure grounds, which may be seen from the large windows. On the wall are figures of statues and other objects done in some white material on a groundwork of red cement.

What is known as the inner garden was formerly used as a kitchen garden; but considerable expense has been incurred in converting it into a flower garden, surrounded by an iron fence covered with Raspberries, and Vines on the pillars. The only semblance to a kitchen garden lies in the fact that the brick walls are covered with fruit trees, chiefly Peaches and Plums, including Pond's Seedling, Jefferson, Denyer's Victoria, and Frogmore Orleans, all bearing fairly good crops. The walk between the fence and the brick wall is paved, as well as those running through the garden. The latter are very neatly panelled with different-coloured pebbles and tiles. Some oblong beds, 45 ft. by 10 ft. wide, planted with Coleus Verschaffelti, Iresines, bicolor Pelargoniums, and edged with Santolina Chamæ-cyparissus and blue Lobelias, must task Mr. Dowsett pretty severely to find space for the material in winter. Along the sides of the walks are many specimens of Fuchsias, trained in pyramidal and umbrella fashion. There are also Myrtles, Oranges, Agapanthus umbellatus, with its white and double varieties, and Eulalia japonica variegata in flower. Abutting on this is a semicircular piece of ground, planted with Rhododendrons on the circumference of the curve, while the wall on the flat side is covered with various Ivy-leaved Pelargoniums, Ampelopsis Veitchii, &c., with buttresses here and there of Heliotrope trained on trellis-work. Adjoining this is a finely-constructed and well-finished Orangery, with beautiful carvings internally.

Besides the houses built for the reception of the various subjects grown in tubs, as mentioned above, there are others for growing Melons, Tomatos, Camellias, Tuberoses, Eucharis, Roses, Fuchsias, Celosias, Nerium Oleander (of which there are some very large specimens), and other subjects. Amongst climbers, Allamanda Schottii (Hendersoni) covered the roof of a house, and was flowering splendidly, while Lapageria rosea and L. r. alba adorned the roof of another.

NOTES ON FRUITS.

The Wilson Junr.. Blackberry.

A short time ago when calling upon Mr. Turton, at Maiden Erleigh, near Reading, I was much impressed with his plants and crop of this Blackberry. Mr. Turton had it planted in a partially shaded place, and trained to a wire trellis, 7 ft. high. The plants had grown a long way above that, and were covered with large fruits of a deep rich colour. If this sort does elsewhere as at Maiden Erleigh, I predict a useful future for it among those who have a taste for this fruit, as it will materially help in supplying the kitchen when Apples and other fruits are scarce. Has any reader tried the Wilson Junr. on light sandy soil? If so, they would render me a good service by stating with what results.—*Con.*

FILMY FERNS.

There seems to be a widespread notion that filmy Ferns require stove heat to grow them to perfection, and this idea continues to be upheld in some books. The greater number of them are found in tropical or sub-tropical countries it is true, but the heat is always tempered by a considerable amount of moisture, both at the root and in the atmosphere. The collection at Kew was at one time grown almost exclusively in the tropical Fern-house, where a certain amount of success was scored; but since the removal of the greater number of them to the cool Fernery, where special cases were prepared for them, a marked improvement was made by nearly every species tried under that treatment. When the collection of the late Cooper Foster was added to that of Kew last spring special cases of large size had to be made for their reception in the cool house. Literally, a house within a house was built for them, seeing that the whole width of the central staging forms the base of the structure. Some are grown on pieces of tree Fern stem, while others are grown on sandstones, forming a kind of ridge or rockery along the centre of the case. Most of these Ferns have become thoroughly established, and now form fine pieces in varying shades of green, according to the species.

Hymenophyllum.

Nearly the whole of the so-called filmy Ferns are included in the genera Hymenophyllum and Trichomanes. Some Todeas are, of course, grown along the centre of the case. Two beautifully light green, free-growing species are Hymenophyllum caudiculatum and H.

Forsterianum, the fronds of which are two or three times pinnatifid, with broad segments and winged petioles. They may readily be distinguished when growing by the pinnæ of the former being much less undulated than those of the latter, and by their being twisted round in a horizontal position, while those of the other are vertically disposed. H. dilatatum, a New Zealand species, is much in the way of both, but has broader and fewer segments, and all have fronds ranging from 6 ins. to 10 ins. in length. Strikingly different from the above are H. obtusatum and H. æruginosum, which are of a rusty green, or as indicated by the specific name of the latter, of a verdigris colour. They are Tropical American plants, with very short, three-times divided, hairy leaves. The fronds of H. dichotomum are four times divided, smooth, and of a deep olive-green colour, while H. pectinatum superbum is also deep green, but strikingly distinct, with oblong, slightly-cut, one-sided pinnæ, becoming curved backwards sickle fashion as they mature. On the whole, it resembles one of the smaller Aspleniums. Very singular also is H. cruentum, a Chilian species, with oblong leaves, the blade of which seems suspended from the top of the petiole; otherwise it resembles a small Scolopendrium. Of older species there are fine masses of H. ciliatum, H. demissum, with very finely-divided light green leaves; H. d. flabellatum, with long narrow leaves; H. javanicum, H. polyanthos, and H. tunbridgense.

TRICHOMANES.

The most noteworthy specimen of a Trichomanes is T. reniforme, of which there is a piece about a yard in diameter. Having recently completed its growth the young set of fronds are now very fine. It is one from the Cooper Foster collection. Of T. radicans there are several splendid pieces, including several varieties, such as T. r. dilatatum, T. r. concinnum, T. r. Boschianum, and others. It is, perhaps, the most easily grown of all the species, and like a number of others, it is admirably adapted for cultivation in a window if kept in a case. A much smaller and pretty species is T. tenerum, with two or three times divided leaves of a beautiful green, and ranging from 4 ins. to 8 ins. in length. Similar in the divisions of its leaves to the last is T. exsectum, which frequently has a few of its upper pinnæ much longer than the rest, and very gracefully elongated. Many of the filmy Ferns lack the pleasing colour of these, on account of which, and by reason of their dwarf habit, they should be more extensively grown, especially by those having accommodation for a Wardian case or a large bell-glass in the window, where they can always be under the eye, and their beauty appreciated.

The most finely divided of all is no doubt T. trichoideum, the much-divided pinnæ of which are almost as fine as hairs. It is also very hardy, although a native of the West Indies, and will thrive under a bell-glass in the window of a dwelling-house. A most interesting pigmy is T. parvulum, with orbicular leaves cut in a fan-shaped manner, resembling in no small way a tuft of Parsley carpeting the ground. It also mimics Davallia parvula in the same way as T. reniforme simulates Adiantum reniforme. Curiously enough, both these species of Trichomanes rarely produce fruit, although the Davallia and Adiantum mentioned both fruit abundantly. T. Petersii is another very dwarf species, with linear or spathulate light green fronds, and forms a very beautiful moss-like covering to the stone on which it is grown. The above are but a few of the many fine species, to which might be added T. auriculatum, T. concinnum, T. cuspidatum, T. javanicum, T. maximum, T. pyxidiferum, and others, all grown in the temperate Fernery. In the tropical house are a few pieces that require more heat, including T. pinnatum, T. fœniculaceum, T. spicatum, T. Priewrii, all of which are very beautiful in their way, and quite distinct even to the casual observer from any of those in the temperate Fernery.

FORECOURT GARDENS.

By these I mean the little square or oblong gardens in front of villas, and the best of the residences of artisans, and to which there is often a basement floor. Now I frequently notice that these little gardens look very naked and unattractive when they might be made pleasant and cheerful; and there is an entire absence of anything in the way of plant embellishment, and yet a good deal can be done at a comparatively small cost. In the first place, if the boundary wall which divides garden from garden is naked, it is an easy and inexpensive matter to cover it. If an objection is raised to nailing against a wall, it is an easy matter to put a light wooden trellis against it, painted green, or a piece of galvanised iron wire netting of a large mesh.

If the wall should be under the shade of trees, then plant Ivy against it; but if it be open, and the desire is simply to cover it with something green, then plant Ampelopsis tricuspidata. But it is a great deal better to have something that blooms, and therefore I would suggest such things as Berberis stenophylla, Olearia Haastii, Pyrus japonica, Clematises of the Patens and Jackmanni type, and such-like subjects of restricted growth. The red Pyracantha is a capital thing to plant against a wall, but it requires space in which to develop—a larger space in fact than is afforded by a low wall. Veronica Traversii is another good subject, but practically the choice is unlimited, as there are so many subjects of a suitable character.

Such gardens being generally of limited dimensions, little space is available for making beds or borders: but plants in pots can be used, causing the otherwise naked space to look furnished and bright. I often pass forecourt gardens, with their stone pathways, steps, and side walls looking naked and bare, and hot and oppressive in the full glow of the summer sunshine; but it is pleasant to observe others furnished with some plants in pots, the contrast being very great. There are many things of a hardy character that can be grown in pots by those who possess no greenhouse, but have a place like a shed, however humble and homely, in which to shelter the plants during severe weather. Let me name a few things that can be grown in this way:—The variegated Aucuba japonica, the silver and golden forms of Retinospora plumosa, Yucca recurva, Aralia Sieboldii, Agapanthus umbellatus, the large-leaved Saxifrages (especially S. ligulata), Christmas Roses, the common Hydrangea, and others of similar character. All these do well in pots if in the right kind of soil, and kept well watered in dry weather. During the hot dry days of summer it is a good plan to keep the pots standing in large earthenware saucers of water, which saves a great deal of labour in the shape of watering.

If there be no frame or shed in which the plants can be placed to protect them from the severity of the winter, they could be stood in a sheltered part of the garden, with straw or hay placed about the pots, which will ward off a great deal in the way of frosts. An old garden mat placed round the whole serves as an additional screen, and keeps the straw from being blown about by the wind.

Any resident having a greenhouse can use such flowering plants as Fuchsias, zonal Pelargoniums, Balsams, Petunias, such-like gay-flowering things, because they need to, and can be brought on into bloom under glass, and likewise protected during the winter. If there is no furnace and flue, nor hot-water pipes, an ordinary petroleum lamp will keep out a good deal of frost, and it is remarkable how many tender things can be brought safely through the winter in this manner.—*E. W.*

THE BRITISH FRUIT GROWERS' ASSOCIATION.

On September 8th last, at the conclusion of the conference of fruit growers at the Crystal Palace, Mr. J. Cheal proposed a resolution to the following effect—namely, "That it is desirable an association of fruit growers should be formed for the promotion of profitable fruit cultivation, and to improve the methods of distribution. The executive committee of the conference being requested to prepare a report on the subject, to be submitted to the next meeting at the Crystal Palace, on October 11th this year." In pursuance of this resolution the executive committee met at 5 p.m. on Thursday, September 27th, at Anderton's Hotel, Fleet Street, Mr. T. Francis Rivers in the chair, twelve members being present. The chairman referred to the favourable notices accorded by the daily and horticultural press to the conference at the Crystal Palace, and it was mentioned that over sixty reports and articles referring to it had been published. A draft of the proposed constitution for the association was then read, considered at some length, and finally adopted. The adjourned conference will be resumed at 2 p.m. on Thursday, October 11th, at the Crystal Palace.

The following is the draft adopted at the above meeting, and all desirous of joining the association should communicate with the hon. secretaries, Mr. Lewis Castle, Hotham House, Merton, Surrey, or Mr. William Earley, Ilford, Essex.

Title.—The title will be, "The British Fruit Growers' Association."

Objects.—To promote the profitable culture and the improvement of fruit in the United Kingdom, and to facilitate the distribution to consumers.

Methods.—It is proposed to effect these objects by the means of meetings and conferences in the metropolis and the provinces; the collection from all districts of reliable information bearing on the subject, its dissemination through the daily and horticultural press; by the publication of annual reports with such others of a special character as the funds of the Association may permit; and by securing the adherence of local societies to the objects of the association.

Membership.—A subscription of not less that 5*s.* annually shall entitle any person duly elected to membership of the association, including admission to all conferences and general meetings, one copy of each publication issued by the association, and such farther privileges as may be subsequently determined. First subscriptions to be paid at the date of joining, and subsequently annually on January 1st.

Officers.—The officers of the association shall comprise a president, vice-presidents, a treasurer, and two honorary secretaries.

Committees.—The business of the association shall be conducted by the officers, a general committee of forty members, an executive committee of fifteen members, five to form a quorum, and special sub-committees to be elected by the latter, the officers being *ex-officio* members of all committees.

Election of Members, Officers, and Committees.—Proposed members of the association to be nominated by two members and elected at any meeting. The officers to be elected annually. Ten members of the general committee to retire annually, but to be eligible for re-election; the retiring members in the first two years to be decided by ballot, and subsequently in the order of election. Nominees for the committee to be proposed and seconded by two members of the association at the annual general meeting. All elections to be effected by open voting. The executive committee to be elected by the general committee from amongst themselves after the general business at the annual meeting.

Meetings.—The annual general meeting shall be held in December of each year to receive the report of the general committee, for the election of officers, committees, and the transaction of any other important business. The general committee shall hold at least two meetings, and the executive committee shall meet as often as necessary, in each year. The executive committee to decide the dates and places for all meetings and conferences.

GARDENING MISCELLANY.

Harpalium rigidum semi-plenum.

Harpalium rigidum, or as it should now perhaps be called, Helianthus rigidus, is one of the grandest of all the autumn yellow-flowering Composites, and it is with pleasure that we record the fact of Mr. T. S. Ware having a semi-double form of it, which by reason of its great artistic merits as a flower, must certainly become a favourite. Its flowers are large, of a bright clear yellow colour, and most valuable for cutting. It was shown at the last meeting of the Floral Committee, and was unanimously awarded a First Class Certificate.

Drying off Lobelia cardinalis.

I infer from your remarks at p. 64, that this grand old autumn flower will not be benefited by being kept too dry in winter. Here we leave it in the open all the year round. It dies down in the autumn and comes up again in the spring with great regularity, and I think it has an objection to drought at all times, as some hundred plants or so of it which were growing in very light soil last year were so much injured that they failed to attain their usual height and beauty in due season, and by the end of the summer they were quite dead.—*J. Muir, Margam, S. Wales.*

The Eucharis Mite.

What do your readers think of the proposition that there is no such thing as the Eucharis mite? Yet such was the statement made to me a short time since when going through a 120-ft. house wholly devoted to growing this handsome and useful tropical Lily at Messrs. Dicksons, of Newtownards, for the cut-flower trade at their establishment, Royal Avenue, Belfast. I asked for an explanation, and Mr. Alexander Dickson told

me I could see for myself, as anyone else can, their stock is in rude health, and never has been affected with any insect or mite. He believes, as does every member of the firm, that the mites observed in Eucharis bulbs, with or without the microscope, are owing to too much moisture, or too low a temperature, or both; and that they, or similar, are found in all decaying bulbs and vegetable matter; and further that they are the effect and not the cause of the disease. They think if the growing temperature is constantly kept over 70°, which these Lilies have in their native habitat, disease will not occur if healthy bulbs are first got.—*W. J. Murphy, Clonmel.*

Acer colchicum rubrum.

Both A. platanoides and A. Pseudo-Platanus have varieties with the under-surface of a purple colour; but that under notice has both surfaces of a beautiful bronzy purple or crimson, which is especially fine in the young leaves. In general appearance the foliage has some resemblance to that of A. platanoides Lobelii; but the latter is always of a stiffer and more erect habit, owing to which it would constitute a useful subject in landscapes. The tree under notice is a dwarf-habited one with a somewhat spreading head, and in its early stages at least grows rapidly. We noticed some fine young specimens of it recently in the Vineyard Nursery of Messrs. John Laing & Sons, just after a second growth had been made, and the bronzy purple and crimson leaves were very handsome. The typical form was first cultivated by Booth, of Hamburg, in 1838, and was imported into England in 1840. The red-leaved variety was first described by that grower, and it would appear that it originated with him. It merits cultivation in our gardens and parks on a more extended scale than at present.

Chrysanthemum coronarium, Cloth of Gold.

There is something very striking about this single large-flowered variety of Chrysanthemum, which has all the brilliancy of our native cornfield weed, C. segetum. Whether the latter has anything to do with the parentage we cannot say, but should not be surprised if such were the case. The flower-heads are bold, and measure 3 ins. to 3½ ins. in diameter, with the broad rays of a brilliant yellow, arranged in two series, and measuring from ½ in. to ⅝ in. in diameter. The golden yellow disk itself measures 1 in. across, and appears of an orange colour, owing to the quantity of pollen. These single yellow Chrysanthemums are generally known as yellow Marguerites, and are gaining in popularity, a fact which is not to be wondered at, seeing that they are so useful for cut-flower purposes. Grown in pots they may be had in flower at Christmas as we have seen them, and, indeed, may be had at any time of the year. The leaves are green, not glaucous as in C. segetum, and twice divided, with narrow acute segments. A specimen was sent us the other day by Mr. Robert Owen, Floral Nurseries, Castle Hill, Maidenhead.

Lapageria rosea, Nash Court Variety.

The superiority of this variety over the typical form may be detected by the casual observer even if but little versed in the knowledge of plants. Those who have not yet seen it may refer to the figure given in The Gardening World, vol. iv., p. 185, where it will be noted that the flowers are of enormous length compared with their width, and that they incline to be tubular rather than campanulate. The segments are, however, of great substance, and of a deep rosy crimson without spots externally. The leaves are also of great size compared with those of the type, and the plant is a vigorous grower, as we noted recently in the nurseries of Messrs. John Laing & Sons, Forest Hill, where shoots have been made this season measuring 16 ft. in length. Not only are the flowers of great size and substance, but they are produced in great quantity, weighing down the shoots. It will be a grand subject for the conservatory when it becomes disseminated.

Hypericum oblongifolium.

A great deal more might be made of such half-hardy Hypericums as that under notice than is at present the case. An unheated frame or pit is all that is required to keep it during the winter, and when the weather is sufficiently mild it may be planted out again in spring. It is, however, so nearly hardy that although it gets more or less crippled in winter, it outlives all but the severest which we experience in the southern counties. The younger and more unripened shoots get killed, but the plant breaks out again freely, and having commenced flowering, it continues to do so for a long time—practically, until the advent of severe weather prevents the buds expanding. It is strictly shrubby in habit, and grows rather erect, which might tell against it if located in a bed by itself; but if edged by H. patulum, a closely-allied species from Japan, a very pleasing combination is produced. Both are shrubby, and have smooth glaucous leaves and terminal clusters of large bright yellow flowers. The spreading, bushy, dwarf, and branching habit of H. patulum renders it very suitable as an edging, while both are quite distinct and pretty. H. oblongifolium is also known under the name of H. Hookerianum, which some authorities regard as the correct one. It may be seen in Messrs. J. Veitch & Sons' nursery, at Coombe Wood, Kingston-on-Thames.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

Night Temperature.—A word of warning against a too high night temperature is never out of place, but at this season it is especially applicable, as the fires not being wanted in the daytime are kept banked down until the afternoon, when they are started to keep going for the night. If incautiously done the night temperature will often be equal to or in excess of the day, and the most miserable results on the condition of the plant will be brought about. So destructive is a too high temperature at night on the occupants of the Orchid houses (and indeed all plant and fruit houses), that in more than one small amateur collection have I succeeded in tracing a wretched state of things to that cause alone, and by getting the proper lower night temperature observed, rapidly bringing about a better state in the plants. A moment's thought will suffice to find the reason of this. In every country in the world the night temperature is lower than the day, and the hotter the country the more marked the difference; indeed, in the hot season in the tropics nothing else saves vegetation from utter destruction. The Orchid-grower should never lose sight of what I am convinced is the fact, that a fairly low night temperature, 5° or 10° Fahr. less than the day, is one of the cardinal points to be observed in successful Orchid culture. The ventilators afford a ready means of regulating the temperature, and the time-honoured chink of air left on at night on the bottom ventilators is a great safeguard.

Disa grandiflora, D. racemosa, &c.—Now is the best time to re-pot all the Disas of the leafy or D. grandiflora section, using a good rough compost of peat and sphagnum moss, with a sprinkling of fibry loam and sand. Some also add charcoal or sandstone, but provided the plants be otherwise properly treated, any good material, with peat for a basis, does well. Disa crassicornis, in its native habitat, generally grows in pure loam, and D. polygonoides in boggy peat. In re-potting, the old soil which can be removed without injury to the plants should be taken away, the stout pieces potted together for flowering, and the small growths placed in store pots, to be grown into future flowering plants. All are cold house or frame subjects, and in some places are grown well over pans of water, which also helps to keep back slugs and other things which are so fond of these plants.

The Temperatures for the Month of October should be:—Warm or East Indian house, 70° to 75° by day, 65° at night. Cattleya or intermediate house, 65° to 70° by day, 60° at night. Odontoglossum or cool house, 60° to 65° by day, 55° at night. Degrees Fahrenheit.—*James O'Brien.*

Orchids at Holloway.

No one expects to see a blaze of bloom in the Orchid houses just now, yet in large collections there is always something to see and admire. In Mr. B. S. Williams' nursery the other day we noted several interesting species in bloom, and first of all to attract attention was a spike of nine flowers of the deliciously Clove-scented Honlletia Brocklehurstiana. Its sienna-brown and purple-brown spotted flowers on a stiff erect spike are very pretty, and if only for its grateful odour should find a place in every collection. The lovely plum-purple of the sepals and petals of Callendar's variety of Miltonia Moreliana also attracted attention. Showy, too, and not to be passed over was the rare Zygopetalum rostratum, with its fine white lip and radiating lines of light purple. Calanthe Texorei closely resembles C. veratrifolia, and differs only in having red instead of yellow anther caps. Arundina bambusæfolia is sweetly pretty with its delicate pale rose sepals and petals and rich rosy red lip. The flowers resemble those of a small Lælia, and being produced freely in autumn, are ever welcome. The new Burlingtonia coloplectron, which Mr. Williams is sending out this year, is also flowering in quantity. It is a pigmy rather than a giant in stature, but seems to bloom freely, and the small pale rose blossoms emit a pleasant perfume. Very sweet at night, too, is the free-flowering Lycaste lanipes.

Paphinia grandis var.

Mr. B. S. Williams has in flower at Holloway a very fine and distinct variety of this singularly striking and handsome Brazilian Orchid. It differs from the typical form in being larger—4½ ins. long, and the sepals and petals 2 ins. wide in their broadest parts; and in the lower half of the sepals and petals being white instead of cream or lemon-coloured. The rich chocolate-purple markings remain the same as regards their distribution over the sepals and petals, but seem more intensified in hue. The glandular hairs on the lip, which are such a prominent feature of the flower, are also white. The pseudo-bulb as in the type is small and angular, and it is remarkable that such a diminutive plant as it is altogether should throw such a large flower.

The Gardeners' Calendar.

THE STOVE.

Gesneras, &c.—All the main batches of Achimenes, Gesneras, and Sinningias or Gloxinias should now be allowed to go to rest by putting them in a pit with a dry atmosphere, where they can be freely ventilated. Water should also be gradually withheld, so as to induce them to consolidate their rhizomes, cornis or tubers in a slow and natural manner, which will in part be indicated by the natural decay of their foliage. Their removal from the stove will afford more room there, as well as allow those left more room for full exposure to light in order to ripen their foliage and wood.

Syringing.—Much less moisture will now be required in the stove, owing to the decline of the sun's power; but a greater proportion will always have to be kept up here than in other houses where less artificial heat is used. For the general health of the plants and in order to keep down insect pests, a certain amount of syringing will have to be done, but chiefly on fine days, when there is less danger of producing a stagnant saturated atmosphere.

Temperature.—The night temperature during this month may range from 65° to 70° by night, with a rise during the day; but when a temperature of 80° is reached by sun-heat, ventilation may be given, increasing it towards midday if necessary.

THE GREENHOUSE.

Heaths.—Where these have been stood in a shady place behind a hedge or a north aspect wall for the summer months, they would be all the better for it if stood in the full sunshine for a week or so before being housed, in order to harden and bring them into a flowering condition. Of course, the longer they can be kept out of doors with safety the better, except in the case of autumn and winter-flowering species that are wanted in bloom at an early date. The same treatment should be given Epacris for early flowering.

Chrysanthemums.—See that these do not suffer for want of moisture, otherwise they are apt to lose their foliage in large quantities. This is more especially applicable to those which have been allowed to grow on without stopping, and are now very tall, which seems to be the case in many collections this year. Cut-back specimens retain their foliage much longer and better; and for grouping or conservatory decoration the cut-back system of cultivation ought to be more largely attempted than it is at present. There is great reason to believe, moreover, that this will be the case as cultivators come to recognise the beauty of the dwarf habit of the plants, that require a little staking, but no special training whatever. As the pots are now well filled with roots, give frequent doses of liquid manure. Attend to disbudding whenever the buds can readily be laid hold of and removed by the finger and the thumb.

Pelargoniums.—Show and fancy varieties that are required to be in flower by May should receive their final shift. Pot on young stuff as the soil becomes thoroughly permeated with roots. It is injurious to the well-being of the plants if too confined for root-room when they are required to be of a useful size for flowering in

spring. If a proper system of cultivation is adopted, however, the pots need not be particularly large, as very useful stuff can be flowered in 48-size pots by feeding with liquid or some good artificial manure. Attend to the stopping of the plants, so that they may be close and bushy.

THE FORCING HOUSES.

FIGS.—In order to ripen the late crop of Figs keep up a temperature of from 60° to 65°, and during the day the house may be allowed to run up to 70° or 74° with sun-heat, giving at the same time plenty of ventilation. The atmosphere of the house should be kept dry, and although the soil in the pots must not be allowed to become too dry, yet a limited quantity of moisture will meet the requirements.

CUCUMBERS.—For winter crops seeds may be sown or cuttings may be struck. Seeds sown now and brought on in moderate heat will be ready to put in their fruiting pots by the end of the month. Keep the plants as near the glass as possible after they germinate to prevent them from becoming drawn, and otherwise tend them, so that growth may proceed steadily and without check. Careful cultivation is also necessary throughout the winter.

THE KITCHEN GARDEN.

ONIONS.—Owing to the backward nature of last summer, spring-sown Onions were not only late, but in most cases—especially on moist and rich soil—they ripened rather indifferently compared with what happens in ordinary seasons. In some instances no attempt has been made at storing them, owing to their not being in proper condition. Care will also have to be taken in storing them to keep them spread out thinly, and those which have failed to become properly ripened should be kept by themselves so that they can be used first.

LETTUCE.—For early spring use hardy varieties of Cos and Cabbage Lettuce should be put in frames in sheltered positions facing south. They may be put in pretty thickly so as to allow of some being drawn for use, should the supply run short, as it is most likely to do towards spring. Every alternate plant can be drawn, leaving the others to develop. Other plants may be dibbled in at the foot of south and west aspect walls, to succeed those in the frames.

PARSLEY.—From sowings made in the early part of summer, dig up sturdy healthy plants, inserting them in frames for a winter supply. The older and coarser leaves may be removed, when others will yet be produced to finish a supply. Keep the frame close for some time until growth commences afresh.

QUESTIONS AND ANSWERS.

DRACÆNAS AND CROTONS, &c.—*Intermediate:* The Crotons, Dracænas and Coleus will keep much better in your intermediate house if you do not plunge them in coco-nut fibre. The Coleus should be placed at the warmest end, and only be sparingly supplied with water. The Crotons and Dracænas will want more, but, of course, not so much as in the summer.

DAHLIAS AND MARIGOLDS.—*W. Caudwell:* The flowers show that your strains of both these flowers are very good. The single striped Marigolds are very pretty.

ASPHODELINE.—*W. Leigh.:* The genus Asphodelus has been broken up, and the species having upright leafy stems are now associated together or classified under Asphodeline. The species of Asphodelus have their leaves confined to the base of the stem, being what are termed radical; otherwise the plants have a considerable resemblance to one another, differing chiefly in the white or yellow colour of the flowers, the height of the stems, and the shape or size of the leaves.

CUCUMBERS DISEASED.—*J. Finnie:* Your plants are badly affected with nematoid worms, and the only course which you can pursue is to root them up and burn them. Before planting others, the whole of the soil must be renewed, as the worms naturally take to that when the plants which constitute their food have died and rotted away; so that it would not be safe to put young plants into the same soil, even should the latter not be much exhausted. In introducing farm-yard manure, care should also be taken that the worms which have given rise to the disease are excluded as far as possible.

INSECT ON LEAF.—*Charles Burgess:* The insect affecting the leaves of your plants in the greenhouse and frames is a species of Phytomyza that infests various plants, including Chrysanthemums. The only remedies are to destroy all affected leaves, or even the plants if very much damaged; or to kill the insect while it burrows its way through the tissues of the leaf by squeezing it between the finger and the thumb. The specimens you send us are now inactive, having gone into the pupa stage, from whence they will emerge in spring as two winged flies, to commence their work of destruction again. We should advise you to destroy every vestige of them in the way recommended, and so reduce their numbers as much as possible.

TREES AND SHRUBS FOR SEA COAST.—*O. P.:* Trees suitable for seaside are Pinus sylvestris, P. insiguis, P. austriaca, P. Pinaster, Quercus Ilex, Sambucus nigra, the Beech (Fagus sylvatica), Hollies, Elms, Cupressus Lambertiana, the Sycamore, and White Poplar. The best shrubs of all are Euonymus japonicus and its numerous variegated forms, the Tamarisk, Furze and Lycium barbarum; any of these shrubs will form a beautiful fence, and you may be guided in your choice according to the purpose for which you want it. The Furze and Tamarisk are probably the most suitable. Many other things would grow admirably on the sea coast, provided the locality is not particularly exposed to heavy gales from off the sea.

NAMES OF PLANTS.—*W. T. Frost:* The Melilot (Melilotus officinalis), a capital bee plant. *S. K. G.:* 1, Campanula glomerata; 2, Saponaria officinalis; 3, Aster dracunculoides; 4, Aster Novi-Belgi var. *R. L.:* 1, Chrysanthemum carinatum; 2, C. coronarium; 3, C. (Pyrethrum) uliginosum; 4, C. (Pyrethrum) roseum. *A. H.:* 1, Silybum Marianum; 2, Onopordon Acanthium. *R. West:* 1, Alonsoa Warscewiczii; 2, Sedum Sieboldii medio-variegatus; 3, Chlorophytum elatum variegatum; 4, Aster Novæ-Angliæ; 5, Diantbus deltoides. *Wattie:* Jasminum Samhac. *A. M. D.:* Centrantbus ruber. *J. W., F.:* Alcbemilla alpina.

NAMES OF FRUITS.—*G. Parr:* Pears: 1, Beurré Defais; 2, not recognised. Apples: 4, Yorkshire Beauty, 5, Boston Russet, 6, Yorkshire Greening. *Wattie:* 1, Jargonelle, 2, Marie Louise. *J. Potten:* Apple, Adam's Pearmain. Pear, not known. A worthless thing probably from the stock.

COMMUNICATIONS RECEIVED.—A. E. K. (next week).—A. H. E.—J. F.—A. O.—G. B.—A. D.—J. H.—E. J. B.—W. G.—B. L.—J. P. C.—J. Thurston.—Rev. E. L.—W. W.—J. C.—R. C. F.

TRADE CATALOGUES RECEIVED.

ISAAC DAVIES & SON, Brook Lane Nursery, Ormskirk.—Rhododendrons, Azaleas, &c.

THE WEATHER.

AT the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending Sept. 29th was 29·86 in.; the highest reading was 30·09 in. on Wednesday evening, and the lowest was 29·39 in. at the end of the week. The mean temperature of the air was 55·8°, and 0·2° above the average in the corresponding weeks of the twenty years ending 1868. The mean showed an excess on Monday, Friday, and Saturday, but was below the average on each of the other days of the week. The general direction of the wind was N.E., and the horizontal movement of the air averaged 7·4 miles per hour, which was 3·3 miles below the average in the corresponding weeks of sixteen years. Rain fell on four days of the week to the aggregate amount of 0·51 of an inch. The duration of registered bright sunshine in the week was 12·7 hours, against 21·2 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

October 1st.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a brisk speculative demand for Red, White, and Alsyke Clovers at advancing prices. German merchants are buying freely, owing to anticipated short yields from their own growers. Winter Tares are in full supply, and prices firm. There is no change in value of Trifolium incarnatum. Bird seeds unchanged.

COVENT GARDEN MARKET.

October 3rd.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½-sieve	2 0	4 6	Pine-apples, St. Michaels, each	2 0	5 0
Cobs ....per 100 lbs.	65 0	70 0	Pine-apples, Eng., lb.	1 6	2 0
Grapes ....per lb.	1 0	2 6	Plums, ½-sieve	2 6	4 0
Melons	1 0	3 0	Peaches.....per doz.	2 0	8 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 6		Lettuces ..per dozen	2 0	3 0
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	0 9	1 3
Cabbages .... per doz.	1 6		Onions, per bushel	7 0	9 0
Carrots, New, per bun.	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	3 0	4 0	Radishes, per dozen	1 6	
Celery, per bundle	2 0		Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	0 9	
Herbs, per bunch	0 2	0 4	Turnips, per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys. 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Asters .....per doz.	3 0	6 0	Ficus elastica each	1 6	7 0
Chrysanthemums, per dozen	4 0	9 0	Fuchsia, per doz.	3 0	6 0
—large plants ..each	2 0	5 0	Heliotrope ..per doz.	3 0	6 0
Cockscomb, per dozen	3 0	6 0	Hydrangea, per doz.	9 0	18 0
Coleus .....per doz.	2 0	4 0	Lilliums, var., doz.	18 0	30 0
Cyperus, ..per dozen	4 0	12 0	Marguerites per doz.	6 0	12 0
Dracæna term., doz.	30 0	60 0	Mignonette ..per doz.	3 0	6 0
—viridis, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, scarlet, per dozen	2 0	6 0
Ferns, in var., do.	4 0	18 0	Pelargoniums, dozen	6 0	12 0
			Scented Verbena doz.	4 0	6 0
			Solanums....per doz.	9 0	15 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Asters, doz. bunches	3 0	6 0	Lilium speciosum, 12 blooms	2 0	4 0
—(French), 1 bunch	1 0	1 6	Marguerites, 12 bun.	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Mignonette, 12 bun.	2 0	4 0
Camellias, 12 blooms	3 0	4 6	Pelargoniums, 12 sprys.	0 6	1 0
Carnations, 12 blooms	1 0	2 0	—scarlet, 12 sprays	3 0	6 0
Carnations, 12 bun.	4 0	6 0	Pinks, 12 bunches	3 0	6 0
Chrysanthemums annual, 12 bunches	1 0	3 0	Primula, double, bun.	0 9	1 0
Chrysanthemums, 12 blooms	0 6	3 0	Pyrethrums, 12 bun.	2 0	4 0
—12 bunches	2 0	6 0	Roses (coltd.) 12 bun.	2 0	4 0
Cornflower, 12 bunch.	1 6	3 0	—Tea ....per dozen	0 6	1 6
Dahlia, 12 bunches	3 0	6 0	—Red .....per doz.	0 6	1 0
Eucharis, per dozen	3 0	6 0	—Safrano ..per doz.	1 0	1 6
Forget-me-not, 12 bun.	2 0	4 0	Stephanotis, 12 sprays	3 0	4 0
Gardenias, 12 blooms.	1 6	4 0	Sunflower, 12 bunches	3 0	9 0
Gladiolus, 12 sprays	0 6	1 6	Sweet Peas, 12 bunches	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	Tuberoses, per dozen.	0 6	1 0
Lapageria, 12 blooms	1 0	2 0	Violets ..12 bunches	1 0	1 6
Lilium longiflorum, 12 blooms	4 0	6 0	—Parme, French, 12 bunches	3 0	4 0

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				s.	d.
Collection M,	containing	2,923 Bulbs	Price	105	0
,, N	,,	1,909 ,, ...	,,	63	0
,, O	,,	1,286 ,, ...	,,	42	0
,, P	,,	680 ,, ...	,,	21	0
,, Q	,,	424 ,, ...	,,	15	0
,, R	,,	315 ,, ...	,,	10	6
,, S	,,	203 ,, ...	,,	7	6
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NOTICE is hereby given that an Addition will be made to the List of Pensioners of this Institution in January next. All persons desirous of becoming Candidates are required to send in their applications to the Committee, with their Testimonials and Certificates, on or before NOVEMBER 5th NEXT, after which day they will not be received. Preference will be given to those Candidates, or their Widows, who have been Subscribers for Fifteen clear years at least. Should there not be sufficient number of these Candidates to fill the vacancies, then the applications of those who have not subscribed so long, or not at all, will be considered.

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October 3rd, 1888.

P.S.—Printed Forms of Application may be obtained from the Secretary.

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Next Week's Engagements.

MONDAY, Oct. 15th.—General Meeting of the National Chrysanthemum Society at Anderton's Hotel, 7 p.m. Sales of Dutch Bulbs at Protheroe and Morris's Rooms. Sales of Nursery Stock at Norbiton and Long Ditton (6 days), also at the Bathwick Nurseries (2 days) by Protheroe & Morris.

TUESDAY, Oct. 16th.—Apple and Pear Conference at Chiswick (5 days).

WEDNESDAY, Oct. 17th.—Sale of Dutch Bulbs at Stevens' Rooms.

THURSDAY, Oct. 18th.—Sale of Dutch Bulbs at Protheroe & Morris's Rooms.

SATURDAY, Oct. 20th.—Sale of Bulbs at Protheroe & Morris's and Stevens' Rooms.

For Index to Contents & Advertisements, see p. 106.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, OCTOBER 13, 1888.

CURRENT TOPICS.

THE CHISWICK CONFERENCE. — We would again remind our readers of this interesting gathering, because it bids fair to be more largely an horticultural gathering than any other yet held of a similar kind. We may well hope that very many persons connected with land, whether as owners or occupiers, may also be induced to attend, as gardeners generally have not so very much more to learn in relation to Apple and Pear culture. The recent severe early frosts have given special stimulus to the consideration of hardy fruit culture just now, because it will be important to learn how far these unlooked-for visitations may have injured the great bulk of fruit yet ungathered.

As a rule, the chief of the later Apples and Pears are not housed until from the middle to the end of October, for the simple reason that they need all the maturing forces of that month to perfect them. But this year both Apples and Pears are very late in maturing, and need yet considerable

exposure to sun and air to ripen them. The fierce frosts of the early days of October have therefore proved to be not only an unusual experience in fruit culture, but have come at a season when, if they did harm, that harm would be specially intensified. We shall wait anxiously for information on this head, and trust to learn from our readers how far their yet hanging crops of these fruits may have suffered, or otherwise.

Very likely some information will be forthcoming at Chiswick during the conference, and a paper upon the subject of hardiness of late Apples and Pears, as respects early autumn frosts, might prove of considerable value now. We cannot get over a difficulty of this sort by growing early sorts only; we have early varieties in abundance, and now want high-class late sorts to be as plentiful; but still we want to learn also how far these finer late kinds are fitted to endure such very unwonted visitations of frost as those which we have just experienced.

THE FROSTS. — Alas, how fugitive are the joys and beauties of our gardens! When Shakespeare put into the mouth of Wolsey such dolorous language after his fall from power he could find no stronger illustration of the coldness and black ingratitude of the world than a sharp and all too blasting frost presented. We have been familiar long enough with the wiles of October, but the month has rarely played our gardens a scurvier trick than it did on the morning of the 2nd inst., when, with a temperature ranging from 5° to 9° of frost, it did such terrible mischief to every thing tender in vegetation exposed to its force, and also to many things reputably hardy.

Not content with hitting hard and harshly once, the frosts came again and again, until all that before had been but scarcely hurt was soon dead, and frozen into a rotten pulp. Nothing was done by halves, the destruction was as thorough as it was wholesale; and with it came to an all too rapid end all of what beauty a treacherous summer had afforded. We may well hope that such a disaster will not discourage gardeners, although it is difficult to understand how it can do otherwise. We can complain of no one; we have no one responsible for this disaster upon whom to expend our spleen, and perhaps it is just as well that it is so, because we do but all the sooner learn to exhibit true philosophy, and strive to bear such misfortunes with equanimity.

It is just possible that this sudden closing of the season of tender plants may in future years tend to check their considerable employment in gardens. Still, there is the anticipation that the experience of the present year —a very distressing experience—may not be repeated for many years hence, and let us cordially hope such may be the case.

GOVERNMENTAL GENEROSITY.— The public papers have recently informed readers that the annual distribution of plants from the London parks and gardens would take place, and that requests for the same were to be forwarded to the superintendents of these places. Let us charitably hope that this stereotyped announcement was prepared and issued to the press prior to the advent of the late frosts, although it was not published until after these visitations had played havoc amongst all ordinary bedding plants. It would be, indeed, very interesting to learn how many of such plants as are thus offered are accepted, how many get petted by the poor recipients, and, finally, how many survive the winter.

Even when the plants have suffered no harm beyond what checks they must of necessity have received when roughly lifted from their beds—and that is a rude check indeed—it is very doubtful whether many survive the winter. It is difficult enough to keep plants thus lifted from beds about the middle of October, even in proper frames and greenhouses, except there be artificial heat at command. How very difficult it must therefore be for the London poor in their courts and alleys to preserve such plants alive becomes obvious. To many, we fear far too many, the given plants become but sources of ultimate disappointment. What, therefore, must be the value of tender plants, which have been hard frozen morning after morning, and are nearly as dead as plants can be?

The offer seems to be but a hollow mockery this year at least, and we regard it but poor generosity at any time. If there be any surplus plants left on hand in our public parks and gardens after the summer-bedding is completed, then would it be a really kindly act to present such to the poor, as they would have the summer before them, during which the plants would develop into size and beauty.

CHRYSANTHEMUMS.—Only last week we referred to the then probable bloom prospects of these plants, when we wrote no frosts had come to depreciate natural anticipations. A popular writer on the Chrysanthemum, as also a famous grower, only a few days since published the information that pot plants should be housed not later than the 8th of October. Very admirable advice for average seasons, but this year, ere the 8th of the month was reached, we had been visited some four or five times by sharp frosts, possibly making a total of from 20° to 30° cumulative, a fearful amount of cold for flower buds to be exposed to. Of course such was not the case, as hardly a plant intended to produce respectable flowers was by any intelligent grower permitted to remain outside one moment longer than was needful after the intense frosts of the morning of the 2nd inst.

But even that one frost sufficed to do some harm, especially to the more developed buds, and some malformed flowers will certainly be seen presently. Let us hope that they may be few. Still, the warning thus given will have to be borne in mind during future years. The bitter frosts of the first week of October, 1888, will long be remembered by all gardeners, not only for the frightful mischief wrought amongst flowers, but Chrysanthemum growers especially will remember them as warnings that henceforth October may not be trusted for a day, and if unable or too early to get plants under glass, that they should have for a week or two the protection at night of canvas roofs; for that purpose they may be placed somewhat closer together, and beneath a framework of wood, or in front of a south wall, where the blinds employed in the spring to protect wall trees might be pulled out over some light rafters, beneath which the plants can be temporarily placed. Most certainly, henceforth, advice to house plants, or protect them, will date rather from the 1st of October than a week later.

The Great York Gala of 1889 has been fixed to take place on June 18th, 19th, and 20th.

Gardening Engagement. — Mr. J. T. Smith, at present gardener to the Earl of Crawford, Dunecht House, Aberdeenshire, has been engaged as head gardener and manager to the Dowager Countess of Seafield, Cullen House, Banffshire. Mr. Smith has long been known as a successful competitor at the Aberdeen flower shows, and otherwise as an ardent horticulturist.

National Apple and Pear Conference. — The following arrangements have been made for this conference, which opens next week at Chiswick:— The fruit, which will comprise selections from the various districts, is to be staged early on Tuesday, and the conference will be opened by the council of the society at 3 p.m. On Wednesday papers will be read by Mr. G. Bunyard on the "Growth of Apples for Profit;" by Mr. William Paul on the "Growth of Pears for Profit;" by Mr. T. Francis Rivers on "Stocks for Apples and Pears;" by Mr. W. Wildsmith on the "Fewest Varieties of Apples and Pears necessary to insure supplies of ripe fruit from August to March;" "Pruning Apple and Pear Trees," by Mr. Shirley Hibberd, Dr. Hogg being nominated to preside at the meeting. On Thursday the subjects are "Canker in Fruit Trees," by Mr. J. Douglas and Mr. E. Tonks; the "Enemies of the Apple and Pear," by Mr. J. Fraser; "Varieties of Apples for Sussex, and their Culture in Heavy Clay Soils," by Mr. J. Cheal; "Renovation of Old and Formation of New Orchards in the Midlands," by Mr. W. Coleman; "Apples and Pears suitable for Cultivation in Scotland," by Mr. M. Dunn, Mr. Shirley Hibberd presiding. On Friday the papers to be read are on "Compensation for Orchard Planting," by Mr. W. E. Bear; "Fruit Production and Distribution," by Mr. E. J. Baillie; "Railway Charges for Carriage," by Mr. D. Tallerman, Mr. T. B. Haywood being nominated to preside on the occasion. The meetings are to commence at 1.30 on each day, and discussions are expected to follow the reading of each paper. Visitors from the country who propose attending the meetings may be reminded that the Gardens are within five minutes' walk of the Acton Green station of the Metropolitan District Railway, and trains run in half an hour from the City stations every twenty minutes. Visitors from the south will find trains from Clapham Junction to Chiswick station, which is within a mile of the Gardens.

Royal Horticultural Society.—At a meeting of the council, held on Tuesday, it was resolved that a special general meeting of the Fellows be held at 2 p.m. on Tuesday, November 13th, in the council room of the society, 111, Victoria Street, to discuss and pass the bye-laws. The secretary reported that during the recess he had received an application from the Melbourne Exhibition Commissioners for a representative collection of English-grown Apples and Pears to be sent out to Australia for the exhibition, and that he had arranged to comply with this request immediately after the Chiswick Conference, in the hope that many of the exhibitors there would allow their specimens to be sent out to the colony for that purpose.

National Chrysanthemum Society. — A general meeting of the members of this society will be held on Monday evening next, at Anderton's Hotel, Fleet Street, the chair to be taken at seven o'clock precisely. With reference to the provincial show of the society, to be held in Sheffield on November 16th and 17th, we may state that a Chrysanthemum conference will probably be held on the evening of the first day, further particulars of which will be duly announced; and also that visitors to Sheffield will be admitted after three on Friday, at half price, on presentation of the return half of the rail ticket. Arrangements have also been made with the Midland Railway Company to convey exhibits at owner's risk, at single rate for the double journey, provided they remain the property of the exhibitor.

Elementary Botany and the Principles of Gardening.—A course of ten lectures on Elementary Botany and the Principles of Gardening was commenced in the Lecture Hall of the Mechanics' Institute, Woolton, Liverpool, on Thursday, October 11th, and will be continued weekly until completed, by Mr. R. J. Harvey Gibson, M.A., lecturer on botany in the University College, Liverpool.

The Birmingham Gardeners' Mutual Improvement Association.—The first meeting of the autumn session was held at the Midland Institute on Tuesday evening, October 2nd. The president, Sir Thomas Martineau, occupied the chair, and more than 100 members were present. The president warmly congratulated the members upon the great success of the society, and the excellence of the programme for the autumn session. He likewise drew their attention to the valuable horticultural education which such societies and meetings must be giving to the younger members of the profession. He remembered with very great pleasure presiding at the first meeting which was held to inaugurate that society, inasmuch as it was one of the most useful and successful societies that sprang into existence during the three years of his mayoralty. At the close of his remarks Mr. R. Parker, The Gardens, Impney Hall, Droitwich, gave a most practical, instructive and interesting paper on "Essential Points in Connection with the Successful Cultivation of Our Hardy Fruits." He dealt with his subject in an exhaustive manner, dwelling upon the importance of a wise selection of stocks, of the value of a high, dry and sheltered position, and a limited selection of such

varieties as are suitable for the district in which they are to be grown. A lengthy discussion followed, which brought out much useful information, and a suggestion from Mr. A. Outram that a record should be kept in the library for the use of the members of such varieties as are known to do well in the district. A unanimous vote of thanks was tendered to Mr. Parker for his valuable paper, and a similar vote enthusiastically accorded to Sir Thomas Martineau for presiding. The meeting was then adjourned till October 16th, when Mr. G. Barnes will read a paper on "The Species of Odontoglossums and Miltonias, and their Cultivation."

THE LARCH (LARIX EUROPÆA).

Both for and against the Larch much has been written and said, particularly of late years, but however much has been said in commendation of it, there can be no doubt that to overstate its value as a timber tree as well as its exalted place in the economy of British forestry would be a task of some difficulty. When we combine its great, almost peculiar aptitude to suit itself to nearly all conditions of soils, altitudes, and diversities of climate, its long-established value as a timber tree, rapidity of growth, and ease of culture, it can hardly be gainsaid that no other tree, native or exotic, can be ranked on a par with the Larch. Unfortunately, however, of late years the Larch has been in a rapidly degenerating state, an evil that may be greatly minimised, if not indeed entirely got rid of by a careful selection of seeds from sound and healthy trees.

By far too little attention has been paid to this important matter, the result being that weakness and tenderness have got instilled in the constitution of the tree, and it is thus ill adapted for withstanding even a few degrees of frost on the surface of the trees. So weakened, blight, fungus, and ulceration find a congenial footing, and thus is brought about the fell disease about which so much has been said and written of late years. In my own opinion, fostered by careful investigation and research, induced tenderness in the constitution of the Larch is the primary cause of disease, cold winds and frost the destroying agent, and ulceration the direct consequence. Were we to follow more closely Nature's method of dealing with the cones and seed of this—as well, indeed, as many other Conifers—we should have less sickly and rapidly degenerating trees in our woodlands, and far less cause for the constant wail sent forward regarding the decline of this noble and valuable timber-producing tree. In its native country, the Tyrol, the seeds of the Larch are never scattered from the cones until March and April, after having been fully exposed and their contents thoroughly matured by a winter's frost. A comparison of such seeds with those annually procured in this country, and from which our stock of plants is mainly raised from year to year, reveals marked difference, for not only are our home supplies of cones collected in November before maturity is nearly attained, and when only partially, if at all, wintered, but these are kiln-dried, a most pernicious practice, so that the immature cones may part with their seeds.

With such a course of procedure, there need be little wonder why our once healthy Larch is fast becoming unhealthy and gradually but surely degenerating as the reports from almost every part of the British Isles but too truly confirm. To further add to the evil, the large demand for Larch seed by our nurserymen creates a rather keen competition for such to be supplied in time for early spring sowing, and so it is that instead of the cones being allowed to winter on the trees they are collected in the greatest quantity in the autumn or early winter previous, so as to be forward in time to meet the demand.

It is, likewise, well known that sickly trees, as if by a last effort of Nature, and so as to propagate their kind, bear an unusually large quantity of seed, and as these are in nine cases out of ten collected at so much per sack or bushel, can it be wondered at that the bulk of our home-saved Larch seed is totally unfitted for reproductive purposes? It is well known that a diseased tree cannot bring forth good fruit.

The durability of the wood of the Larch is well known, and this peculiarity is even noticeable when of only a few years' growth. As compared with Scotch and Spruce Firs, the wood of the Larch is doubly durable—a fence of the latter cut from twenty to thirty years' growth lasting from seventeen to twenty years, while that of the Spruce about nine years and the Scotch five years. This is referring directly to rails, not to posts, which decay in about half that time. For mining and railway purposes the durability of Larch wood makes it much sought after, this being still further enhanced by its extreme lightness, a cubic foot when seasoned weighing only 34 lbs. It takes a beautiful polish, works with great freedom, and when fully seasoned is not at all liable to twist or warp.

The Larch is not less valuable as an ornamental tree—although it has been sadly neglected in this way—than it is remunerative for the quantity and quality of timber it produces. In very few positions is the Larch out of place, its graceful and airy form, as well as majestic proportions when perfectly developed, causing it to compare favourably with any other Conifer with which we are acquainted. The branches in some specimens are gracefully pendulous, in others stiff and horizontally inclined, while in some they are long and lithe, first gently curving downwards, and then as gradually rising upwards at the tips. When grown as a standard, and allowed plenty of room for perfect development, the stem is branched to the ground, and an aged specimen of such a type is, when suitably situated, an object of no mean appearance. Few trees transplant with greater freedom than the Larch, succeed so well on exposed ground and at high altitudes, or are better adapted for affording shelter to others of a less hardy type.

Substitutes for the Larch have oft been recommended, but in the true sense of the word none can be termed substitutes, except, indeed, in the narrowest sense, although, doubtless, some of those whose claims have been set forth might reflect one or more of its valuable qualities, but this is the widest limit of comparison.—*A. D. Webster.*

THE ORCHID FLOWER HOLDER.

Every intelligent Orchid grower is well aware of the great strain put upon their favourites when they have to support a large spike or panicle of flowers for weeks together during their blooming season. This is also very evident in establishments where large quantities of cut flowers are required, so that the blooms get cut before they have time to exhaust the pseudo-bulbs. There are other owners and growers of Orchids, however, who like to see the bloom in their hothouses, and to them the question is a serious one how to maintain their plants in health and vigour while enjoying the presence of the bloom in association with the foliage of the plant itself. It is well known that if the flowers are allowed to remain on the plant till they have fully expanded, completed their growth, and become firm as it were, they will remain as fresh for a great length of time, according to the variety, if cut and placed in water, as they would on he plant itself, while the latter is thus relieved of the strain placed upon its resources. The annexed illustration is of a very simple contrivance, invented by Captain Maxwell, of Terregles, for use in his own houses, and which is being introduced into commerce by Mr. Alfred Outram, 7, Moore Park Road, Fulham. It meets the requirements of the case admirably, and consists of a zinc tube about 3½ ins. long, to which a piece of stout but pliable wire is attached. The tube holds water, into which the spikes of Orchid flowers, when cut, may be placed; and the wire can then be inserted in any desired position in the soil of the flower pot, so that the flowers may be arranged in their natural position in association with the foliage of the plant. The wires may be had of any desired length, and may be bent so that the flowers can assume their natural position as if still on the plant.

CHRYSANTHEMUM NOTES.

The Early Frosts.

Jack Frost has caught a number of growers napping this season. No one expected such a sudden change in the temperature as has been experienced this month: the sudden change from the genial warmth of September to the severe frosts of October has played sad havoc with both buds and plants. In and near London we have had from three to eight degrees of frost, commencing on October 1st to the 9th; and this severe weather also appears to have been pretty general in all parts of the country, and up to the time of writing there seems little chance of any improvement. The days are very bright and the sun still has a deal of power, but the nights have been bitter, and it is feared that the Chrysanthemum shows in November will suffer very considerably.

Few, if any, of our leading growers had finished housing their plants by October 1st, and, consequently, many hundreds of plants have been hopelessly ruined. One serious result of these frosts is, that if the buds are not actually destroyed, the blooms are very apt to come deformed, and can never be relied upon to produce perfect flowers, for although a bud may have the appearance of having escaped the frost, it will be found after trouble and time has been spent in housing the plants, that the frost has killed the centre of the bloom.

The Time for Housing Plants.

The numerous authorities on "Mum" growing advise removing the plants to their blooming quarters about the first week in October, and those who practice what they preach will this season have good cause to regret leaving plants in the open after the night of September 30th. It is the practice to house such plants as show colour only earlier than October 1st. This, of course, refers to those grown for use at the various November exhibitions, for it is pretty certain that a flower opening its outer petals in September will be past its best long before a show to be held, say, between the 6th and 15th November. The bloom left out in the weather after the colour appears—say, on October 1st—cannot be retarded sufficiently to keep it back for the exhibition table, and the result of leaving it outdoors is that it is not only lost for exhibition purposes, but is absolutely useless for even indoor decoration, as the outer florets which have opened will turn brown and damp off when removed under glass. Fortunately, this is a most exceptional season, and few, if any, growers can hark back to such a disastrous one. I never remember such a succession of destructive frosts making their appearance the first few days in October, nor do I wish ever to witness a repetition of them. Still, in spite of the extraordinary season of 1888, I am still of opinion that for general exhibition blooms the first week in October is the correct time to house Chrysanthemums.—*Practical.*

Effects of the Frost.

I have to-day seen upwards of 2,000 plants which have been ruined, and out of these there are not more than fifty that are likely even to show colour, or to repay for the trouble of carrying them into the house. The late varieties have suffered most, such plants as Princess Blanche, Lord Eversley, Ethel, Princess Teck White Ceres, and such as are seen at the January show of the National Chrysanthemum Society, are entirely lost. I notice that wherever the buds had not been taken and the tips of the shoots were consequently sappy, the frost had killed the stems about 6 ins. down, whilst some plants with their buds well set have to all outward appearances escaped; but in this case it is only the hard smooth ones, for wherever a bud was to be found at all coarse or open in the centre the frost had penetrated to the middle and turned it black. Many others attracted my attention, and amongst them some fine plants of Golden Dragon and Mdlle. Elise Dordan, without a sign of life in them from the pot upwards.—*A., October 8th.*

Culture of La Petite Marie.

In reply to your correspondent (p. 83) *re* La Petite Marie, I may say that having experienced the same difficulty as he has, *i.e.*, that this variety is an indifferent one to keep through the winter, I take all the cuttings I can as soon as they are to be got, I mean from October to December, then if I have not sufficient stock I keep some of the old plants which have flowered in pots in a cold frame until the spring. In February I commence propagating again, and of the two, prefer the spring to the autumn-struck cuttings, as they grow right away. As soon as struck I pot off into thumbs, afterwards planting out in a prepared border in April or May, according to the season, and stop from time to time as the plants are required for blooming. For pot-work I lift the first batch in July, and these put into 48's, shading for the first two or three days, are soon ready for decorative purposes, and I find are very useful. I lift a second batch in August, and treat them the same way, which insures a succession for at least three months. The only other varieties of similar habit that I grow, are Little Bob (syn. Scarlet Gem), crimson-brown; Anastasio, light purple, a very pleasing colour; and a new yellow Pompon called Golden La Petite Marie.—*J. H. Witty, October 9th.*

Chrysanthemum Elsie.

Considering the late character of the season, this new Japanese variety seems to be notably precocious in its flowering. It is of moderate size, with creamy white reflexed florets, that are revolute at the margin and closely arranged. The centre of the head is pale yellow when young, but gradually becomes pale, almost white, as it expands. It was exhibited by Mr. George Stevens, St. John's Nursery, Putney, at the Drill Hall, on Tuesday, and awarded a First Class Certificate.

GARDENING NOTES FROM IRELAND.

MARINO.

As a first-class gardening establishment, Marino, Clontarf, co. Dublin, was many years ago famed amongst gardeners, and being the suburban residence of many Earls of Charlemont, was in those days the resort of many people who, as well as their entertainers, have attained some historical celebrity. All this is changed now, and instead of being associated with colossal entertainments and artistic reunions, the place is now devoted to the uses of the world-known Artane Industrial Institution. On the grounds, too, have been erected, but I believe not yet occupied, some magnificent buildings destined as a home for orphans, and which have been built out of funds left for that purpose. Notwithstanding changes like these, this fine old place still retains all its arboreal grandeur, and so far as I could judge from what I saw, both as regards grounds and gardens, there is a manifest desire to retain intact, as far as possible, all the old prominent features of the place. This observation has special reference to the fine old wall trees in the garden, many of which, although gradually dying out, are allowed on account of their great age to remain. On the other hand there are many old trees showing a wonderful vigour of growth, and an equally extraordinary power of fruit production. Some of these are to be found amongst

PEARS,

AND when I give some of the names, at least a guess may be given as to their age. One of these is a noble tree, and of the kind known to ancient growers as Moorfowl's Egg. I am not aware if it is still to be found in nurserymen's catalogues; but the specimen of it growing here is a fine one, and its extent of growth along the wall may be considered large when it is stated that over 1,800 fine fruits were gathered off it last year. Equally fine in health and crop were trees of Gansel's Bergamot, Autumn Bergamot, Beurré Diel, Glou Morceau, Beurré d'Amanlis, Uvedale's St. Germain, and others. Among pyramids, standards and bush Pears there are numerous varieties, and as many of these have not been planted out long enough to judge of their merits, I refrain from saying anything about them further than to observe that they are all of approved sorts. Some of the older-planted pyramids, &c., were bearing very heavy crops—so heavy in many instances that they had to be supported with forked sticks where they could be reached. Conspicuous in this respect were two sorts known as Bishop's Thumb and the perhaps better-known Louise Bonne of Jersey. Another variety forming a grand standard is Vicar of Winkfield. This tree was covered with fine fruits, and like the others, had to be supported with long stakes placed in the ground. Although from such heavy crops it might be supposed the fruits were small, yet this was not the case, as they were clean grown and of a fair average size.

APPLES.

THESE were in fair abundance all round, but many of the crops had been already gathered in. Those remaining were such sorts as Lord Suffield, Ecklinville Seedling, Cellini Pippin, Worcester Pearmain, &c.

OUTDOOR PEACHES.

IN other years the middle of October might be considered late enough to have Peaches standing out on the walls, and that too for only one or two varieties, but I found no less than four varieties still to be gathered. One of these was carrying a very heavy crop, and I question if such another tree is to be seen in this country. The size of the tree appeared to me to be so unusual for a Peach that I was curious enough to ask for it to be measured, and it was found that on a wall 14 ft. in height it occupied a running space of 33 ft. The sort is that known as Late Walburton, and for the whole space covered the tree is one unbroken surface of foliage and fruit. There are no patches of brick-work peeping out here and there through the foliage to indicate indifferent health, or it might be, to relieve the picture in its colouring; but this was sufficiently and profitably done by the splendid fruit-colouring in the foreground. The tree is in excellent health, and to keep so large a Peach tree in that state shows that there is a well-skilled, master band at Peach-growing managing it. Growing alongside of this is a smaller tree of an American Peach, under the name of "Stump the World," and from its appearance here I have no doubt will prove a most desirable sort for producing a late crop. It is of good size, handsome, and a free bearer. Exquisite and Barrington were just ripening in, and must prove most useful so late in the year.

FRUIT HOUSES.

THERE is a fine range of vineries containing numerous old varieties, all planted in outside borders, but possibly from being neglected before the place got into its present working state, the Vines are not giving satisfaction. The Peach house is a range of about 90 ft., and having a quarter span. Here again the trees are all old ones, the sorts being Double Montagne, Bellegarde, Scarlet Admirable, and Royal George. These usually bear heavy crops, but this year were rather under the average.

PLANT HOUSES.

OTHER low-roofed houses on the span principle are to be seen, all well adapted to the growth of dwarf-flowering plants, large quantities of which are grown for market; indeed, it should be borne in mind that everything of marketable value not used for the institution is disposed of in order to help to provide funds for the education and training of the boys under the care of the Christian Brothers, so that Mr. Colgan, the able gardener, while he may very reasonably lay claim to much success here as the result of a long and practical experience, it is easy to see that his position is not bed of Rose.

STRAWBERRIES.

IMMENSE quantities of these are forced every year, and I saw a fine stock of Sir Harry and British Queen, with good well-ripened crowns, ready for being transferred to their forcing quarters.

CHRYSANTHEMUMS

ARE also cultivated in large quantities, and there is a great number of them on hand this year. The stock contains many of those kinds best known, and a vigilant watch is kept for such as are likely to suit best for market flowers.

VEGETABLES.

AMONGST vegetables Seakale, Potatos, Mushrooms, and Rhubarb receive most attention for forcing, and of Seakale and Rhubarb large breadths are kept. For all of these there is usually a good price to be had until they begin to come in, in a seasonable way. There is a splendid lot of Wright's Grove Red and White Celery, as well as a fine lot of Veitch's Autumn Giant Cauliflower, both apparently in time for a good market. My visit here was of a somewhat hurried nature, as I was not able to reach it at an early hour in the day, otherwise I am sure some interesting particulars could have been referred to.

FUCHSIAS.

IN a very small, neatly-kept place, I lately met with some small but profusely-bloomed plants of Fuchsias. One of these was Frau Emma Topper, with very large flowers, and although the plant was a small one it was covered with blooms from the pot upwards. Another was Adolphe Legour, having fine flowers on it and producing them very freely. Another handsome Fuchsia is The Minstrel, it shows good double flowers and is very attractive.

ZONAL PELARGONIUMS.

IN the same place I saw plants of zonal Pelargoniums, remarkable for their colours and size of blooms. Among single whites one would have no difficulty in picking out as good varieties, La Cygne, Queen of the Belgians, Alexander Albrecht, Czarina, and Evening Star. Among darks I noticed two very fine ones, Black Knight, a single, and Count Lamberle, a double.

LAST WEEK'S FROSTS.

I REGRET having to say that the effects of last week's frosts have been most disastrous to many tender things. The damage done here to single Dahlias and other delicate plants is sad to look at. In many places where Begonias remained uncovered, not only has the foliage been destroyed, but it is feared the tubers will not recover. Tender annuals, many of which were in a high state of bloom, were all cut off; these included Asters, Phlox Drummondi, &c. In some public gardens a rush has been made to get in every tender thing, so that summer bedding has received a shock, and the public are deprived of a few weeks' longer enjoyment.—*W. D.*

CALLIOPSIS ATROSANGUINEA.—A very showy annual is this, and well worth growing. Clumps of it on a mixed border in our own garden have been very pretty. Considering its light elegant appearance when cut, it is a wonder that this plant not more frequently grown.—*E. D.*

THE SEVERE FROSTS.

THE destructive character of the recent frosts—particularly that which occurred on the 2nd inst.—is, I believe, unprecedented within the past twenty years. At the above date 9° is severe indeed, and considering the state of vegetation at this period, and in such a severe season, no wonder such havoc is made among vegetables and flowers. The appearance of many of these subsequently is most deplorable. Beds and borders of autumnal flowers, which the week before were more brilliant than ever this season, are perfectly wrecked, and now present a wretched appearance, which to a lover of flowers is grievous to behold. Moreover, I fear the consequences will materially damage another class of plants, such as Bouvardias, Chrysanthemums, and Arum Lilies. These subjects are usually grown in beds out of doors during the summer months, and will not withstand a frost like the one in question. It will be interesting to read the reports from different places in regard to these subjects.

In the vegetable department its effect is equally as bad. Peas, Beans, and Vegetable Marrows, which we had in abundance, were completely killed, whilst Cauliflowers, Lettuce, &c., were materially damaged. Tomatos, which have scarcely yielded any fruit out of doors this season, will now certainly be a most unprofitable crop. With such severe losses at this early date, it is, notwithstanding, a source of satisfaction to know that the winter crops of Brussels Sprouts and other green stuff in this department are looking remarkably well.—*G. F. Miles, Wycombe Abbey.*

"How are your Chrysanthemums? Did you or they get caught? If they did not, you are fortunate; and if they did, you are not." Such are the observations we have heard *ad nauseam* since the frosts of Monday and Tuesday of last week, which played terrible havoc among all classes of tender things outside. It is to be feared that many were caught napping. We had over 100 plants out, which would have been housed on the first day of the month, but it was very stormy and soft. On the following morning, what a sight they presented! but as they were heavily drenched all over with cold water, we saved over eighty per cent. The weather has played most remarkable antics lately—variations of frost, snow, hail, rain and wind, that have been anything but pleasant. On Monday last we had 9° of frost, with snow all day, and 3 ins. deep through the night; Tuesday, 15° of frost, with wind and hailstorms; Wednesday, 11° of frost, and bright sunshine; Thursday, 10° of frost, and bright sunshine; Friday, 9° of frost; Saturday, 7° of frost; and Sunday, 7° of frost. Did anyone ever know such a cold first week in October?—*A Yorkshire Gardener, Oct. 8th.*

FARM-GARDENING IN IRELAND.

MR. W. H. HALL, J.P., Six Mile Bottom, Cambridgeshire, has addressed a letter to the Lord-Lieutenant of Ireland, from which we take the following:—What strikes me most painfully in Ireland—except in parts of the semi-Scotch province of Ulster—is the remarkable absence of those accessories to agriculture, which are indispensable to the success of small holdings everywhere. I do not here allude to the Flax industry, peculiar to North-eastern Ulster, but the fruit-farming and market-gardening. Had Mr. Gladstone's famous big Gooseberry growing remedy for the depression of British agriculture been specially addressed to Ireland, he would undoubtedly have been on the right track. For in Ireland alone the economic conditions necessary to its success already prevail—viz., farms so subdivided as not to afford a comfortable maintenance, except on the intensive or market garden system of cultivation, together with the prevalence of abnormally large families. In the wives and deft-fingered children of the 300,000 impoverished so-called farmers below £10 valuation, you have ready at hand and crying out for employment an abundant supply of the personally-interested and delicate labour required for sowing, thinning, transplanting, and gathering the finer kinds of vegetables and all bush fruit. The mild and moist climate of Ireland, where sufficient sun heat cannot be relied on for ripening the larger kinds of stone-fruit, is peculiarly favourable to the free growth of Currants, Cherries, Raspberries, Gooseberries, Filberts, Walnuts, and fairly adapted to Strawberry, Apple, Pear, and Damson culture. Most kinds of vegetables will do well everywhere in Ireland, and her warm and moist south coast might rival the Channel and Scilly Isles in the production of early Peas, Potatos, Seakale, Broccoli, and Rhubarb. The finer kinds of vegetables are uncountably scarce at all times in Dublin, where two-

thirds of the fruit consumed is not grown in Ireland. Not only should Ireland grow all the fruit and market garden produce she needs for her own consumption, but with her early springs and her open weather up to Christmas, she ought to supply the teeming populations of the north of England and Scotland with both early and late garden produce. Dairying must always of course be a main feature of Irish farming; but it too, in the case of the smaller holdings especially, should be combined with fruit growing.

Every farm-house everywhere, of whatever sized holding, should have an orchard attached.' Now that the Irish farmer has no longer anything to fear from confiscation of his improvements, he has only himself to blame if he does not turn his land to better account. But he still needs two things, namely, skill and enterprise—the inestimable inheritance of the foreign peasant, who beats him in the British market. If the present generation of Irish farmers is well nigh hopeless, much may be done with the next, and it seems the most obvious duty of the State to take the matter in hand. Were half an acre, or even a rood, of garden ground, for the purpose of the practical application of the science taught within, attached to every country school in Ireland, and the produce of the scholar's labour allowed as a perquisite of the school teacher, an immense impulse would be given to gardening in Ireland. Horticulture, in my opinion, rather than agriculture, is practically adapted for teaching in connection with the national schools. The same teacher, at suitable times and seasons, can both theoretically and practically teach gardening both to boys and girls, whereas it seems obvious that practical farming instruction can only be imparted in connection with a farm—an impossible adjunct to all but a few schools, and requiring a special farming instructor. To teach farming, there should be at least one counterpart of Glasnevin in each province, and I venture to think that the existing five-acre farm there, which at present illustrates nothing in particular, should be made a model of what a five-acre farm should be for an industrious peasant to get a living out of, in illustration of the combined method of gardening and farming suggested above.

NOTES FROM SCOTLAND.

Scottish Horticultural Association.—At the usual monthly meeting held on the 2nd ult., Mr. Malcolm Dunn presiding, a paper on Oaks was read by Mr. Hugh Fraser, Leith Walk Nurseries. Mr. Fraser prefaced his communication with a reference to the correspondence on the subject of British Oaks which had recently taken place in the *Scotsman*, which, he said, had turned upon the question of the comparative value of the two forms of British Oaks—the Pedunculata and the Sessiliflora. Some people had gone the length of saying that the Pedunculata was the more valuable from a timber point of view—that, in point of fact, Pedunculata was the Oak which formed the bridge at Westminster, and which had been employed in the construction of Westminster Abbey. He had read the correspondence with very great interest, and had come to the conclusion that it was impossible for mortal man to tell which of the two kinds had been employed in the construction of the roof of Westminster Abbey, and that the question of the comparative value of Pedunculata and Sessiliflora as timber was a problem yet to be solved. Dealing more directly with the subject of his paper, Mr. Fraser said the Oaks of the world were pretty well mixed up between Pedunculata and Sessiliflora. Few trees were more useful than the Oak in the matter of timber and in many other respects, its durable qualities being abundantly proved by the fact that rafters, beams, and other wood furnishings constructed of it, after many centuries were found comparatively fresh and likely to stand for many generations to come.

After noticing other valuable qualities of the genus, Mr. Fraser went on to speak of the great forests of Oak which at one period existed in the United Kingdom, especially in England and Ireland, and remarked upon its liability to be damaged by lightning as a curious feature of the Oak, pointing out that this circumstance made the Oak tree a particularly dangerous shelter in a thunderstorm. The great capacity of the Oak to resist storms of wind he accounted for principally from the strength and extreme abundance of its roots. Strong rich soil was, he said, a necessary condition to its full development; and nowhere did they find the Oak in greater perfection than in the alluvial loams of the Midlands, and in the chalky clay of the southern counties.

Oaks were proverbially of slow growth, and it was estimated that from the time the Acorn was planted a hundred years had to pass, even under the most favourable circumstances, before the tree reached a size for the carpenter. In this country, but especially in England, there were many fine examples of old Oaks, interesting alike from their great age and from their historical associations. In this connection he alluded to the specimens at Ampthill, in Bedfordshire, and at Dalkeith Park, and to the famous Cowthorpe Oak near Wetherby, in Yorkshire—the height of which was 45 ft., and the circumference close to the ground, not including angles, 60 ft.—which had only grown about 2 ft. in about half a century.

A short discussion followed the reading of the paper, at the close of which the chairman, in conveying the thanks of the Association to Mr. Fraser for his communication, made reference, as that gentleman had done, to the recent correspondence as to the respective values of the Pedunculata and Sessiliflora for timber purposes. The latter, he said, was supposed by some to be the harder and more valuable; while, on the other hand, the former was held to be the tougher. From old samples attempts had been made to ascertain how far this was the case, and those in favour of either of these views had invariably found a good deal to substantiate their respective opinions. On the question as to which species had been employed in the construction of the roof of Westminster Abbey, he remarked that, though it had been proved by microscopic examination that the material was Oak, which kind it was no one would ever know. In connection with his paper, Mr. Fraser exhibited over sixty specimens of the Oaks of the world. The other exhibitions included two new Orchids from Captain Maxwell, of Terregles.

A Holiday Trip to Scotland (*continued from p.* 85).—An early start was made the day after we visited Melrose, and an hour's ride by rail brought us to Innerleithen, and from thence an hour's walk landed us at

THE GLEN,

The princely residence of Sir Charles Tennant, Bart., and which is most appropriately named, the situation being a glen in every sense of the word, but after entering the policies by the main avenue, which is half a mile or so in length, we see that instead of the marshy bogs and bare hillsides which existed not so many years ago, the whole has been turned into a paradise of beauty. The hillsides are clothed to their summit with trees suitable to the situation, while the valley below is all that the skill of the landscape gardener could make it. Passing along the avenue, at one time the visitor is under a complete canopy of foliage, emerging into the open with a large extent of grass on each side, thence winding round a magnificent lake studded all over with

ISLANDS CLOTHED WITH RHODODENDRONS

And other flowering and foliage shrubs. But in a short notice like this a very poor idea can be formed of the vast beauties, natural and artificial, that is to be found in this country retreat: a day or two would not suffice to examine all the places of interest about these extensive gardens and grounds, and with only a few hours at our disposal, only a hurried inspection of the extensive ranges of houses was possible. Owing to the sloping nature of the ground the gardens occupy different elevations. At the base of the hill stands the elegant mansion with its towers and turrets in great profusion, attached to which is a range of conservatories of gigantic size, with a large corridor about 100 ft. long. From this three large span-roofed houses abut, two as stoves filled with admirable specimen Crotons, an enormous specimen of Cycas revoluta, with a large head of fruit coming up, and a specimen of Mr. Bull's new Impatiens Hawkeri several feet through covered with flowers, giving a very pleasing effect. The cool house was gay with a fine healthy lot of Hydrangea paniculata, Primula obconica, &c., with festoons of Lapageria rosea and L. alba, and several varieties of Clematis overhead. The corridor referred to is occupied with large Camellias, Orange trees (laden with fruit), Tree Ferns, Palms, &c.

At a considerably higher elevation is the flower garden and the principal portion of the plant houses, which are too numerous to mention in detail. Orchids occupy a considerable amount of space, and two new houses have lately been completed to further extend the collection. The first thing brought under our notice was a fine specimen of Cœlogyne cristata showing the rather unusual freak of flowering for the second time within five months. It flowered in April, and now instead of making its bulbs to flower at the usual time it has thrown up its bloom from the young growths, similar to C. Dayana and C. speciosa, the flowers being perfect and of large size. Another noteworthy plant was Odontoglossum vexillarium, about 2 ft. in diameter, laden with richly coloured flowers. Amongst others in bloom were Maxillaria grandiflora, Odontoglossum crispum (very fine), Masdevallia ignea, and a fine piece of Cattleya Sanderiana, with thirteen of its showy flowers on three spikes, not a very common achievement. A noble specimen of the old Dendrobium Hillii in robust health was a conspicuous object, also several fine pieces of the famed D. Leechianum.

The kitchen garden and fruit houses are at a still higher altitude, and in this as well as in every department under the charge of Mr. McIntyre, the able gardener, is to be seen unmistakable evidences of a master hand. On the return journey we could not resist embracing the opportunity of getting a peep into the famed

TWEED VINEYARDS, AT CLOVENFORDS,

Where Messrs. W. Thomson & Sons have made a world-wide reputation in Grape growing. Their houses and modes of treatment have on several occasions been brought before your readers by abler pens than mine, and it only remains for me to say that the present crops are equal to any of the previous ones. The favourite variety is Gros Colmar, there being three houses, each 200 ft. long, entirely devoted to it, besides quantities in other houses that have been worked on to other varieties of less repute. The state of perfection to which this Grape is grown here may be imagined when it is stated that over 4,500 lbs. of fruit have been cut from one of these houses. Lady Downes is also favourably looked to as a late keeper, continuing in perfect condition till late in April. The greatest surprise to me was the house of that choice variety, the Duke of Buccleuch, that is so unfavourably spoken of by many who fail to grow it without the fruit cracking or spotting. In the house under notice not a spot or blemish was to be found, they having been fully ripe for some time, and a good part of the crop cut. The main secret in its efficient culture—as I was informed by Mr. John Thomson, who makes a special hobby of the fruit department—is to annually run up young canes to take the place of the present bearing rods.

Of late years Orchid culture has also become a specialty at Clovenfords, and under the special care of Mr. Wm. Thomson, Junr., they are grown to a singularly high state of perfection. The new Odontoglossum house is filled with a lot of plants, which for size, health, and chaste varieties would be hard to match, a large number of the Crispum section being in flower, together with O. Harryana in three distinct varieties, and O. tripudians. Another large house is devoted to O. Pescatorei and Masdevallias—chiefly the Chimæra section, of which some distinct varieties were in flower. Cattleyas and Lælias were remarkable for their healthy appearance, and that deep green robust foliage which is the aim of every cultivator. On making inquiry, I was rather surprised at the answer, that "Thomson's Vine and Plant Manure" was the cause of the unusual luxuriance, as I have always been rather sceptical as to the use of artificial stimulants to Orchids, especially epiphytal species; but I certainly never experimented with the manure in question. It has already, in a very decisive manner, proved itself to be one of the first manures in the market for Vines and general plant growing, and if it is capable of bringing about such results in Orchid culture as I witnessed, it has a future before it. Cypripediums are a special feature, a large house being devoted to their culture, and on entering the structure my eye at once caught sight of one I did not expect to find so near the Tweed, as I thought it was only in one collection. It is one which was named by Prof. Reichenbach in the latter part of 1887 as C. conspicuum. It is of the C. Harrisonianum type, its distinctive feature being its large high-coloured lip.

If my memory serves me rightly, the flower sent to Reichenbach had the purple lines through the dorsal sepal more conspicuous than on those at Clovenfords; but as the same plants do not always come alike, the next blooming may be the opposite way. Amongst others in flower and bud were C. Crossianum, C. Ashburtoniæ (two flowers on a spike), C. A. expansum (a great improvement on the type), C. Lawrencianum, C. javanico-superbiens, C. Sedeni, C. Harrisonianum, and C. chloroneurum. The collection also included the new C. Fitchianum, C. Measuresianum, and others of note.—*R. C. Fraser.*

FLORICULTURE.

The Florists' Laced Pinks.

By James Thurstan.

After reading in your issue for Sept. 29th the very able article on the above subject by a member of such an old-established firm as William Paul & Co., Barngill Nursery, Bridge-of-Weir, N.B., late of Paisley, and whose reputation as florists—especially for their Pinks and Pansies—has for many years stood so high in the eyes of the public—I cannot but feel gratified (and I am sure my friend Mr. Barlow will too) in finding that our favourite flower, the Pink, is still extensively cultivated in some parts of the kingdom, and especially in Scotland.

During the last fortnight I have received several letters from entire strangers to me, expressing their hopes that a National Pink Society may be established, and that it will commence next year; and one of the correspondents states that Mr. Frederick Hooper, Widcombe Hill, Bath, has a good collection of show Pinks. I therefore wrote to Mr. Hooper, asking him to oblige me with a select list, which he has kindly done, and which I annex:—

Arthur Hodges, white, rich red laced, fine large flowers; Ben Simonite, pure white, rich red lacing, smooth and good substance; Fred. Hooper, large smooth flowers, rich rose lace, extra fine; Fred. M. P. Burges, white, laced with bright rose, flowers large, extra fine; Joseph Laken, bright red lace, large, smooth, full flower, extra fine; Laura, large full flower, dark red lace, distinct and very fine; Ada Louise, rosy purple; Admiration, dark red; Annette, rose lace; Arthur Gilmore, bright rosy purple; Attraction, red; Beautiful, rosy purple; Bendigo, reddish purple; Bertram, red lace; Boiard, rich dark lace, large; Captivation, dark purple, fine: Challenger, purple; Chastity, bright red; Colonel Mure, narrow, dark red; Constancy, rose lace; Countess, clear red; Dauntless, red; Dr. Masters, bright red; Device, dark purple; Emily, dark, very distinct; Empress of India, dark red; Enid, red, very fine; Fireman, bright red; George White, purple; Harry Paul, reddish purple; Harry Hooper, rich dark red, extra; John Ball, dark plum-purple; Mabel, rosy purple; Mary Ashburton, red; Mary Grey, reddish purple; Modesty, rosy purple; Mrs. Darke, bright red, extra fine; Mrs. Frederick Hooper, bright rose, extra; Mrs. G. Dickson, red; Ne Plus Ultra, bright red, extra; Prince Frederick William, rosy purple; Rosy Morn, rose; William Bruce, dark red; William Paul, clear rose lace.

Taking this list with the twenty varieties Mr. Arthur Brown, of Birmingham, kindly gave with his article, which appeared in the issue of this journal of Sept. 8th, and the thirty varieties enumerated by Mr. J. G. Paul on p. 68, there will be no difficulty in persons, whose inclination may lead them to cultivate the florists' Pink, in purchasing, for a moderate sum, a dozen or two different varieties, which would enable them to become exhibitors at the (hopeful) National Pink Society's exhibition. The three lists contain several varieties of the same kind, and some of them are old sorts which are a good many degrees below perfection, but even stands of the latter, well grown and exhibited, would be sure to be appreciated by the public generally, and the first exhibition would enable growers to see what varieties each one possessed, so that any that were not quite up to the mark could be easily substituted by those possessing superior properties.—*Finsbury House, Richmond Road, Cardiff.*

The enthusiastic florists who have lately brought this charming flower to the front, in your columns, deserve the hearty thanks of all lovers of hardy florists' flowers, and I trust their efforts to revive the public interest in the Pink may be rewarded with a full measure of success. What is really wanted is, as Mr. Brown has suggested, a society to promote exhibitions of the flower in various districts, for I am convinced that only by exhibiting them can their cultivation be extended. I have not seen a stand of Pinks at any of the London and south of England shows for some years, and yet there are thousands of amateurs around the metropolis to whom the laced Pinks grown in the north would be a revelation, and a source of infinite pleasure. But they want to see them, and to be educated up to the best standard of quality, and the only way to secure this is by exhibiting the best sorts. Mr. Brown's suggestion that a show should be held in connection with the Provincial exhibition of the National Rose Society hardly meets the case, though I have no doubt that the Rev. H. H. D'Ombrain and his committee would entertain the proposal if seriously made to them. The measure of success that would attend upon such an alliance would depend very much upon where the society holds its annual show. Would that there were some enthusiast in or near the central town of Birmingham, who would do for the Pink what Mr. Dodwell so pleasantly and so efficiently does for the Carnation at Oxford. But perhaps this is too much to expect.—*A London Amateur.*

New Carnations and Picotees.

What grand growers the three new Carnations are—Robert Houlgrave, S.B., and Germania and Will Threlfall, the new yellow selfs! I have just potted off my layers—very strong plants indeed, as strong as any seedlings can well be. I had two plants of the first-named. One had its flower stem destroyed, the second bloomed, and to my great disappointment proved a "run" variety; but it makes a very good fancy indeed—a scarlet-ground flower, with striking flakes of maroon. Still, as I cannot depend upon its reverting to its normal form—though run flowers will sometimes do this—I am sorry. I have raised from Mr. Dodwell's seed two or three very fine selfs—one a deep maroon-purple, with an exquisite shell petal. A very fine deep crimson self came to me from Mr. Dodwell, under the name of Florizel—a real beauty, large, full, of the finest form, and a very strong grower. I had but two layers, and the plants being in the open ground, the worms destroyed one. That is one of the risks that cultivators run in having plants of choice varieties in the open ground. The best plan is to lift them with good balls of soil attached to their roots, and layer them in pots. All my potted layers are standing on boards in the open ground; they are best there this weather. As the soil was nicely moist when they were potted, they will need no water for a week at least, and the heavy dews at night help to keep the plants fresh and brisk. As soon as the autumn rains come, the plants will have the benefit of a cold frame, where they can be sheltered from the downpour. I have not tried any of Mr. Douglas's new yellow grounds, but I am told they are good growers, of a robust character, and therefore well worthy of cultivation.—*R. D.*

New Tuberous Begonias.

Mrs. Stark.—The flowers of this new sort are as large as double flowers of this kind need be, and pale primrose-yellow, consisting of a dense mass of many rosettes. The plant was dwarf and well-flowered, with half cordate deep shining green leaves.

General Chichester.—The leaves of this new kind are similar in shape to those of the above-mentioned. The flowers are large, and consist of a mass of small rosettes, the petals of which, when they get fully developed, become somewhat undulated. They are of a warm deep rose colour. Both were exhibited Messrs. H. Cannell & Sons, Swanley, on Tuesday, and received First Class Certificates.

Dahlias at Salisbury.

Since writing my previous notes, p. 70, concerning the Dahlias at Messrs. Keynes, Williams & Co.'s, I have been furnished with the names of the new varieties to which I referred as having been numbered and not named at the time of my visit. No laudatory remarks of mine are needed here; I will, therefore, content myself with giving their names and descriptions as received, viz., Show variety: William Jackson, purple. Fancy variety: Major Barttelot, buff, striped crimson. Cactus: Panthea, reddish salmon; Amphion, chrome-yellow, flushed with cerise; Honoria, large yellow; Asia, peach colour. Pompons: Whisper, bright yellow and gold; Little Ethel, white, edged purple; Eurydice, blush, edge crimson; Little Darkie, dark maroon; Eden, bright shaded crimson; Red Indian, deep red; Fairy Tales, delicate primrose.—*J. Horsefield, Heytesbury.*

THE SCIENCE OF FRUIT DISTRIBUTION.*

Of the various means available to fruit growers for the disposal of their crops, that by which they can be brought within the reach of consumers in a full-flavoured, fresh and bright condition is the one which will leave the most profitable results to the producers, and lead to the most successful permanent development of the industry in which they are engaged. Fruit may be preserved, pulped, evaporated, refrigerated, or manipulated in any other manner that will enable it to be converted into a merchantable commodity possessing a distinctive cash value; but there yet remains the undeniable fact that it is in its fresh ripe condition, while clothed with its undisguisable natural bloom, endowed with its fragrant aroma and luscious flavour, that fruits have their highest and best values; therefore, the most important subject that can occupy the minds of fruit growers is, how they can best place their produce within reach of consumers in that inviting condition, in order to acquire the full benefits that accrue from it. This subject naturally involves a consideration of the means of rapid and effective distribution, which are absolutely essential to secure successful results.

The science of fruit distribution is necessarily a commercial study, and comprises the principles that growers should practise to place their produce within reach of consumers.

First, when and where they may be required.

Second, in the best possible condition.

Third, at the least possible cost.

The means by which these measures, simple as they appear, can best be successfully attained involves attention to matters of detail, the necessity of which will be readily acknowledged by all engaged in fruit growing and marketing; but to ensure a beneficial result from the consideration of the subjects which we are assembled to discuss, it is necessary to treat the various branches of the trade from specific not general points, inasmuch as although the general condition of the subject may be speedily summarised, that will not bring us any nearer the position we hope to reach. Briefly, then, we are a large community existing in a small space. Fruit consumers abound in all directions, fruit producers are to be found in but few places. The consumers are counted by millions, the producers by hundreds. The consumers require all the fruit that is grown and more; the growers do not profitably sell when fresh the yield of their orchards, and are driven to seek other outlets in order to secure even a nominal return for their crops. It must be borne in mind that the circumstances and conditions that surround individual growers and consumers vary very largely, and courses of procedure that would bring advantageous results in one direction would be inappreciable in another.

With growers we have a wide range of conditions to deal with, from the owners of the numerous old orchards of large acreage to which little or no attention is given, to the cultivators of small quantities of choice fruits under glass or in the hothouse, which are the subject of incessant care and watchfulness.

With consumers we also have an infinite number of conditions which embodies a still wider range of thought, for from the wealthy members of the upper classes who require, and will have at any time, if procurable, for their tables regardless of cost, any fruits that may be rare, choice, and of fine quality, to the buxom matron who buys a couple of pounds of whatever fruit the costermonger may have on his barrow, so that her husband's and family's dinner may be complete with its dumpling or pie. Every variety of condition has to be met with and provided for, therefore it must be evident that the more these existing and varied circumstances are understood, and the nearer they can be met and provided for, the greater must be the benefits that will accrue to fruit producers.

With respect to the first point—viz., the disposal of fruits, when and where they may be required. I would point out to growers that, with the exception of the county of Kent and the metropolis, the centres of fruit production and fruit consumption are not contiguous to each other. By an inspection of the diagram of the kingdom, showing the population and the fruit area of each county, it will be seen that the bulk of our fruit supply is produced in a very few districts, while a large portion of the country which is densely populated is devoid of any fruit produce of their own locality but rely upon other districts, and that the people gladly purchase any quantity of fruit that may be brought to them in good order and condition. That this position is undeniable may be gathered from the results that have attended the efforts of a few private parties who have relinquished the old practice of sending to the markets of Covent Garden, the Borough, and Spitalfields, and despatch their fruits instead to Manchester, Bradford, Leeds, Glasgow, and other largely populated northern towns, where they have a profitable outlet for a large quantity of fruit that otherwise would have helped to glut the London markets. There is an enormous number of small towns in the mining and manufacturing districts that would welcome a supply of fresh fruit, which they do not now obtain. In order to directly meet the requirements of these towns it is desirable that the fruit growers of each district combine with each other and

* A paper read by Mr. D. Tallerman, at the late Crystal Palace Fruit Conference.

organise themselves into local societies in order that they may be in a proper position to ascertain what fruits they have to sell, when they will be ready for gathering, and then ascertain the requirements of particular districts, and what they are likely to buy, so as to enable them to take steps to supply them. It is not possible to attain this position by individual action, for no single grower could supply from his own crops the particular requirements of the traders of a town; bnt these requirements if once ascertained, which they may be in a general sense, could be furnished from the crops of several growers.

Where local organisations are thus formed they could readily communicate with the central organisation that has been formed to place itself in communication with the traders of all districts, in order to simplify the distribution of food products, and they by ascertaining the probable food requirements of a district, and having a knowledge of the crops of fruit that were available in many localities, could arrange to dispose of and deliver them direct from the orchards. The defect that fruit-growers suffer from arises from the fact that while their transactions are naturally of an individual character, and must remain so, they have no recognised central representative organisation who could collect information from varied districts as to their possible fruit requirements, and disseminate the knowledge among those who had the fruit to dispose of, and also arrange many other subjects of interest and importance, such as packages, railway rates, transmission, &c., all matters small in themselves and readily adjustable, but each of which forms an indispensable connecting link in a commercial ehain, without which a transaction cannot be carried through. Hitherto fruit growers have left everything with their salesmen, whose interest it is to collect and retain any information, and to obstruct any course by which the consignment of the fruit to themselves would be interfered with. They therefore have a vested interest in obstructing any movement that would have a tendency to impart to growers any information that would advise them when and where fruit was required, which is the keystone to the system of direct distribution.

The seeond prominent feature incidental to scientific distribution is the delivery to consumers just what they want in the best possible condition. The interests of sellers will be considerably advanced by full attention being given to this subject, which presents many features requiring careful consideration and forethought, that without in any way adding to the costs of cultivation and delivery may materially aid to increase the amounts receivable for the fruits.

Be it remembered that no fruits grow exactly all alike, the same as bricks are made, but every tree or bush will contain some fruits of a more or less choice character. Wherever these can be selected they will if packed by themselves realise a much larger proportionate price without interfering with the price of the whole crop. There are different classes of buyers in all perishable food products, and more especially in fruits, and there are different members in each trade who supply the requirements of buyers. Anyone going into an average-sized orchard when the fruit is ripe and ready for gathering will, upon examination, discover choice specimens fit for an exhibition or the window of the highest class fruiterers at the West End of London. Other fruits may be seen that, by themselves, would furnish a reasonable supply of more than a general eharacter. Further, there will be seen the remainder of the growth suitable for the costermonger's barrow or the jam pot. If they remain while the fruit is gathered they will see it all packed together in such a way that no regard is paid to the choice specimens of fruit that may be there, but they are so dealt with that they will all find their way to one destination, which, as likely as not, may be the costermonger's barrow. This is the mistake that growers make, and where they unknowingly suffer material loss.

The Crittenden Cluster or Farleigh Prolific Damson.

Notes on Fruits.

Raspberry, Quatre Saisons.

I conclude that as no one has commented on the remarks I sent you some weeks ago concerning this variety of Raspberry, that few people know it. I now send you a few sprays, from which you can form an idea of its productiveness at this time of year. They are only picked off the tops of long canes covered with young fruit for more than 15 ins., and will go on ripening until the hard frosts kill the flowers and spoil the fruit. In growth the Quatre Saisons differs somewhat from the common Raspberry. Surely if this fine fruit could be grown under favourable conditions it ought to be valuable to those who supply our markets. My gardener thinks so highly of it that he is gradually going to do away with the old sort, as he can increase this one.—*E. J. Peck, Downes House, Eling, Southampton.* [The variety in question is not much known, but certainly deserves wider recognition among amateurs and gardeners, by reason of its remarkable productiveness and late-bearing habit. Like Belle de Fontenay, it is a good and thoroughly reliable sort, and most useful in the kitchen, but would be of little use in the market, for the reason that the great mass of buyers would not purchase them out of season.—Ed.]

Crittenden's Cluster or Farleigh Prolific Damson.

Perhaps there is no more convenient season than the present for again bringing forward the merits of this Damson when so much is being said upon fruits of all kinds at the various conferences now being held. The first object in planting a fruit tree should be for the purpose of producing fruit. The Damson under notice is not only a select kind in its way for preserving and for cooking purposes, but it is the best obtainable, and an enormous bearer. Already large breadths of it are planted in Kent and other counties, but there is still ample room for its extension. Hedgerows might be planted with it instead of the Bullace, and it may be grown as a standard in orchards; but the most interesting form which it may take is the pyramidal. It can readily be induced to assume this shape by a little timely attention, and the effect is marvellous when loaded with its roundish oval fruits, which are black, covered with a thin bloom. In exposed situations bushes or half standards are to be recommended before standards or pyramids, as the branches are not so liable to be broken down when heavily laden with fruit. The enormous strain upon the branches and the trees generally can be gleaned from our illustration, which faithfully represents a short twig as the fruits grew. This Damson is also very effective in spring as an ornamental little tree in the pleasure grounds or the shrubbery. Of its origin there is a little uncertainty, Dr. Hogg ascribing it to Mr. James Crittenden, of East Farleigh, Kent, and who is stated to have raised it about the beginning of the present century, while Mr. George Bunyard, of Maidstone, regards it as an accidental or wild seedling.

The Amateurs' Garden.

Lifting Dahlias.

There need be no hurry yet in lifting Dahlias where they have not been blackened or entirely destroyed by frost, seeing that should the weather prove mild, a quantity of flowers will yet be produced. Dahlias may frequently be noticed quite destroyed in one garden, while in another close by they may be almost uninjured. The locality and the surroundings account for this singular and partial occurrence, and those whose Dahlias escape in this way may consider themselves fortunate. Where the damage, however, has been so great that all hopes of any more bloom have gone, the sooner the plants are lifted the better. This should be done before frost can affect the lower part of the stem by the destruction of the foliage and the upper portion. Proceed to the work by cutting down the stems to a joint within 6 ins. or 8 ins. of the tuber, and pull out the stakes. The latter should be stored in a neat and orderly manner in some shed or dry place, where they may remain till required next year. Wheel the stems and foliage to the rubbish-heap, and then commence to dig up the tubers. This should be done with a strong fork, going down so deeply that the whole of the fleshy finger-like roots are dug out without breakiug them. Clear away as much of the soil as possible, and lay down the roots to dry, a bright or warm day being chosen for the operation. Before collecting the tubers, carefully tie the label to the stem of each sort, so as to avoid mixing. Store them in some cool dry place, out of the reach of frost, and look over them in a few days to thoroughly clean them, and so prevent damping.

Pelargoniums, Fuchsias, &c.

All bedding plants intended for stock, and that have not been hopelessly injured, must now be lifted and potted if this work has not been already accomplished. Pelargoniums that have lost their foliage may still be of service if put in a little heat to induce fresh root-action, and Fuchsias will break out again if the stems are not injured. Indeed, in some sheltered localities they even continue in flower. The tubers of Salvia patens may be lifted with a little soil about them and laid in some cool, dry part of a greenhouse or frame, from whence the frost is kept out. The other occupants of the beds that are not required may be taken to the rubbish-heap as soon as they become unsightly. Calceolarias and some other things will remain in bloom till the occurrence of very severe weather, and may be left, provided the beds are not required for spring bedding. It is to be taken for granted that a sufficient stock of cuttings of Calceolarias has been put into frames before this time, otherwise a quantity may yet be put into frames and kept close for a time to induce rooting.

Planting Bulbs.

Those who intend planting Narcissi should allow no further time to be lost, but have the work completed with all due despatch, provided the ground is sufficiently dry and in workable order. Magnificent kinds are Narcissus bicolor Horsfieldi, N. b. Emperor and N. b. Empress. Then there are N. incomparabilis Sir Watkin, N. odorus, N. poeticus ornatus, and a host of other varieties of the above, besides the numerous forms of the English Daffodil (N. Pseudo-Narcissus) too numerous to mention, but all at the command of the amateur, and cheap. Hyacinths are still in good time, but they may now be planted as soon as the beds are empty, have been well dug, and are otherwise prepared to receive them. The beds may be edged with Crocuses, but Narcissi and Hyacinths should not be mixed, as they flower at different times, nor do they associate well together. If large quantities of a kind are grown, one bed may most appropriately be planted with one kind. Snowdrops may be used as edgings, but they never appear to better advantage than when planted as large isolated clumps on grass, under the shade of deciduous trees, or even in the ordinary borders. Crocuses and Narcissi also look well in scattered irregular clumps in semi-wild places on grass, where they come into bloom and are partly ripened off before the latter require to be cut. The foliage may even be spared after the first cutting or so, and the bulbs will greatly profit by it. The latter, together with Snowdrops, are admirable subjects for the wild garden.

Shelter for Chrysanthemums.

In mild winters amateurs have no difficulty in obtaining a display of Chrysanthemums in the open air till nearly Christmas; but when we have such sharp frosty nights as we have had lately, the blooms soon become irretrievably damaged, except they be sheltered. In the face of the recent sharp frosts, it seems as if an early winter is to follow upon a sunless cold summer. In order to save them from destruction, Chrysanthemums in the open ground should be lifted and potted, and, together with those in pots, put into some place of shelter. Here, as a rule, the difficulties of the amateur begin, on account of his want of accommodation for such tall-growing subjects. Where a greenhouse or conservatory is at command a good number can be stored either on the staging or floor till they have finished flowering. A temporary shelter may, however, be improvised in the absence of a greenhouse. By arranging the plants in a group by the side of a sheltering wall, a light temporary framework of some kind may be erected, over which a piece of canvas, mats, or anything else to hand can be thrown and secured by pieces of twine, or something that can readily be undone in the morning, when the canvas should be taken off, and again replaced at night. In the absence of glass, this is necessary in order to secure them from frosts of moderate severity, and to insure light during the day. By this means an enthusiastic amateur can do much to preserve his Chrysanthemum blooms from absolute destruction, and may even obtain wonderful results.

The Lawn and Flower Garden.

Do not relax attention to this department of the garden although the flowers are being destroyed by frost, and the falling leaves of the trees cause everything to assume an untidy appearance. Rake or sweep up the leaves before they get beaten into the walks or grass; roll the turf and keep mowing if necessary till the grass ceases to grow so fast as to require it. Before mowing it may be necessary to sweep or roll the grass in order to destroy worm casts, which are liable to damage the mowing machine, as well as to appear untidy. The contrast between the well-kept gardens surrounding the house and the fields or lanes beyond, amply compensate for the trouble.

HARKNESS'S NURSERIES AT BEDALE.

Dear me, how time flies, for it is fully thirty years since I first visited Leeming Lane—then, as now, famous for its Roses, Dahlias, and other things! There were the Mays—John, who died, and was succeeded by his brother Henry, who was unfortunately thrown from his gig some years since and killed. Mr. Boston, now of Carthorpe, was their foreman for many years, and their Dahlias, Pelargoniums, Roses, &c., told a tale at the various exhibitions. Then there was John Harrison, of Darlington, afterwards of Catterick Bridge, one of the old school, who grew Dahlias extensively and grandly, as well as Roses. He, too, has joined the great majority, and the business has passed to Messrs. Mack & Sons, who are famous Rose growers. Mr. Boston also, at his nurseries at Carthorpe, grows Dahlias and Roses, so that the old prestige of Bedale is maintained, and very considerably strengthened by the addition of Messrs. Harkness & Sons, at their Exelby Lane, and The Grange Nurseries, Leeming Lane, close to Bedale.

It is nine years since the two brothers (the father, although still hearty, takes no part in the business) resolved on commencing for themselves, and with a deep love for flowers, coupled with a determination to succeed in growing them, commenced their career as florists; and if any one thing can bear testimony as to how great has been their success, why a visit to their extensive nurseries during the summer and autumn will do it. But they have a greater record of success in their competitions at leading flower shows. In 1881 the firm was successfully competing at the larger autumn shows in the north—always a stronghold for florists' flowers, and where the best cultivation was sure to be found. That year they succeeded in taking the premier prize at the great International Exhibition at Manchester for thirty-six and twenty-four Dahlias, in the face of a strong competition. The following year found them at the International Exhibition, where they again secured the premier prize for Dahlias, beating the stalwart sons of the "Land o' Cakes," and from that period the firm seems to have made marvellous progress.

It was in 1884 when they seriously took Roses in hand and practically commenced budding them, and as a proof of the rapid progress made by the firm, I may say that two challenge trophies offered by the N.R.S. for seventy-two Roses, besides nearly fifty other first prizes, have fallen to their lot. This year their success has been great, sixty-five first prizes having been gained, and the fifty-guinea challenge trophy retained, notwithstanding a contest of unusual severity, eighteen of our best growers entering for this prize, and the majority of them staging. The result was the more creditable, as the winning collection contained seventeen superb Tea Roses, which were always supposed to be difficult to grow so far north. The season of 1888 must be acknowledged to have been a most trying one, and decidedly against the full development of Teas—the loveliest of the Rose family. Still, the brothers have secured eighteen prizes out of twenty stands they staged during the season, and they speak well of the hardiness of many of the newer kinds especially, which should cause an extended cultivation of Tea Roses in the north.

The stock of Roses annually propagated here is 70,000, the Manetti and cutting Briar being used principally. From 8,000 to 10,000 "cut-backs" are kept going for cutting for exhibition during the early part of July, these being supplemented by the "maidens," which are usually about fourteen days later here than in the south. Teas are grown with no protection beyond earthing up all round each plant, pretty much as Potatos are furrowed up, and the vigour of the plants is remarkable.

But Roses are not the only things that are done well here. Carnations and Picotees occupy nearly half an acre, the leading popular border kinds mostly finding a place here, and of some of the well-known kinds 2,000 plants of each are wanted to meet the demand. The plants were in full beauty when I saw them, and as careful hybridisation has been the order of the day, there were to be seen very fine home-raised kinds, in which the yellow-ground section was in great variety, many of them being very beautiful indeed. What grand border flowers these hardy free-growing kinds are!

Herbaceous plants are cultivated by the acre, for four acres are devoted to them. Pyrethrums (I was told there were 10,000) were blooming away, late as it was, and were a wonderful sight. Of the Perennial Sunflowers—Helianthus multiflorus and H. multiflorus pleno, the latter a very desirable kind, 5,000 plants are now growing. German Irises number several thousands. Early Chrysanthemums were exceedingly gay in the middle of September, and most useful for cutting, Madame Desgrange and its varieties especially so, also Madame Leonie Lassali and Mrs. T. R. Pitcher, both of later introduction. A large breadth of Gladioli is grown, and these were in perfection when I called at Leeming Lane. They were then cutting for the Manchester Show—a grand lot which I see has carried off the first prize.

Iceland Poppies, Papaver nudicaule and its varieties, are here in abundance—beds of them, and few plants in masses have a brighter or more pleasing appearance. Beds of them were gloriously bright in September, their soft shades of scarlet, orange, and white contrasting so charmingly. Surely Iceland Poppies will become everybody's plants, as they are so easy to grow! Pansies and Violas are two specialties, and close upon 100,000 plants are annually sent out. Mrs. Sinkins Pink is about as well known now as any Pink, and in 1887, a very hot dry summer as will be remembered, Messrs. Harkness succeeded in saving a batch of seed from it. This seed was sown in cold frames in October, and the seedlings planted out in April of this year, a good proportion of them flowering out of the 7,000 plants, and not a single variety amongst them. I noticed several variations from the old type, some of them considerable improvements, and the batch will be an interesting one next year.

I did not expect to see double Primroses grown to such a great extent as they are at Leeming Lane—bed after bed of the principal kinds in crimson, purple, yellow, white, lilac, and sulphur, many in full bloom in September, and growing so freely. It was truly a treat to see them in such health and quantities. Dean's strain of hardy Giant Polyanthus, yellow, white, and coloured, is grown extensively, about 100,000 plants being now under cultivation. A large bed of Souvenir de la Malmaison Carnation was in luxuriant health, with evidently very little care bestowed upon it, but then they were sturdy, healthy plants with a good healthy look.

Seedling Gaillardias, bed after bed, luxuriate here in the nursery beds from seed sown out of doors in March and transplanted; even such things as the better kinds of Aquilegias, Polemoniums, the white Everlasting Pea, Primula denticulata purpurea, and

Spigelia Marylandica, are here in quantities. How much then is to be seen here in the autumn! I saw in September a good supply of beautiful Tea Roses; and the acres of Roses in their season must be a glorious display. The soil, as well as climate, seems to suit them so well; but there is a great difficulty in getting an adequate supply of stable or farmyard manure. There are ten greenhouses averaging 50 ft. by 15 ft., and stacks of 6 ft. by 4 ft. garden lights for the immense quantities of frames used during the spring.

In taking leave of the young fellows, whose honesty and outspokenness is not their least pleasing characteristic, I felt very much gratified that my old friends, Henry May and John Harrison, had such worthy successors in floriculture, and I am sure that any florist, amateur or professional, who may call at their famous rosery and nursery at Bedale, will be amply repaid for their trouble, and find genial hospitality into the bargain.—*W. D. S.*

NEW AND SELECT DAHLIAS.

How remarkably well the Dahlias held out this season! I was at Slough on the 27th of September looking over the collection at the Royal Nursery, and I saw blooms of astonishing good quality for the time of year; and Mr. Turner could have cut a stand of twenty-four varieties fully up to the form of the first week in September. Queen of the Belgians, a lovely light flower in the way of Mr. Gladstone, but quite distinct from it; George Rawlings, a richly shaded dark maroon; and Willie Garratt, bright cardinal, were in particular very fine; they had lost the coarseness that had characterised them early in the season. Queen of the Belgians is rather a late grower—that is its only fault.

Anyone might have supposed that, owing to the season having proved so wet, Dahlias, being grown in rich soil, would have made a great growth. The reverse is actually the rule. It may be said of Dahlias that they are singularly dwarf; the cold weather in July and the early part of August checked their growth, and kept the plants somewhat stunted, and then, when the warm weather came, they fortunately went off into bloom directly, and there has been a very much better quality of bloom than might have been supposed. It is quite true that all the Dahlias I saw exhibited in August were rough and ill-developed, but in the early days of September they made astonishing headway, and the stand of forty-eight blooms Mr. C. Turner staged at the Crystal Palace were wonderfully good; and at the Royal Aquarium the following week some remarkable blooms were to be seen.

Any criticism of the newer Dahlias shall be left over for the present, as my notes are not yet quite complete. I think I may state that the new varieties to be sent out in the spring of 1889 promise to be of a high order of merit, both in the show and fancy section. The decorative, Pompon, and single varieties will also be reinforced by new flowers of a very high character.

Taking the general collection of show varieties, the summer of 1888 has produced the following in very fine character:—Burgundy, Clara, Crimson King, very bright; Ethel Britton, extra fine this year; Flag of Truce, a most useful white when caught without any tip of lilac; George Rawlings, Goldfinder, Georgiana, Harvey Keith, Henry Walton, Herbert Turner, Hon. Mrs. P. Wyndham, Imperial, James Cocker, James Stephen, a very distinct variety, with a model habit of growth; James Vick, Joseph Green, J. T. West, yellow, heavily tipped with purple, a flower of fine quality; Lady Gladys Herbert, G. Harris, Mrs. Gladstone, Mrs. G. R. Jeffard, a very useful yellow self; Mrs. Harris, Prince Bismarck, Primrose Dame, Queen of the Belgians, Richard Dean, probably the best purple self in cultivation; R. T. Rawlings, T. J. Saltmarsh, Victor, Willie Garratt, and William Rawlings.

The best fancy varieties are Duchess of Albany, Fanny Sturt, Gaiety, Grand Sultan, Henry Eckford, Henry Glasscock, Laura Haslam, Miss Browning, Mrs. Saunders, Peacock, Rebecca, Professor Fawcett, Rev. J. B. M. Camm, and W. G. Head.

It is curious to note how small a proportion of the fancy varieties are tipped flowers. There are not more than half a dozen good tipped fancy Dahlias; they are Fanny Sturt, Mrs. N. Halls, Peacock, Laura Haslam, Miss Browning, and Mrs. Saunders, the last three being yellow, tipped with white. Some additions to this class are greatly needed. All the new fancy varieties produced this year have the striped character. We want another or two in the way of Peacock, with its dark maroon ground tipped with white. I saw at Salisbury this season a sport from Gaiety, the ground being yellow, tipped with white. All the tipped fancy Dahlias are very distinct in character, and striking in a stand.

Owing to the severe weather very little seed will be gathered this year, for the destruction of seed and flowers both has been almost complete. The single varieties are holding on wonderfully well. I do not know that it would very much matter if the seed crops were lost. At Slough, as also at Salisbury, I saw very fine lots of yearling Dahlias that promise well, most of which were too late to flower last season. In both nurseries many were being marked, and we may reasonably look for a very fine lot of new varieties.—*R. D.*

FLORAL DESIGNS.

Not far from Coventry station is situated the famous establishment of Messrs. Perkins & Sons, and I use the word famous advisedly, because of the reputation this enterprising firm has established for their artistic manipulation of floral designs. On a second visit there I found some dozen young men and maidens engaged in making up different designs. Some were wiring the flowers, whilst others were making them up, some into button-holes and sprays, others into bouquets, while two or three were engaged in making floral tributes to the departed in the shape of wreaths and crosses, and the nimble way in which their fingers placed the flowers together, and the artistic manner in which they performed their tasks, convinced me that they were no novices at the work.

Hundreds of buttonholes and other designs are made up daily. Visitors to the Birmingham market will notice in the central arcade there, several florists trading in these designs, and here is the market stall of Messrs. Perkins, where the most fastidious can be accommodated with anything in the shape of floral work. A grand trade is done here by this firm, and it is here and in the Coventry market that a ready sale is found for these articles. But beyond this they have a wide-spread reputation, having exhibited in most parts of the United Kingdom, and have already this season taken nearly 100 prizes at leading exhibitions.

The beauty of floral designs of any kind is to be found in the soft blending of colours, combined with lightness and gracefulness, the individual beauty of each flower being seen to advantage and not over-crowded, as is so often the case. The handiwork of the Messrs. Perkins exhibits these characteristics, hence their success. At their nurseries several good houses are devoted to the growing of suitable flowers for this work.

Here are houses full of well-grown Bouvardias, double Primulas, Azaleas, Camellias, Chrysanthemums, Cyclamens, zonal and regal Pelargoniums, Gardenias, Eucharis, Tabernæmontana, Roses, &c., of all the leading sorts suitable for this work. Odontoglossums, Oncidiums, Dendrobiums, Cœlogynes, &c., are also grown in quantity, and are found most useful for floral designs. Lapagerias are grown upon the various roofs, and are also excellent flowers for work of this description. There are house after house of Adiantums, and the consumption is something enormous. They also grow many acres of fruit trees and Roses, and have been very successful in gaining high awards for the latter many times this season.—*Rusticus.*

NOTES ON VEGETABLES.

Leeks.

While one may be perambulating gardens, taking note of the productions in them, there can be no conflicting opinion as to those esculents which are valued and looked upon as indispensable items of the culinary department. In northern gardens the Leek stands to the front, and the culture of that esculent is well understood by all classes of cultivators, but as to the most useful and finest kinds to grow opinions differ widely. Catalogues describe the excellence of the varieties carefully, but when soil, position, and other influences are brought to bear on the crops the Leek can be made to change its ordinary character, yet when a collection is put under identical cultural conditions it cannot readily deceive a careful observer. The season of 1887 will long be remembered for drought and bright sunshine, and the past summer will be recorded as one of the coldest and wettest seasons of the century. Notwithstanding the very favourable month of September we have enjoyed many crops tell of the coldness and lateness of the season.

Apples and Pears which ought to be finely coloured and well developed are green and poor-looking, dessert kinds (except Apples on walls) will generally be utilised in the kitchen, and many are not fit even for culinary purposes. Vegetables we cannot find fault with generally, but some of the kinds which depend on sun to bring them to perfection are faulty and not of high value. Leeks, however, as far as we have seen, are of fair average, and in a small plot where 2,000 or more were planted in drills, and the plants well earthed up when large enough by drawing a deep drill between each row. The kinds are showing their distinctive features more than we ever noticed in any previous season. They are not an even lot, as each variety is showing its own size and form. The different shades of green are very distinct, but we are unable to describe the quality after passing through culinary manipulation. The London Flag, valued by some, never stood high in favour with us because of its lanky growth and long narrow leaves. Growing beside The Lyon it has a very dissimilar appearance.

The last named is by far the most bulky of the lot, and those being dug for use are well blanched, with sturdy dark green foliage. Henry's Prize comes next for size and general appearance, and may be said to be a first-rate Leek. Ayton Castle is more distinct from that kind than we ever remember seeing it before, but not equal in bulk; it is more in harmony with a good sample of Musselburgh Leek, this kind being a general favourite because of its hardy constitution. Renton's Monarch has also distinctive features, but is not so large as The Lyon. Carentan is the smallest, but of very deep green colour, and may be valued by French cooks who require Leeks all the year round. Were we confined to grow two kinds only, we think The Lyon and Musselburgh would be our choice.—*Caledonian.*

New Seedling Pea.

A very meritorious late Pea has been raised by Mr. Taylor (gardener to Sir John Lubbock, Bart., M.P., High Elms, Hayes, Kent). This is the second year he has grown it, and he finds it to keep true to its character. It was obtained by crossing Veitch's Perfection with Criterion, and has stout stems, about 3½ ft. in height, with dark foliage, of a similar character to that of the seed parent. The stems are also short-jointed, and heavily fruited from near the ground upward till the pods get smaller and give place to flowers, which were plentiful and fresh up till the 6th of this month, when we saw them. If the weather had proved mild, a supply would have been obtained for a month to come. A row, about 50 ft. in length, of the seedling has been bearing for a month past. The pods are about 3½ ins. in length, and the Peas are large, sweet, and it will no doubt prove a valuable acquisition as a late Pea. Alongside of Dr. Hogg it is infinitely more hardy, and Ne Plus Ultra, close by, runs up to a height of 6 ft. or 8 ft, with slender, long-jointed stems and short pods.

The Goldfinder Pea.

The paper concerning Peas by Mr. Lockwood, which is given in your last week's issue, was both interesting and instructive, and recalled to my memory an excellent variety of Pea which I stumbled across in my travels this autumn. It is called Goldfinder, but I have failed to find it in the leading catalogues. It is, I believe, a variety peculiar to the district of Faversham, Kent, nevertheless it is an out-and-out good one, somewhat resembling Ne Plus Ultra, but of better flavour; it is a mid-season and late Pea, growing about 7 ft. high in favourable positions. I saw a quantity about the middle of September, and thanks to the kindness of Mr. Hart, of Faversham, I had an opportunity while there of testing the flavour, with the result that I have resolved to try if it will do as well in Surrey as in Kent.—*A Grower.*

Carter's Jubilee Runner.

We have been favoured with some specimens of this grand sort of Runner Bean from Mr. N. Kneller, gardener to Wyndham Portal, Esq., J.P., Malshangar, Basingstoke, where it proves to be a most wonderful kind, and from its enormous size and succulent character must supply a great quantity of a most useful vegetable. The pods were almost straight, and measured about 10 ins. in length and from 1¼ in. to nearly 1½ in. wide. They are generally widest above the middle, and taper gradually to the base; but the most notable character, perhaps, is their rich dark green, not bronzy red colour, such as we see in the common sorts after they attain any size. Their thick and succulent character is also noteworthy, as well as

the ribbed or corrugated and greatly thickened edge, along which the seeds are arranged. The latter are white after attaining a certain size, but are not numerous, seeing that each pod contains only from four to six, which is not a large number for pods of such extraordinary size. In favourable seasons the length given is exceeded, and we are surprised to see them do so well after such a cold summer, and especially now the season is so far advanced.

GARDENING MISCELLANY.

The English Apple and Fruit-Growing Company (Limited).

I AM grateful to you for your genial reference to this company in your last number. The term "Apple" is made prominent because it is the intention of the directors to make the cultivation of that fruit a leading feature, so as to endeavour to divert into the pockets of home growers some portion of the large sum paid annually to the Americans for their Apples. The Apple is the standard fruit of this country, and it is well to make its cultivation a prominent feature of the prospectus. It is too late to eliminate the word Apple from the prospectus of the Company. No prospectus can be issued until the title of the Company is registered at Somerset House; and, thanks to Mr. Goschen, the registration of a company is an expensive privilege, for the certificate of registration costs £67 10*s.*! If the title of a company were altered, a further registration fee would be necessary. The directors have good reasons for making the Apple a prominent feature in the title of the company. Suffer me to add that among the applications for shares is one from Messrs. N. M. Rothschild & Sons for 1,000, and from Messrs. Maple & Co., Tottenham Court Road, for 250.—*R. Dean, Secretary.*

Lobelia Tupa.

THIS is a half-hardy plant from Chili, and is occasionally met with under the name of Tupa Feuillei, or Lobelia Feuillei. It was introduced in 1824, and is figured in the *Botanical Mngazine*, at t. 2550. It grows and flowers annually at Glasnevin, and also in the College Botanical Gardens at Dublin, but does not attain anything like the height of 10 ft., 3 ft. or 4 ft. being nearer the general average. It is very apt to be killed during exceptionally severe winters in Dublin, and a covering of dry ashes, or of peat, turf, or coco-nut fibre is a wise precaution to adopt in the autumn. In cold, wet, northern districts, the plant might be grown in a large pot or tub, and sheltered in a greenhouse during winter, after which it could be plunged out in the open air to grow. If "J. W. O." will send me his address next May, I will gladly forward him a plant of this rare and peculiar species. It does not divide well or safely except just as it starts into growth about the time named.—*F. W. B.*

Lobelia ignea and L. fulgens.

THESE are best treated as bog plants, and when so grown attain to a luxuriance otherwise not seen. As pot plants they are admirable for conservatory decoration at the present time of the year. I saw a stageful of L. ignea, the other day, with spikes of velvety scarlet flowers on stems 5 ft. in height, and they were very beautiful as seen contrasted with plants of Campanula pyramidalis alba. No doubt your old friend the ex-gardener from Cremorne was right in keeping his herbaceous Lobelias moist during the winter, as drought at any season is fatal to them—at least, such is my own experience, even in a wet climate.—*F. W. B.*

Freesia refracta alba.

THOSE who have not yet potted their bulbs of this beautiful Cape, iridaceous plant, should lose no time in having it accomplished. To have it in flower by December the bulbs should be potted in August; and for a succession from that date onward other batches should be potted at intervals. Pots or shallow pans at the convenience of the grower may be used, with plenty of drainage. A compost consisting of light fibrous loam, leaf-soil and a quantity of well-rotted cow manure will form an excellent compost, and grow them to perfection, provided the after treatment is well attended to. To secure an even growth in the pots or pans used sort the bulbs into sizes, as the larger ones will flower while the small ones may be grown on for another year. After potting place them in a greenhouse or frame where frost is merely excluded, and ventilate freely on all favourable occasions after the leaves show themselves above ground. As soon, however, as fairly rooted, a batch may be introduced into a warm place so as to hasten their flowering. A great deal of the success with these bulbs depends upon their being kept cool, close to the glass and well ventilated; so that those having a shelf in a greenhouse have an excellent opportunity of growing Freesias. The variety under notice is not only deliciously fragrant but pure white.—*G.*

Gardening on the Sea-beach at Southport.

SOME few weeks ago I wrote under the above heading, and I then noted some of the most attractive plants growing in the beds and on the bank facing the promenade. Visiting Southport later on, I was delighted with the appearance of the following, which are represented by hundreds, if not thousands, in the Marine Park (the name given to the seven acres taken in from the beach). Generally the plants may be said to be in irregular groups, with here and there lines of the dwarfer plants running round this projection or following the outline of that recess, the whole having as natural an appearance as could be created under the circumstances. Virginian Stock, Mignonette, species of Epilobium, Godetias, Scabious, Larkspurs, Veronica spicata, Cytisus, Sunflowers, Tropæolums, Antirrhinums, Marigolds, Centaurea cyanus (blue), Arabis albida, Malvaceous plants, Chrysanthemum leucanthemum, and grasses with dot plants of the Tamarisk, also Olearia Haastii, a dwarf-flowering shrub of recent introduction, looking in the distance like small bushes of Laurestinus. I believe there are several species of Tamarisk; would any of your Southport readers oblige me with the name of the one in the Marine Park? Beds cut out on the grass are laid in geometrical patterns, and planted with Echeverias, Sedums, Saxifrages, Lobelias, and such-like dwarf plants of a hardy nature. Saponaria calabrica, Stachys lanata, Tropæolums and Antirrhinums, with Pelargonium Happy Thought, fill other beds. The Marine Park, I believe, is under the management of Mr. Halwood, of Hesketh Park, by whom, I was informed, it was designed and laid out.—*W. P. R.*

Tall Tropæolum.

WE noticed the other day at High Elms, Kent, in the garden of Sir John Lubbock, Bart., M.P., what may be done with the ordinary Tropæolum majus in a sheltered situation in ordinary good garden soil, and plenty of moisture during the summer. On the end of one of the houses in the garden is an old Pear tree, which does not bear well on account of its being starved or kept too dry by the hot-water pipes which lead away from the boiler and pass under it. Tropæolums were planted in a narrow border in front of the tree, and allowed to ramble at will. The shoots commenced to run amongst the spurs of the Pear tree, and rambled up to the height of 20 ft., flowering beautifully all the way. This might often be attempted in out-of-the-way, half-kept places, with trees, however, that are not particularly valuable, as the Tropæolum when growing vigorously must of necessity injure the foliage of the tree to some extent. If, however, good results are to be expected the exposure must be good, so that the Tropæolum may get plenty of sunshine, and the soil must be fairly good.

Kentia australis.

PALMS are deservedly popular as decorative subjects at all seasons and for all purposes, and your faithful illustration of the above at p. 81 represents one that I have found will stand indoor treatment better than some others—viz., Areca lutescens, Geonoma gracilis, and the beautiful Cocos Weddelliana. Kentia australis shows its character well when young, more so than the popular Latania borbonica, commonly called the Fan Palm, which appears rather stiff in a young state, and better shows its character when it has attained massive proportions. I have found good peat and silver sand to be a capital compost in which to grow young Palms, using fibry loam in greater proportions for specimens that have attained full size, and which it is not desirable or convenient to shift into larger pots or tubs. Palms, to attain massive proportions, so as to bring out their true characteristics—imitating, as it were, their native habitats—should be planted out in a bed composed of good soil and efficiently drained; but then it is not everyone who possesses that convenience, and we often see specimens that have attained a good size so shabby in appearance as to become an eyesore, and have ultimately to be consigned to the rubbish heap.—*Geo. Potts, Jun., Northiam.*

Passiflora cœrulea Fruiting at Eastbourne.

THE interesting notes of "C. B. G.", Acton, in reference to the trees, shrubs, creepers, and flowers he noticed at this delightful watering place on the Sussex coast, reminds me that, depending from an ornamental iron window-garden framework, I noticed this beautiful Passion Flower fruiting there in the open air a few years since. It was the only place in the British Isles I ever noticed it doing so perfectly. A month since a gentleman informed me, as we strolled along the south side of Prince's Street, Edinburgh, that fruit had been formed, but not ripened there two years since. Lady Wilde, when she lived in Merrion Square, Dublin, is said to have been more successful. The pale yellow oval or egg-shaped fruit is certainly a curiosity depending from a verandah.—*W. J. Murphy, Clonmel.*

Nepenthes Dicksoniana.

THIS beautiful new hybrid Pitcher plant has been named in compliment to the late Professor Dickson, of Edinburgh, and is the result of a cross between N. Rafflesiana as the seed parent, with pollen of N. Veitchii. The effect of the latter is shown in some of the leaves bearing aborted pitchers, and in the broad, folded-back annulus at the mouth of the pitcher; this organ is brown and yellow and conspicuously ridged. The pitchers are already 10 ins. long, without the lid, and heavily marbled with reddish brown on a pale green ground; they are very effective and showy. Exhibited by Messrs. J. Veitch & Sons, Chelsea, on Tuesday last, and awarded a First Class Certificate by the Floral Committee.

Canna Ulrich Brunner.

A LARGE plant about 3 ft. high and grown in a pot showed the beauty of the deeply glaucous foliage. The leaves were not large but closely arranged on the stems. The flowers were large and densely crowded at the apex of the stems, and have broad scarlet segments, the lower one being the narrower and striped with yellow. Exhibited on Tuesday by Messrs. J. Veitch & Sons, and awarded a First Class Certificate.

Adiantum Waltoni diffusum.

A LARGE and well-grown plant of this Fern, which is stated to be a seedling from A. Waltoni, was shown at the Drill Hall on Tuesday. It has much larger fronds than A. Waltoni, triangular in shape, from three to five times divided, and of a pleasing shade of green. The pinnules are much smaller, more wedge-shaped, and farther apart or more diffuse than those of its parent. For decorative purposes it will be very effective. Exhibited by the executors of Henry Walton, Edgend Nurseries, Brierfield, near Burnley, and awarded a First Class Certificate.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

CAMELLIAS.—If these have rapidly been transferred from their summer quarters to the greenhouses or shelter of some kind, the fact must not be overlooked that they should receive a thorough cleaning before being finally arranged in the positions they are to occupy till they have flowered or are removed to the show house, as the case may be. If the flower-buds are thickly set a thinning must be given, especially on young plants in pots, otherwise the greater number of them will drop through inability to open.

CHRYSANTHEMUMS.—Those who have not yet placed their plants under protection cannot much longer delay the operation, seeing that sudden and comparatively severe frosts may be expected at any time. Before being put in the positions they are to occupy when flowering all staking and tying should be completed, and everything made orderly and clean. An early vinery or Peach house where the foliage has mostly dropped forms a suitable place for housing the plants till they have flowered, when, of course, they may be utilised in various ways and finally cut down, so that their presence causes but little inconvenience to the permanent subjects in the respective houses. Give ample ventilation to prevent drawing.

NEW HOLLAND PLANTS, &c.—These and all other greenhouse subjects that have been stood out of doors or have been grown in beds should be housed without delay, potting up such things from the beds as may be necessary for next year's stock. Succulents, such as

Cotyledon (Echeveria) metallica, Aloe frutescens and similar subjects do not keep well during autumn and winter if they have been in any way injured by frost. If already in pots they will suffer less inconvenience by removal than those which have been planted out. It may be necessary to place the latter in a warm house for a time till they take fresh root. In any case they must be kept very dry to prevent damping. Cotyledon (Echeveria) secunda glauca is nearly hardy, but suffers greatly from damp, so that it must be planted in a cold frame where it can be well ventilated on all favourable occasions, and kept thoroughly dry amongst the leaves, otherwise the latter are liable to damp off, commencing at the crown.

THE FRUIT HOUSES.

Peaches and Nectarines.—The trees in the earliest houses will now be leafless or nearly so, and when that has happened may be pruned. If they have been carefully attended to while making their growth, little pruning, however, will be required. In some cases the sashes are entirely removed after the crop has been gathered, while at other places the sashes are merely kept wide open. In view of the recent bad weather, the sashes in the former case should be got in readiness to put on if required. But unless the weather is thoroughly bad there is little necessity for putting on the sashes till the end of the month. As the young wood gets ripened in later houses fire-heat may be discontinued.

Melons.—Owing to the want of light and, above all, sunshine, it is altogether unprofitable to cultivate Melons in winter, even when a crop can be secured at all. With fair weather, however, and a tolerable amount of sunshine, Melons of moderately good flavour may be ripened up to the end of next month. As fruits advance towards maturity, the atmosphere of the house should be kept tolerably dry, damping the paths only during the middle of fine days so as to maintain the plants in a healthy vigorous condition. During fine weather they will stand a deal more forcing than when the light is bad. A temperature of 70° to 75° may be allowed at night under these conditions, with a rise of 10° by sun-heat.

Cucumbers.—Where young plants were put in during the earlier days of August, they will now be approaching the bearing stage. If a continuous supply is required from these, every attention must be given them in the way of surface dressing, so as to encourage root action. Heavy crops should not be allowed at any time, otherwise the plants soon become exhausted. If there are two or more batches coming on, of course the most forward may be allowed to bear heavily. If any of the batches are in a backward condition, they may be urged onward while the light is still good, in order to get them into a strong and vigorous condition, so that fruit-bearing by them may be possible.

THE KITCHEN GARDEN.

Fruit Collecting.—As the season advances, and frosty nights become more common, every attention should be given to the ingathering of fruit in dry and sound condition as soon as fit for storing. Pears that are now ready, or almost so, include Beurré Hardy, Maréchal de la Cour, Fondante de Automne, Marie Louise, Comte de Lamy, Beurré Superfin, Beurré Diel, Beurré Bosc, Louise Bonne (of Jersey), Seckle, and Pitmaston Duchesse d'Angoulême. Amongst Apples, gather as soon as in proper condition Cox's Orange Pippin, Kerry Pippin, King of the Pippins, Alexander, Cellini, Golden Noble, Mank's Codlin, Wormsley Pippin, Ribston Pippin, Margil, and Blenheim Orange.

General Work.—Continue to earth up late Celery, as much growth has lately been made. Clear away all Vegetable Marrows, French Beans, Scarlet Runners, and such other things as have been cut down by frost. Keep the hoe going amongst growing and winter crops, and clear away all weeds before they scatter their seeds on the ground.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

At this season the Calanthes of the Veitchii and Vestita section having completed their growths should be placed in a light, warm, airy situation where they can get a little sunlight to aid in ripening them, a restricted supply of water being given until the flowering is over, when it should be altogether withheld. During the decaying of the leaves and until the flowers are open these are not attractive-looking plants, but they amply repay afterwards with their bright flowers in the dullest season. Catasetums, Cycnoches and Mormodes which have fully made-up bulbs should be treated in a like manner, very little water being given. Deciduous Dendrobes which have completed their growth should be removed to a cool and airy house when they are ready, and placed in the sun. Before removal from the warm house it is better to let them get dry there, as they feel the change less than if removed wet. The roller blinds will not be wanted down now on any of these houses, except on rare occasions.—*James O'Brien.*

Orchids during Summer.

The effects of the past sunless summer are very apparent amongst Orchids by the inferior size and quantity of the blooms that have been borne. This is not to be wondered at, for it is the very essence and soul of this class of plants to revel in sunlight. Most of the Odontoglossums no doubt have benefited by the dull weather; O. grande certainly has not. Bulbs that normally should have sent out a spike of five or six flowers have borne only one or two at most, and even then of very inferior size, but this plant delights in almost unclouded sunshine. Even Cypripediums have been far less floriferous than usual, proving that, like everything else, they have felt the want of the sun. Those growers who affect to ignore the use of artificial heat during summer time must have experienced a bad time of it.

A recourse to artificial heat has been imperative. During an ordinary summer this is hardly necessary, yet even then it is wise to steer a medium course. After such an abnormal summer, the winter will prove a trying one for Orchids. Unripened bulbs and incomplete growths will require well looking after. It is to be hoped that we shall experience few such seasons as the summer we have passed through, although vegetation generally appears to be none the worse for it.—*Henry Tacy Peck.*

Lælia purpurata Russelliana.

A fine example of this beautiful variety, which is so distinct that it was named L. Russelliana originally, is now in flower in the Orchid houses of the Liverpool Horticultural Company, Garston, Liverpool. It is the most beautiful of light-coloured Purpuratas. The sepals and petals are white, with a faint pearly tint; the front portion of the finely formed labellum is lavender, the disc beyond bright light rose, the throat yellow, the whole inside of the labellum being beautifully veined with dark rose. Other fine forms of L. purpurata are also in bloom, some of the light-petalled forms having unusually rich maroon labellums tipped with rose.

Aspasia lunata.

This pretty species is also now in flower at Garston. Although an old plant it is little known. The sepals and petals are greenish, blotched with chocolate, and the showy inch-wide lip white, with violet median area.

Lælia porphyrites.

The pseudo-bulbs of this new Lælia are rather slender, about 3 ins. or 4 ins. long, and bear at the apex two oblong, leathery, shining leaves. The plant is supposed to be a natural hybrid, with the dwarf habit of L. pumila, and has flowers about the same size but very different in colour. The sepals and petals are of a soft rosy purple, with darker veins; while the three-lobed labellum is mostly of a rich crimson-purple; towards the base of the tube externally it fades to a soft rose. Exhibited by Mr. Ballantine, gardener to Baron Schroder, and awarded a First-class Certificate on Tuesday.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*October 9th.*

The severe weather told badly on the extent of the exhibition, and the number of the exhibits at the meeting on Tuesday last. The sharp frosts with which we had been visited for some days past, ranging from 8° to 13°, had destroyed the Dahlias, for which the previous meeting was notable, and hardy flowers in general, so that all of these were conspicuous by their absence. The two largest groups consisted of Ferns and Plums, both of which were extensive in variety. Only one Orchid made its appearance, the cold weather having kept such things at home.

A Silver-gilt Banksian Medal was awarded to Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, for a magnificent group of Ferns, extending along the whole length of one side of the hall. The specimens exhibited were very choice, few duplicates being shown and they were also large, well grown, and finely coloured, each according to its kind. Conspicuous amongst others were the Adiantums, including A. Farleyense, A. tetraphyllum gracile, A. reniforme, A. Weigandi, A. Capillus-Veneris cornubiense and many other fine varieties, A. Fergusoni, and others. The Davallias were represented by such fine things as D. elegans, D. Mooreana, D. Tyermanni, D. affinis, D. bullata, &c. The species of Pteris were numerous, and included P. geranifolia (otherwise known as Doryopteris geranifolia), P. cretica Mayi, P. hastata adiantoides, P. tremula grandiceps. Others picked at random will show that Mr. May only exhibits such as will sell in the market, and not useless curiosities. Very pretty were Cheilanthes elegans, Nothochlæna chrysophylla, Anemidictyon phyllitides, Asplenium Baptistii with its jagged pinnæ, A. bulbiferum in many forms, A. Belangeri, Nephrolepis Bausei, N. Duffii, Doryopteris palmata, Osmunda regalis palustris, Pelæa tenuifolia, and others too numerous to mention. They were also effectively arranged.

A small group of various interesting subjects, including a group of Begonia John Neal, the type of the new winter-flowering Begonias, was shown by Messrs. J. Veitch & Sons, Chelsea, they being dwarf and finely flowered. They also showed a fine basket of Bouvardia President Cleveland, plants of Amasonia calycina, Amaryllis Autumn Beauty, Canna Ulrich Brunner, and Nepenthes Dicksoniana. Some double-flowered tuberous Begonias in pots were shown by Messrs. H. Cannell & Sons, Swanley, Kent. These were Camelliæflora, rose; Mrs. Stark, pale yellow; Mrs. Larkman; Mrs. Brunner, pink; Hon. Mrs. Byron, rose-pink; and General Chichester. Messrs. John Laing & Sons, Forest Hill, showed four stands of cut blooms of single tuberous Begonias, showing a remarkable number of shades of colour, some being particularly bright, others delicate. A vote of thanks was awarded them. The executors of Henry Walton, Edgend Nurseries, near Burnley, exhibited a group of Adiantum Farleyense, being part of a large number of seedlings raised from spores. The latter were sown on the 23rd of February, 1887, and took about six months to germinate. The spores were taken from a plant in the possession of Edward Ecroyd, Esq., Edgend House, Burnley, Lancashire. A vote of thanks was awarded to Mr. C. Fordy, Warkworth, Northumberland, for some seedling Gladioli. Messrs. William Paul & Son, Waltham Cross, exhibited an H.P. Rose, named Denmark, sent from Elsinore, which was of a soft rose colour. Nerine coruscans was shown by Mr. S. Ford, The Gardens, Leonardslee, Horsham.

At a meeting of the Fruit Committee, a Silver Banksian Medal was awarded to Messrs. J. Veitch & Sons, Chelsea, for a large collection of Plums, including five dishes of Pond's Seedling, Goliath, Jefferson, Reine Claude de Bavay, Coe's Golden Drop, Belle de Septembre, Grand Duke, Kirke's, White Magnum Bonum, and Cooper's Lange. A large number of Damsons was also shown by them, including Blue Damson, White Damson, White Bullace, Damas de Septembre, Winesour, Royale Bullacc, Mirabelle Jardine, Poupart's Plum, and others. William Roupell, Esq., Harvey Lodge, Roupell Park, was awarded a Cultural Commendation for a basket of Cannon Hall Muscat and Gros Colmar Grapes. They were splendid samples, both well-coloured and flavoured, and had been grown in 11-in. pots over hot-water pipes kept slightly warm. The same rods of Gros Colmar have borne for three years in succession. Plenty of foliage and air was explained as the cause of success. He also showed Black Hamburgh Grapes produced by Vines grown in an unheated greenhouse, where they have produced good crops for more than fifty years. Keir's Black Hamburgh was brought up from the society's gardens, at Chiswick. Lady Downshire, a large white-berried new seedling Grape, was shown by Mr. T. Bradshaw, Hillborough Castle, co. Down, Ireland. The berries seemed somewhat stained, otherwise they would have looked well. A white seedling Grape was also shown by Mr. C. Ross, Welford Park, Newbury. Late Duke Cherry was shown by Mr. G. Bolas, Hopton Hall Gardens, Wirksworth. Well-ripened and firm specimens of Carter's New Model Onion, a cross between Rousham Park Hero and Magnum Bonum, were shown by Messrs. Carter & Co., High Holborn, London. Mr. R. Dean, of Ealing, exhibited two small plants of Laxton's Open Air Tomato in pots, and heavily loaded with fruit.

Obituary.

We regret to announce the death, on Saturday evening last, of Mr. Alexander Lindsay, of Ditton Park Gardens, Slough. The deceased had been in the employ of the Buccleuch family for some thirty-five years, and enjoyed the entire confidence and respect of all its members. His more recent employer was the Dowager Duchess of Buccleuch. Mr. Lindsay was one of the best of wall-fruit cultivators, and an admirable example of the old British gardener. His illness was of considerable duration, but without much pain, and he expired very peacefully. During his life the deceased had been the intimate contemporary of many of our leading gardeners, who, like our old friend, have now gone over to the great majority.

In our last issue we briefly announced the death of Mr. Francis Arthur Dickson, of Chester, which event took place at West Kirby, on the 27th ult. Mr. Dickson was a son of the late Mr. Francis Dickson, one of the founders of the original nursery firm, and in due time became senior partner of the firm of F. A. Dickson & Sons, now merged with that of James Dickson & Sons into the extensive business carried on as Dickson, Limited. Mr. Dickson, who was widely respected, was well known in Masonic circles, being a P.M. of the Cestrian Lodge, and a Past Warden of the Province, and took a very active part in all local affairs. He was elected to the Town Council of the city of Chester in 1863, and held the seat till 1878, when he was appointed alderman. In 1868 he was nominated to the ancient office of sheriff of the city, and in 1870 was elected to the dignity of mayor. The birth of one of his children took place during his year of mayoralty, and he was presented with a silver cradle, subscribed for by fellow-citizens and friends, the presentation being made by the Duke of Westminster, in the Town Hall. On the 6th January, 1871, he was placed on the Commission of the Peace for the city. Deceased was a council representative on the governing body of the King's School, an appointment which he resigned at the last meeting. He was also a director of the Grosvenor Hotel Company, and took an active interest in all matters pertaining to agriculture, and the various agricultural bodies in Cheshire and adjoining counties, but more particularly in his native city; so much so that in 1873, on the occasion of the visit of the Royal Manchester, Liverpool and North Lancashire Agricultural Society to Chester, he was presented with an address by his colleagues and others for his distinguished services on the local committee. He had been for a long time in failing health, and retired from active participation in the management of the business about eighteen months ago.

QUESTIONS AND ANSWERS.

Preserving Crabs. — Would some of your readers please inform me of a good way of preserving Siberian Crab Apples for dessert? I want to preserve them whole. — *A Constant Reader.*

Concerning Peas.—*Erratum:* At p. 86, col. C., tenth line from the bottom, read "May 24th" for "May 27th."

Androsace sarmentosa.—*G. M.:* The plant you mention is quite hardy, even in a more northern latitude than yours; but, of course, you say nothing about the altitude or the exposure. The plant increases by means of runners in spring, and you might increase your plants in that way before planting them out-of-doors to take care of themselves during winter. Choose a rather dry situation, that is, an elevated one, on a rockery for instance where the drainage is perfect, and on this plant some of your young specimens early in summer, so as to give them a chance of becoming established or firmly rooted before winter. Damp is more to be feared than cold for this Himalayan plant. Pieces of stone amongst which the roots can ramble will prove highly beneficial. A sunny position is the best.

Lifting Dahlias.—*L. H.:* You cannot lift your Dahlias too soon after they have been cut down by frost so as to be useless for further growth and decoration. Choose a dry day, and if the sun shines so much the better. Cut down the stems to within 6 ins. or 8 ins. of the tubers, and lift the latter carefully with a fork, taking care neither to bruise nor break off any part of the tubers. Remove all soil from them, tie the labels firmly to the stems with a piece of twine, and lay the tubers on the soil to dry till well on in the afternoon. Then collect them in shallow boxes or trays, and remove them indoors for the night. Should you have no convenient place to expose them to light and air under glass or other convenient place, you may place them out of doors during the day for some time to come, so long as the weather is dry. There is no precise time during which they require to be dried, as it all depends upon the quickness of the drying process. If you could conveniently place them near a flue or stove for a time the process could soon be completed. Place the roots upside down so as to permit the escape of any water that may collect in the hollow stems. In storing them the object should be to keep them out of the reach of frost, and if the temperature is a few degrees above freezing point so much the better. Examine them occasionally during the winter to see that they are not getting damp or rotten. Some tubers mostly always decay, and would contaminate the others if not removed in time.

Chrysanthemums frosted.—*L. C. Jennings:* You can do much to avert injury to these as well as other subjects by syringing them heavily with cold water early in the morning, before the sun has any chance of falling upon them while in a frozen condition. To take them hurriedly into a warm house, while still in this condition, would certainly result in augmenting the evil by causing them to thaw too suddenly. All the more tender and unripened or growing parts would most likely get flabby and turn black in a short time after a severe night. The central buds may, however, escape injury by being more protected, and when such is the case, the plants will repair the injury to a certain extent by making further growth. In future when you find your plants suddenly overtaken by the same calamity as has occurred lately, we advise you to try the above plan, which will counteract the evil to a great extent.

Names of Plants.—*W. L.:* 1, Swainsonia galegifolia albiflora, called also S. g. alba, and the typical form S. Osbornii; 2, Galega officinalis alba; 3, Centranthus ruber and C. r. alba; 4, Hibbertia (species unrecognised); 5, Pilea muscosa; 6, Vallota purpurea. *H. P.:* 1, Chrysanthemum uliginosum; 2, Helichrysum lanatum; 3, H. angustifolium; 4, Chrysanthemum maximum; 5, Polygonum vaccinæfolium; 6, Campanula isophylla. *G. Reeves:* 1, Pyrus fennica, better known as P. pinnatifida; 2, Pyrus aria; 3, Tilia grandifolia; 4, Tilia petiolaris; 5, Cratægus pyracantha.

Names of Fruits.—*A. E. K.:* 3, Pear, a small Catillac; 12, Apple, Colonel Vaughan; 19, Waltham Abbey Seedling; 20, Beauty of Kent.

Communications Received.—H. C. & Sons.—J. T.—J. W. O.—R. D.—H. H.—J. P. C. C.—J. B.—J. G. P.—R. H. M.

TRADE CATALOGUES RECEIVED.

Charles Turner, Royal Nurseries, Slough.—Roses, Fruit Trees, and Nursery Stock.

W. H. Hudson, West Green Road, Tottenham.—Dutch Bulbs and various Flower Roots.

Charles Toope & Co., Stepney Square, London, E.—Patent Hot-water Stoves and Heaters.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending October 6th was 29·44 in.; the lowest reading was 29·09 in. on Tuesday afternoon, and the highest 29·83 in. at the end of the week. The mean temperature of the air was 42·7°, and no less than 11·3° below the average in the corresponding weeks of the twenty years ending 1868. The mean was considerably below the average throughout the week; the coldest day was Tuesday, when the mean was only 39·8°, and was 14·6° below the average. The direction of the wind was variable, and the horizontal movement of the air averaged 10·4 miles per hour, which was 0·1 of a mile above the average in the corresponding weeks of sixteen years. Rain fell on two days of the week to the aggregate amount of 0·11 of an inch. The duration of registered bright sunshine in the week was 33·0 hours, against 39·1 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

October 10th.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report an active trade in Red Clover Seeds at advancing prices. Alsyke, White, and Trefoil, steady. Winter Tares sell freely at rates current last week. Rye Grasses unchanged. Mustard and Rape neglected.

COVENT GARDEN MARKET.

October 10th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½-sieve	2 0	4 6	Pine-apples, St. Michaels, each	2 0	5 0
Cobs ....per 100 lbs.	60 0	65 0	Pine-apples, Eng., lb.	1 6	2 0
Grapes .....per lb.	1 0	2 6	Plums, ½-sieve	2 6	4 0
Melons	1 0	3 0	Peaches.....per doz	0	8 0

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 6		Lettuces ..per dozen	2 0	3 0
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	0 9	1 3
Cabbages .... per doz.	1 6		Onions, per bushel	7 0	9 0
Carrots, New, per bun.	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	3 0	4 0	Radishes, per dozen	1 6	
Celery, per bundle	2 0		Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	0 9	
Herbs, per bunch	0 2	0 4	Turnips, per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Asters .....per doz.	4 0	8 0	Ficus elastica each	1 6	7 0
Chrysanthemums, per dozen	4 0	9 0	Fuchsia, per doz.	3 0	6 0
— large plants ..each	2 0	5 0	Heliotrope ..per doz.	3 0	6 0
Cockscomb, per dozen	3 0	6 0	Hydrangea, per doz.	9 0	18 0
Coleus .....per doz.	2 0	4 0	Liliums, var., doz.	18 0	30 0
Cyperus, ..per dozen	4 0	12 0	Marguerites per doz.	6 0	12 0
Dracæna term., doz.	30 0	60 0	Mignonette ..per doz.	3 0	6 0
— viridis, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var., per dozen	6 0	24 0	Pelargoniums, scarlet, per dozen	2 0	6 0
Ferns, in var., do.	4 0	18 0	Pelargoniums, dozen	6 0	12 0
			Solanums....per doz.	9 0	15 0

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Asters, doz. bunches	6 0	9 0	Lapageria, 12 blooms	1 0	2 0
— (French), 1 bunch	1 6	2 6	Lilium longiflorum, 12 blooms	4 0	6 0
Bouvardias, per bun.	0 6	1 0	Marguerites, 12 bun.	3 0	6 0
Camellias, 12 blooms	3 0	4 6	Mignonette, 12 bun.	2 0	4 0
Carnations, 12 blooms	1 0	2 0	Pelargoniums, 12 spys.	1 0	1 6
Carnations, 12 bun.	6 0	9 0	— scarlet, 12 sprays	0 4	0 6
Chrysanthemums annual, 12 bunches	1 0	3 0	Primula, double, bun.	0 9	1 0
Chrysanthemums, 12 blooms	0 6	3 0	Pyrethrums, 12 bun.	2 0	4 0
— 12 bunches	6 0	12 0	Roses, Tea, per dozen	0 6	1 6
Cornflower, 12 bunch.	1 6	3 0	— Red .....per doz.	0 6	1 0
Dahlia, 12 bunches	3 0	6 0	— Saffrano ..per doz.	1 0	1 6
Eucharis, per dozen	3 0	6 0	Stephanotis, 12 sprays	3 0	4 0
Forget-me-not, 12 bun.	2 0	4 0	Sunflower, 12 bunches	3 0	9 0
Gardenias, 12 blooms.	1 6	4 0	Tuberoses, per dozen.	0 6	1 0
Gladiolus, 12 sprays	1 0	2 0	Violets ..12 bunches	1 0	1 6
Heliotropes, 12 sprays	0 6	1 0	— Parme, French, 12 bunches	3 0	4 0

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Next Week's Engagements.

MONDAY, Oct. 22nd.—Bulb Sales at Stevens', and Protheroe & Morris's Rooms. Sale of Nursery Stock at Sunningdale by Protheroe & Morris (6 days).

TUESDAY, Oct. 23rd.—Royal Horticultural Society: Meeting at the Drill Hall, Westminster, at 11 a.m. Sale of Nursery Stock at the Wood Lane Nursery, Isleworth, by Protheroe & Morris.

WEDNESDAY, Oct. 24th.—Sale of Dutch Bulbs at Stevens' Rooms. Fruit Show at the Botanical Gardens, Old Trafford, Manchester (4 days). National Chrysanthemum Society: Meeting of Floral Committee. Sale of Bulbs and Plants at Protheroe & Morris's Rooms.

THURSDAY, Oct. 25th.—Apple and Pear Show at Exeter (2 days). Sale of Dutch Bulbs at Stevens' Rooms.

SATURDAY, Oct. 27th.—Bulb Sales at Stevens', and Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.
SATURDAY, OCTOBER 20, 1888.

CURRENT TOPICS.

THE CHISWICK FRUIT SHOW.—A very fine display of Apples and Pears greeted us at Chiswick on Tuesday last, which we trust will be seen by thousands of persons during the week, although the earlier attendance was far from promising. It is so hard to arouse public feeling in relation to matters of a prosaic but still important kind. The opening ceremony on Tuesday, as detailed elsewhere, was not an exciting one, and hardly met the necessities of the case, for the president's address was of a genuine wet blanket order, and was deplorably bad in taste in its reference to a distinguished statesman, not only because the remarks made were uncalled-for and so objectionable to many present, but were so exceedingly out of place in a gathering of this kind, at which, later on, the president himself deprecated the introduction of matters of a political nature.

We are in entire accord with him, however, in desiring that no exaggerated hopes should be aroused in relation to fruit culture, but we hold none the less that until the capacities of the British climate and soil, with its cultiva-

tors' abilities, are tested to the utmost, no human being can tell how far fruit culture may not yet prove helpful to the agricultural community. We regretted to hear a good deal of grumbling on the part of the Conference Committee, and especially from those selected as censors of the show, that they were compelled to pay for their own luncheon, and at an exorbitant charge to boot. The council, having regard to the good work done in connection with the conference, should have displayed greater liberality.

Starting in Apple Growing.—In the admirable paper on the subject of Apple Growing for Profit, read by Mr. G. Bunyard, at the Chiswick Conference on Wednesday, stress was very properly laid upon the difficulty which novices or beginners experience in learning which are the most suitable kinds for their purpose. Certainly, if Mr. Bunyard propounded a problem, he did his best in the same paper to solve it, for he gave lists of varieties suitable for the beginner, though, perhaps, for the small one they were rather too elaborate. However, the reader was not so much thinking of the very small grower, perhaps, as of the more extensive planters, whose needs the paper pretty well catered for.

Mr. Bunyard lays emphasis on the fact that one selection used will not suit all soils and situations, even though of the best known market favourites. That is an admirable proposition, because it shows what Apple growers universally now realise that sorts even of the best vary in cropping and in quality in diverse soils, and the first thing the novice has to do is to ascertain from local enquiry what kinds thrive best in the district. In that way a good line is obtained for his purpose. Of course, it will not do to stop there, because, if trusting entirely to locally grown sorts, no superior kinds will be introduced. Still, in trusting to older kinds for the start, newer sorts should be worked in gradually, and in a few years it may be found safe to discard the old sorts for the superior new ones. Some soils especially may be ill suited for standard trees or orchards, but with due cultivation and drainage might do admirably for dwarf trees on the Paradise stock. Even in such apparently simple work as Apple culture, there is no royal road to success.

The Late Mr. Lindsay.—We chronicled last week with deep regret the death of an old friend in the person of Mr. A. Lindsay, for some thirty-three years gardener at Ditton Park, near Slough. A very unobtrusive, amiable man, full of the kindliest disposition, and deeply attached to the vocation of his life, he was a genuine example of what may not unfitly be termed the old school of gardeners. Of course, there is as good fish in the sea as ever may have come out of it, but, still, there can be no doubt that in technical gardening knowledge some of these old gardeners will be hard to beat by the younger men, who follow in their places. Whatsoever precedency Scotchmen once held in our English gardens, and they held such positions very largely some years since, it must be conceded that it was due to their then undoubted superior knowledge and intelligence. Scotland made the educating of her children a matter of first importance long before England had made any effort to lift her progeny from out of the dead level of ignorance which marked the masses fifty years ago.

Mr. Lindsay was born some seventy-three years since, and so far back as that he received an education such as helped to make his future career in gardening an assured success; we in England have but just begun to help our children's prospects in life, by giving them a good education. But our existing race of young gardeners will find hard work before them if they hope to emulate or beat the old race of Scotch gardeners in practical knowledge and in intellectual attainments. They cannot too soon set themselves to the accomplishment of this task. Mr. Lindsay, perhaps, had at Ditton no very wide sphere for the display of his attainments; but at least he carried on the culture of wall trees, now almost one of the extinct garden practices, in a remarkably successful way, and showed till the last that good culture can, after all, master many of the difficulties which beset fruit culture in England.

Chrysanthemum Shows.—We are requested to state that the Annual Chrysanthemum Show in the Inner Temple Gardens was opened to the public on Thursday, and that the display in Finsbury Park will be opened this day (Saturday).

Gardening Engagement.—We learn that Mr. John Lindsay, gardener to the Earl of Gainsborough, Exton Park, Northampton, succeeds his late father as gardener to the Dowager Duchess of Buccleuch, at Ditton Park, Slough.

Eccles, Patricroft, Pendleton, and District Chrysanthemum Show will be held in the Town Hall, Eccles, on Friday and Saturday, the 30th of November and 1st of December, and not on the 16th and 17th of November, as originally announced. This is the second show of the kind held in Eccles, and promises to be as great a success as the first. The schedule offers nearly double the amount of prize-money given last year.

National Chrysanthemum Society.—We understand that it is the intention of the executive of this society to devote more space than heretofore, at the great November show, to the display of horticultural sundries. Those who may desire to take advantage of such arrangement should apply to Mr. Holmes for space as soon as possible.

Gishurstine.—Once more we are indebted to Price's Patent Candle Co. for an acceptable supply of this most valuable composition for the boots. Continued use of the dressing does but confirm our first experience of it, and once again we venture to commend it to the notice of all who appreciate the comfort of dry boots. It not only makes them waterproof, but preserves the leather as well, is easily applied, and admits of a good polish being obtained a few hours after its application.

Bacup Floral and Horticultural Society.—The first exhibition of Chrysanthemums, &c., organised by this society is announced to take place on November 24th.

New Plants Certificated in Ghent.—At a meeting of the Belgian Syndicate Chamber of Horticulturists, on the 8th inst., Certificates of Merit were awarded to M. Desmet for Odontoglossum maculatum Duvivierianum; to M. L. Spae, for Anthurium Scherzerianum Madame Raymond de Kerchove; to M. Jules Hye, for Cattleya aurea, and Oncidium ornithorrynchum album; and to M. Edm. Vervaet, for Odontoglossum species and Cypripedium Harrisianum.

National Auricula and National Carnation and Picotee Societies.—The annual general meeting of these societies will be held in the room of the Royal Horticultural Club, Hotel Windsor, Victoria Street, on Tuesday next, at 4 p.m. precisely. The business of the meeting will be the election of officers and committee; receiving the secretary's and treasurer's report; the election of judges for the ensuing year, and any other necessary business as may pertain to the annual general meeting.

Weather Notes in Scotland.—The Rev. H. Tacy Peck, of Blaby, Lincolnshire, writing from Inverness, on Monday, says:—The first snow of winter, a hot blazing sun, a cold biting wind, and the country for miles around covered with a mantle of glistening snow! This is the experience that greets one this October morning in the north of Scotland. We are speeding along at the rate of fifty miles an hour, with her Majesty's mails for the north. Far down to the right of us lies the German Ocean, the waves churned into foam and dashing spray by the furious gale that is raging. A few fishing smacks here and there are labouring in the trough of the sea, or running madly before the wind. A pitiful sight it is to see field after field of cereals lying prostrated by the fury of the wind, heaped up with the snow, and to all appearance irreparably ruined. Heavy must be the hearts of the farmers—such a scene of havoc and destruction among the crops cannot have been witnessed for generations. Further north of Aberdeen, on the Great North of Scotland Railway, there seems little improvement; snow-drifts are in the hollows to the depth of one or two feet, the snow comes down in blinding clouds, and through it all one can see the green leaves and autumn flowers half buried in the wintry covering. To-day, in Inverness, after the storm, it is warm and more seasonable; dainty Tea Roses are blooming in the Cemetery the most beautiful God's Acre in the world—as though to ask, where are the snows of yesterday? But the hills around have put on their mantle of white as though in sad and silent answer.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

The second anniversary dinner of this admirable gardeners' society took place on the evening of the 11th inst. at the Cannon Street Hotel, Dr. Hogg presiding, and Mr. Harry Veitch occupying the vice-chair. The chairman was supported by Mr. William Paul, Mr. N. N. Sherwood, Mr. G. Deal, Mr. John Laing, Mr. J. R. Meston, Mr. W. J. Nutting, Mr. H. Herbst, Mr. Baker, Mr. Lynch White, Mr. E. R. Cutler, and others. Punctually at 5.30 p.m. the company sat down to an excellent dinner, after which the usual loyal toasts were duly honoured.

Dr. Hogg then proposed the toast of the evening, "Continued Success to the United Horticultural Benefit and Provident Society," remarking that twenty-two years ago a society existed called the United Horticultural Society, which was composed of men of action and energy. They conceived the idea of holding an exhibition in the City of London, and the first was accordingly held in Finsbury Square, another was held somewhere else, but the climax was that held in the Guildhall, which proved a great success. A number of gentlemen guaranteed £100 as the prize fund, and the results were so satisfactory that a considerable sum was left to the credit of the promoters. Although that society had disappeared it left behind it a bantling, and the profits arising from the Guildhall Show formed the nucleus of the present fund. The society was now flourishing, but it was not so well known as it should be, and he was glad to see the committee had decided to come out into broad daylight. For many years they carried on their work with great caution, at one time nearly giving up in despair, but the tide turned, and they were now going on in a most satisfactory way. The details of the several rules were very intricate, but he had endeavoured to master them, and he would give a few particulars of the way in which the society was worked. He continued: The objects of the society are to render assistance to gardeners in time of sickness, calamity, and old age. It is not a charity, it is not even a benevolent society subsisting on the benevolence of others, but it is essentially a thrift and self-help society. It is, in fact, a benefit society and savings' bank combined, the payments not being more than those of the ordinary benefit societies, whose members have no claim on surplus funds. There is, I believe, no other society which offers the same advantages. The overplus in this society is equitably divided amongst the members yearly, and invested for them in stock; each member has a separate account, and the accumulated fund, with all interest accruing, is payable on the death of a member to his nominee, or can be drawn by himself at the age of seventy years. Sums amounting to between £50 and upwards are now credited to some members, and the yearly interest on the same closely approaches the annual payments to the society. This is a point of the greatest importance, for it means that in the course of time nearly, or quite, all the sums paid as contributions will be added to the members' deposit account, the interest meeting all liabilities that entitle such members to all the benefits of the society. The organisation consists of three funds—the benefit or sick fund, the management fund, and the benevolent fund. The benefit or sick fund is to provide a weekly payment to members when they are incapacitated from work through illness. When a member is wholly unable, by sickness, to follow his employment, he is entitled to full sick pay; but it is not necessary that he refrain from all work when able to do a little, to entitle him to a proportion of sick pay. The management fund is to meet what may be called current expenses, such as rent, stationery, printing, &c. I would like to call special attention to this fund. The committee, of course, as in other societies, give their services gratuitously; but the secretary, on whom the heavy work devolves, has hitherto only received a nomiual sum, and the most he is entitled to receive is £20 annually, with 6*d.* per annum for every member over 300. The benevolent fund is established to enable the committee to grant extra allowances beyond sick pay

when additional assistance is needed, as for instance, doctors' bills, accidents, and sudden unforeseen calamities. The payment of 6*d.* a week, or 26*s.* a year, insures 10*s.* 6*d.* weekly in case of sickness; 9*d.* weekly, or 36*s.* a year, insuring 16*s.* weekly. Members contributing 26*s.* yearly to the sick fund pay 2*s.* annually to the benevolent fund; those paying 39*s.* yearly contributing 3*s.* annually to the above fund; and all pay 2*s.* 6*d.* annually to the management fund. These are the whole of the liabilities; and I may state, as showing the very light nature generally of the demands on members, that the payments to sick members during the present financial year have amounted to £30 11*s.* 8*d.*, this being met by deducting only 2*s.* 6*d.* from those members who contribute 26*s.* a year, thus leaving £1 3*s.* 6*d.* of their subscriptions to be added to their deposit account. After attaining seventy years of age the member ceases to pay into the sick fund at all, and he is provided for by the benevolent fund. The society has been established twenty-two years, and the sum of £4,200 is invested in Consols, and is the property of the members, each member's share being debited to him in a separate account. He concluded by saying that there could be no question respecting the advantages of such a society, and he had great pleasure in proposing its continued success.

In replying, Mr. N. Cole briefly traced the progress of the society, and referred to the valuable assistance Mr. J. Wright had rendered in making it so widely known, which had led to a large increase in the number of members. "Success to Kindred Societies" was proposed by Mr. H. J. Veitch, who remarked that he was not prepared to furnish the meeting with such important statistics as the chairman had done, but he could say that he was sure the kindred societies might and ought to help one another. As an example he stated that within a few months of the death of Mr. McElroy, the late secretary of the United Horticultural Benefit Society, the committee of the Gardeners' Royal Benevolent Institution was able to place the widow on the funds as a pensioner. The toast was associated with the names of Mr. Cutler and Mr. G. Deal, who responded. The "Honorary Members," was proposed by Mr. Hudson (the treasurer), coupled with the names of Mr. J. Laing and Mr. W. Paul, who replied. Responding to the "Health of the Chairman," proposed by Mr. Sherwood, Dr. Hogg observed that his sympathies were always with gardeners and gardening.

In proposing the next toast, "The Trustees, Committee, and other Officers of the Society," Mr. J. Wright said the United Horticultural Benefit and Provident Society was started by gardeners for gardeners, and its directorate consisted wholly of gardeners—the trustees, Messrs. G. & J. Wheeler and J. George; the treasurer, Mr. J. Hudson; and secretary, Mr. W. Collins, all being well-to-do members of the craft, men of high character, shrewd, practical, business men, who had steered a safe course, which was all-important. The committee might, and no doubt would, have gone ahead faster but for the stringency of the rules leaving them practically without an administrative fund. The fundamental difference between this and ordinary benefit societies was forcibly stated to him a few years since by Mr. George Baker, late gardener at Coombe Cottage, Kingston-on-Thames, and now of Membland Hall, Ivybridge, Devon, to whom the society was much indebted for its success, and who was its treasurer for many years. "I have paid," observed Mr. Baker, "7*d.* a week into the Odd Fellows (or Foresters, he forgot which), since I was eighteen years of age, and I am now fifty. I had, fortunately, had nothing out in that time, and if I go on paying all my life there will be £12 at my death." And then he continued—"I have paid 1*d.* a week less into our Gardeners' society for seventeen years, and now have nearly £40 to my credit, and if I continue paying as long as I paid into the other I shall have £100. This is £100 if alive at seventy, against £12 at death, and 1*d.* a week more paid for the latter privilege than the former! Mr. J. Wheeler (trustee) and Mr. Chard (committee) replied briefly, and Mr. W. Collins (secretary) remarked that before the proceedings commenced Dr. Hogg had handed him a cheque for £10, and Mr. Sherwood had signified his intention of becoming a life member. They had now 207 benefit members and thirty honorary members, the numbers steadily increasing. He mentioned several cases in which the funds had been employed with considerable advantage to the members or their nominees, and he added that at the present time they had no sick members on their list. The chairman proposed the health of Mr. H. J. Veitch, their vice-chairman, and Mr. Veitch, after replying, proposed the next toast, "The Health of the Visitors," coupled with the name of Mr. Baker, who briefly responded. Mr. W. Paul proposed the "Horticultural Press," which was replied to by Mr. B. Wynne; and Mr. Nutting moved that the best thanks of the meeting be given to Messrs. Williams, Laing, Cannell, Chard, Thomson, and others, who had contributed so liberally to the beautiful array of flowers and fruit provided, and the proposition was carried with acclamation. Dr. Hogg then tendered the thanks of the meeting to Miss Mary Belval and her musical friends for their delightful contribution to the pleasure of the evening, and the proceedings terminated shortly before 10 p.m.

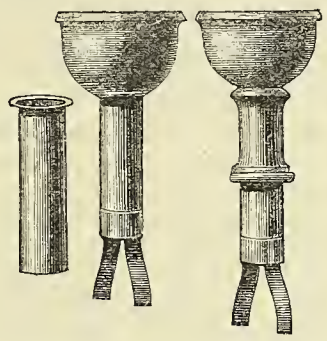
CHRYSANTHEMUM NOTES.

New Chrysanthemum, Doreé.

This is a Japanese variety, of a clear or bright yellow colour, and of great merit at this early time of the year for this section of the Chrysanthemum. The flower heads are about 6 ins. in diameter, having spreading and somewhat twisted florets, with revolute margins. It was awarded a First Class Certificate by the Floral Committee of the National Chrysanthemum Society, at the Aquarium, Westminster, on Wednesday, the 10th of October. Exhibited by Messrs. W. & G. Drover, Fareham, Hants.

A New Flower Tube.

Exhibitors will soon be looking out and putting in order their stands, boxes and tubes in readiness for the coming contests, so that this is an opportune time for directing attention to a new form of tube invented and patented by Mr. Lindsay, Otterspool Gardens, Liverpool, and which the Messrs. Cannell, of Swanley, are bringing into public notice. The nature of the invention is well shown in the accompanying illustration, and it ought to prove a really useful article, inasmuch as that



Lindsay's Chrysanthemum Tube.

in the easiest possible manner a stand of flowers can be arranged with the greatest nicety to any desired height.

September Flowers.

A week or two since Mr. Francis Mead called attention to flowers of Simon Délaux, Mons. Wm. Holmes and Mons. Freeman, mentioned in a report of the National Chrysanthemum Society's show of early varieties at the Royal Aquarium, and suggested that some specific treatment induced these flowers to put in an appearance at this period; but I doubt if there is any special treatment by the use of which one could rely upon having these varieties in bloom for another September show. It is like the "hen and chicken" buds we sometimes see—there is no accounting for them. I distinctly remember seeing two out of these three varieties at the show, and poor samples they were as compared with the grand blooms we are now having of them. Mons. Wm. Holmes is not a September flower, but is to be seen at its best about October 20th. It is a plant of a grand colour, and one that should be in every collection, however small. Mons. Freeman is a very dwarf grower, and blooms about the same time as Mons. Wm. Holmes, and it is only by accident that these plants come in time for the September show. Mr. Geo. Stevens, of Putney, has a lot of both these varieties just opening. I would recommend Mr. Mead, if he desires a good deep yellow, to secure, at the first opportunity, plants of the new sport, Mrs. Hawkins, certificated in September. At that meeting it was pronounced by all to be a grand flower.—*A Grower.*

Golden La Petite Marie.

Your correspondent, "A Country Mummer" (p. 83) will find the Golden La Petite Marie a most valuable addition to early-flowering Chrysanthemums. It is similar in all details to the white form from which it is a sport, differing only in the colour of the flowers, which are of a beautiful golden yellow. Have any of your correspondents tried this plant for bedding purposes? I am sure it would make a first-class subject for ribbon borders. With us this season it was in flower before the Calceolarias, and has been covered with bloom ever since. The heavy rains seemed to have no effect upon it, whereas the Calceolarias presented a miserable appearance. We find La Petite Marie to lift well from the open, and we get stronger cuttings from them than from those grown on in pots. Hermine is another miniature variety, of recent introduction. It is very similar to the La Petite Marie, but of a purer white; it is very early and free. I enclose you some blooms of the golden La Petite Marie, which have withstood several hard frosts—on one occasion 10°.—*J. C. B., Kelso.*

Propagating the Early Varieties.

Will you allow me to ask Mr. Witty through your columns if he will oblige me by saying what month he takes cuttings of Simon Délaux and Lyon to have them in bloom in September? I can never get them in flower till the end of October, and should be so very glad to have them earlier. The early Chrysanthemums are such great favourites of mine that I want all the best ones I can obtain, as they make the garden gay when other flowers are over, and the cut blooms last so long in water.—*L. H.*

La Petite Marie.

Your correspondent, "A Country Mummer," complains that his cuttings of this variety are always very small, but it is the nature of the sort; still, with a little care these small cuttings will make good plants without putting five in a pot. My plan is to lift a few plants from the border when they have finished blooming, and, as a rule, I have succeeded in getting better cuttings than when I bloomed them in 48-size pots in the house; and as there are plenty of other good things for indoor decoration at the time this plant is in bloom, I only use them for the borders. I have never tried lifting them when in bloom, but I doubt if they would suffer much if lifted when in bud, and treated in the same manner as many thousands of plants are treated that are sold in 48-size pots in our London markets Although I say in the same manner, I would add, but a trifle more kindly than market plants. The only variety as diminutive as this plant is the sport Golden La Petite Marie. If your correspondent wants a good yellow summer bloomer let him try Golden Fleece; it is a bright yellow, growing about 2 ft. high, and blooms out in the open from July until the frost cuts it down. Flora is also a very useful free yellow, but it is not early. This is one of the unfortunate class with three names, viz., Flora, Late Flora, and Yellow Perfection.—*Practical.*

Both this, which is pure white, and the Yellow Petite Marie should always be grown where summer and early autumn-flowering Chrysanthemums are cultivated, whether for pot-work solely or for growing out of doors as well. Indeed, for the latter purpose it is admirably adapted, although some complain of its being difficult to grow. It succeeds very well with Messrs. R. B. Laird & Sons, at their Pinkhill Nursery, Edinburgh, where a quantity of it is planted in an open border every season. Last year with the dry weather the two kinds formed one sheet of white and yellow bloom respectively, while the stems did not exceed 6 ins. in height. With the wet of the past summer they have grown 6 ins. or 8 ins. high; but were flowering equally profusely on the occasion of our recent visit.—*F.*

The National Chrysanthemum Society.

The Floral Committee at the Aquarium on Wednesday, October 10th, had a very easy time of it. Only one Certificate was awarded, the fortunate flower being a bright yellow Japanese, with slightly drooping florets, named Doreé; the blooms shown by Messrs. W. & G. Drover, although somewhat early, have the making of a good flower, and I shall hope to see it on the exhibition board next year. We can always do with good yellow flowers. Mr. Molyneux sent for inspection two grand flowers of Edwin Molyneux, confirming the Certificate awarded this excellent addition to our list of top-row Japs. Mr. R. Owen, of Maidenhead, exhibited a board of new varieties, amongst them being M. Levêque, said to be a sport from James Salter of a somewhat darker shade, with straight broad petals; Sam Henshaw, very similar to M. Freeman; and a new incurved named George Addison, sent out by Mons. Reydellet, a small compact flower after the style of Lady Talfourd, but somewhat darker in colour.

At the general meeting of the society, held on Monday last, the business was light. No less than sixty-one new members and two Fellows were elected, bringing the total roll up to 573. The secretary reported that £70 had been paid for prizes at the September show. Mr. C. H. Payne, hon. secretary of the Catalogue Committee, reported to the meeting upon the work which was now in the hands of the members, and a resolution, proposed by Mr. Holmes, was unanimously carried, expressing to Mr. C. H. Payne, Mr. George Gordon, and Mr. Lewis Castle the thanks of the society for the very able way in which they had turned out the 1888 Catalogue, and awarding to each of those gentlemen a Silver Medal, suitably inscribed with the thanks of the society.

GARDENING NOTES FROM IRELAND.

DRUMARTIN.

THIS is the suburban residence of the present High Sheriff of the City of Dublin, — Winstanley, Esq., and is at no great distance from the railway station at Dundrum, on the Dublin and Wicklow Railway. The grounds are well situated, and command views of some fine scenery, glimpses of which are obtained from various standpoints in the vicinity. At present the place seems to be undergoing some alterations, all of which will no doubt have the effect of giving an improved appearance to the place by-and-bye.

ROSES.

THERE is a fine collection of outdoor Roses here, and if proof of what a little shelter will do to preserve tender flowers and plants from the evil effects of 8° or 10° of frost were needed, here it is supplied. In a border well sheltered by a close-cut hedge and some low shrubs in front are planted some fine healthy standards, and many of them are still bearing some good uninjured blooms, one plant of Souvenir de la Malmaison carrying a remarkably fine lot of open flowers and buds. In other places I have visited since the late frost, I saw Rose blooms and buds all destroyed, the situation being in all cases rather exposed. As a standard, Gloire de Dijon was also in fine form, and again as trained plants over arched trellis-work. The foliage and flowers of this Rose were remarkably fresh and healthy. For early cutting there is a large stock kept of Hydrangeas, Spiræas, Deutzias, &c., and they are now in a forward state of preparation. Independent of these, quantities of bulbs are grown, as well as Lily of the Valley.

THE PLANT AND FRUIT HOUSES.

THESE are all of recent construction, and are of lean-to, quarter-span, or whole-span form. The lean-to structures are devoted to Peach and Vine growing, while those of the span pattern contain flowering plants only. The Peach house contains three grand trees, the sorts being Royal George, Noblesse, and Lord Palmerston. A pretty good estimate may be formed of the health and vigour of these trees when it is stated that notwithstanding they have been allowed to yield heavy crops, individual fruits have been frequently taken that weighed 12 ozs. The Vines planted in an inside border are Black Hamburghs, and are growing vigorously. One of the plant houses has a plant of Tacsonia trained across the roof, and must present a fine appearance when in flower. The plant at first sight looks like a Vine, the stems being as thick as walking canes, and the pruning done on the "spurring" system. In this house also was a fine collection of zonal Pelargoniums, all stout healthy plants and profusely bloomed, and which will, no doubt, contribute their share of cut blooms through the winter. The lot is made up of some of the best known old sorts of doubles and singles, as well as some of the newest ones sent out by Messrs. Henry Cannell & Sons, of the Swanley Nurseries. As some of these are very fine I will give the names of a few. Amongst the doubles there are Madame Leon Delloy, peach colour; Goldfinder, scarlet; Blanche Perfecta, white; Swanley White; and Golden Crown, scarlet. Amongst the singles were Lady Rosebery, deep salmon; Improved Queen of Whites; Cissy, very deep salmon; Lord Churchill, mulberry; Improved Jealousy; President Leon Simon; Edouard Pailleron, with salmon-coloured flowers in the centre, and the edges blotched with white; International, white; and Alsace Lorraine, scarlet. All of these were carrying trusses of remarkable size and good form, and as they are only commencing to bloom now, are sure to give a lot of cut flowers during the coming winter. In another large house there was a good miscellaneous collection of plants, including Camellias, Azaleas, &c., and very fine lots of Cinerarias and Calceolarias.

THE FERNERY.

THIS is a very handsome structure, and contains numerous plants of Ferns and Begonias, all in a robust state of growth. The walls all round are a mass of Fern and Begonia foliage, of many colours, while projecting from it at intervals are large clumps of a very strong-growing bronze Begonia, known here under the name of William Dodd. On the ground and along the base of the walls there are numerous tastefully arranged pieces of rockwork, growing among which are plants of Davallia canariensis, Osmunda regalis, Asplenium falcatum, and many others. The roof, which is glazed with large alternate squares of blue and white coloured glass, has a very good effect, and this is further heightened by the trailing and mingled growth of plants of Tacsonia Van Volxemii and Tradescantias hanging from the roof. The arranging and planting of this fernery reflects much credit on the gardener, Mr. Donnelly, under whose able superintendence it has developed into one of the most pleasing features of the place.

ANNUALS.

EVEN such a tender thing as Phlox Drummondii was standing out here in perfection, and there was quite a profusion of French and African Marigolds, many fine flowers of the latter being fit for exhibition even now. Elsewhere I have seen these quite destroyed by the late frosts, but the situations were low, and this one is so high and dry that the Vartry water supply cannot reach it.

PASSIFLORA CŒRULEA.

REGARDING Mr. Murphy's note on this plant, where he refers to its growth by Lady Wilde, in Dublin, I would like to say that a large plant of it I saw growing in the neighbourhood of Rathmines last year, not only produced large quantities of fruit, but ripened them to perfection. The plant was growing full south in front of a dwelling-house. I was given a couple of the fruits when ripe, and having sown them last March in pots, in a cold frame, they came up as free as grass seeds. The plant I refer to was very much admired, both in flower and fruit, and I believe there were many applications for seeds. It may be taken for granted that it was owing to the very warm dry summer of last year that so many fruits ripened, but I think the same result might be had in ordinary years, if planted in good positions in any of the southern counties of Ireland.—*W. D.*

PROFITABLE FRUIT FARMING—MAINLY GOOSEBERRIES.*

A POINT that I have observed at these meetings is a tendency to concentrate attention mainly on fruit-bearing "trees," such as Apples, Plums, and Pears. The importance of those crops—especially, perhaps, the two former—is admitted; and without suggesting that too much attention has been devoted to them, the fact remains that little or nothing has been advanced on the smaller but not less useful, and under certain conditions not less profitable, bush fruits—Currants and Gooseberries. It is to a successful example of growing the latter that I will chiefly direct attention now. Having been credibly informed that Gooseberries were grown in the fens of Lincolnshire on an extensive scale and with great success pecuniarily—that the bushes were so large that twenty or thirty women could work amongst them without being seen, and that fruit was sent away in tons by rail to London as well as to cities and towns in the north, I thought I would endeavour to see for myself this fruit plantation on a level with the sea, and very few miles from it—a district exposed to the full sweep of the east winds in spring that are often so disastrous to fruit blossom in more or less sheltered inland localities.

A somewhat lengthened experience with fruits—first as a cultivator or worker amongst them for a quarter of a century, and subsequently as an inspector of the work of others in different counties—I never hesitate to journey a hundred or more miles for the purpose of verifying a statement, even though I may be convinced of its truth at the outset. I am a strong believer in accomplished facts, and have a weakness for seeing them. Now and then some of the actualities of culture impress me, and a desire arises to impress the examples on others (who may not have opportunities for a personal examination) in the hope that the recital may possibly be of slight service to persons who have land at disposal, and desire to cultivate it profitably.

APPLES AND OSIERS.

The combinations in culture that have impressed me during the past few weeks are Gooseberries, with Apples, Pears, and Plums in Lincolnshire, and Apples and Osiers in Nottinghamshire. Some Apples in the show to-day of Bramley's Seedling, remind me of large orchards of it with their undergrowth of Osiers. When you see, say twenty acres of Osiers, 6 ft. or 7 ft. high, and standard Apples growing amongst them, their heads, as it were, resting on the Osiers, and stems invisible, and both Apples and Osiers growing in the most satisfactory manner as if they took different food out of the soil, as perhaps they do; when you see that, I say, as it may be seen near Southwell, I think you will not forget it, and when you learn that the land so occupied has increased in value from £25 to £100 an acre in half a dozen years, some of you would perhaps not object to have a share in the little enterprise. This, however, is digression, and as more will certainly be heard about this Apple and Osier culture, and as information can be obtained any day from Mr. Henry Merryweather, we will pass on to

THE GOOSEBERRIES AT PINCHBECK.

Those to be referred to are at Pinchbeck, a large parish of 11,000 acres as level as the sea, the soil of medium texture, yet free working, alluvial, probably rich in phosphate, as old sea beds usually are, and resting on—well, apparently on water, for, judging by the dividing ditches, the water table appears to be within 3 ft. from the surface. Authorities tell us Gooseberries like a dry sub-soil. Perhaps they do, for they are very good natured, and are certainly quite content to thrive on a wet one in the Fens. The plantation in question is the property of Mr. Charles Parker, a farmer of 200 or 300 acres. I do not know whether he owns the whole of it or not, but hope he does. Be that as it may, the portion under fruit culture, with the well-appointed homestead he has built, is his freehold, the reward of his industry, good management, and enterprise. He is one of those men of whom we ought to be proud in these days, for he makes land pay that is not under fruit culture, though this would be extended if he could make sure of a sufficiency of labour for gathering the crops. What a contrast is here to what obtains in many districts, where men and women are longing for labour and longing in vain. Mr. Parker employs five times more workpeople on his little farm than hundreds of farmers they do who have five times more land than he has, and grumble at "bad times," while he smokes his pipe in contentment at work well done, and rest well deserved.

I have said he makes land pay that is not under fruit. An instance will suffice. A fine piece of Mangolds, pointed out as showing the superiority of a mixture of sulphate of ammonia and superphosphate over bonemeal, the same in value being applied on different portions of the field. "But," remarked the owner, "the Mangolds are only a second crop." "A second crop!" I repeated, parrot-like, and in surprise. "Yes," was the quiet rejoinder, "I made £200 out of the plot this year before the Mangolds were sown." That was a poser to me, as the land would not exceed 4 acres. But what was the wonderful crop? It is a very simple one that you are all familiar with, so I think I will leave you to work it out. Why not? Mr. Parker did, and no one told him; and besides, I think I ought to have his permission before making it known to the world. I have no such reservation about the Gooseberries, they are Crown Bobs, and such bushes of the good old variety as I have never seen elsewhere. Instead of twenty or thirty women working amongst them without being seen gathering the fruit, a hundred might have been so engaged, yet invisible. Several of the bushes were as high as I am, some higher, and all much farther round, while when laden with fruit a few of them may have been nearly as heavy, but perhaps not quite. The yield varies from 30 to 40 tons, and this year the price obtained was £10 a ton. It is considerably lower than that when the crops are heavy everywhere. The culture is very profitable, more so, perhaps, and more quickly than any under crop that can be grown in orchards, and more so, also, taking one year with another, than the fruit crops above them of Apples, Pears, and Plums, though when all are good alike, as occurs occasionally, they realise a little fortune; but the top crops fail at least every alternate year, and sometimes more frequently, the bottom crops seldom.

The Gooseberries are gathered as soon as they are large enough for use, and are cleared off as quickly as possible, and are sent off in 1 cwt. hampers by the Great Eastern Railway southwards, and the joint Great Northern in the other direction, Pinchbeck Station being within a mile from the grounds. Several varieties of Gooseberries have been tried, including the celebrated Whinham's Industry, that is so good in many places, also Whitesmith, this and Lancashire Lad being favourites with many market growers, but

"OLD BOB" HOLDS THE FIELD.

in the Fens, and invariably drives all competitors out of it sooner or later. It has also driven out Currants, both red and black, in bringing more grist to the mill than they did, and that, and that alone, is the test of merit. There is no charm in names and outside reputations with growers like Mr. Parker. That which pays best is retained and increased, the relatively inferior, or less lucrative, being removed, no matter whence they came or what they are called. The bushes are grown on clean single stems raised from

* A paper read by Mr. J. Wright at the Crystal Palace Fruit Conference, October 11th.

disbudded cuttings on the premises. Several used to be sold, but only about 10,000 a year are now disposed of to friends and neighbours. Cuttings inserted with all their buds, resulting in a mass of suckers, as is not uncommon in some parts of Kent, would not be tolerated. They are regarded by Mr. Parker not only as slovenly, which they are, but relatively inferior in productiveness to those grown on clean stems.

Pruning is mainly confined to thinning out any shoots or branches that, if left, would impede the work of clearing the crops. There is no systematic spurring, or of shortening the terminal growths at a prescribed number of inches, but possibly the ends of any that project far beyond the rest are snipped off, for the bushes are not entirely wanting in symmetry. They are creditable in appearance, regarding them from a gardener's standard, but are essentially fruit and money producers, and in this most important respect answer their purpose well.

"Top" Fruits.

A few words may be added on "top" fruit, in order to complete the description of this simple yet profitable fruit garden. It has been said that Apples, Pears, and Plums are grown. These were planted amongst Gooseberries, or the Gooseberries planted amongst them; I cannot tell which, nor does it matter, because in present routine the removal of both is constantly going on. When trees show signs of failure they are either grafted or uprooted, and old bushes give place to new ones when the desirability arises.

The larger trees are planted, as a rule, about 6 yards apart, which suffices for Plums and early Codlin Apples, but not for later Apples of spreading growth. Generally three rows of Gooseberries are grown between each two rows of trees, a few bushes at about 6 ft. apart also being planted in lines with the trees.

No Pears are grown in bulk besides the Hessle, which is one of the hardiest, tallest and freest growers, and an abundant bearer, and is well adapted for exposed and cold districts. It is not unusual to gather a hundred pecks from a tree, and there is no difficulty in disposing of all that can be grown. The fruit is neither large nor very handsome, but the crops "pay" well.

Of Plums reliance is placed on Victoria, because the trees always bear, and the fruit always sells. It is the Plum of Plums for northern orchards, and the branches do not break when lopped in occasionally, the trees then making closer heads than is natural to the variety. Treated in that simple way, props, that are so numerous in some orchards, are dispensed with.

Apples are by far the most extensively grown as "top" fruit, but though trees are numerous, varieties are limited. Keswick Codlin has been long grown, but this and all others of the type are being superseded by the Domino, which grows and bears well in a young state, giving quick returns, the fruit being ready as soon as the Keswick, while it is larger, darker in colour, heavier, and keeps longer. This Apple is spreading and will spread. A variety not often seen in the south, the Sleeping Beauty, is grown because of its productiveness, but the fruit is not large, and the variety is not likely to be greatly increased. Jenning's Seedling, a local Apple, is bearing more heavily than any other, and the fruit being of good size is in demand in the markets. Portions of clean branches of three or four years' growth, cut into lengths of 3 ft. or so and firmly inserted in the ground, make fine trees of upright growth. Some of them 20 ft. or 30 ft. high were crowded with excellent fruit. Dumelow's Seedling has been extensively planted, and for a long time was relied on for late use and was very profitable, but of late years trees of it, old and young, have entirely failed to give satisfaction. They have assumed a sickly appearance from some unknown cause, and this once favourite Apple is "done for" in the district. Its place is being taken by

The Nottinghamshire Apple,

Bramley's Seedling. Trees planted twelve or fifteen years are models, strong yet sturdy in growth, with dark green leaves and clusters of large glossy green, red-flushed fruits of great weight, and which command the top price in the market. This is essentially an orchard Apple that is bound to spread. The trees appear to be intermediate in character between Dumelow's Seedling (also known as Normanton Wonder and Wellington) and Blenheim Orange, and I should not be surprised if those are the parents. It seems to combine the vigour of the latter with the free-spurring character of the former. I have seen 50,000 trees of Bramley's Seedling during the past month, and one bearing a crop for which the owner would not take £5 and be relieved of the gathering. A writer in an evening paper, the *Echo*, alludes to a tree bearing £10 worth of fruit. I have not seen such a mountain of gold, but I have seen upwards of 50 pecks of 18 lbs. on a tree that can be sold any day for 2*s*. a peck. It is well to see what is going on in the east and north, and to take note of varieties. One I have been told will even outlive Bramley's Seedling, and this is Pearson's (of Chilwell) New Northern Greening. I have seen two-year-old trees of this bearing freely fruits which for symmetry and solidity could not be surpassed. It is a long keeper, worthy of attention, and has undoubtedly a long career of usefulness before it; but as to its surviving its compeer, I feel sure that no person living will witness the end of either, so the question of "durability" must be left to be settled by succeeding generations.

The fashion at present is to plant Apple trees closely together on Paradise stocks for early bearing. Undoubtedly that is the way to get the most Apples in the least time, but I have yet to be convinced, taking into account first cost and after labour (with the contingencies of seasons) that a combination of orchard Apples and Plums, with an undergrowth of Gooseberries, will not give an equally good return to a large number of cultivators not skilled in pinching and pruning, but who may yet send the best of fruit, "top," "bottom," or both, in large bulk to the markets after the manner of the intelligent and thrifty Fen farmer at Pinchbeck.

NOTES ON VEGETABLES.

Beet, Downie's Superb Blood Red.

This variety has proved exceptionally good with us this season. We had a packet of seed in spring, which we sowed side by side with Frisby's Excelsior, Nuttiug's Selected, and Cattell's Dwarf Crimson, so that its qualities would be fairly tested with these well-known varieties, and it has proved itself superior in quality to any of them. The foliage is dwarfish, regular in growth, and dark crimson in colour; while the root is of medium size, well shaped, deep rich crimson in colour, and excellent in flavour when cooked.—*William Little, Kinmouth Gardens, N.B.*

The Goldfinder Pea.

On p. 103 I note "A Grower's" remarks respecting Goldfinder Pea, and would like to say that it is very popular in this part; but the reason it has not appeared in most catalogues is simply because it is not a new variety, only a new name. This season I made a trial of Peas, consisting of over sixty varieties, and among them were Goldfinder, Perfect Marrow, Exhibition Marrow, and Bruce Findlay, all of which are simply good stocks of the old Ne Plus Ultra. If I prefer one to any other, I would name Perfect Marrow, it being a trifle larger than the others, but a good stock of the favourite (Ne Plus Ultra) will contain all the varieties mentioned.—*Exmouth.*

New Varieties of Potatos.

In the spring I planted two "new" sorts, viz., Carter's Surprise and Carter's King of the Russetts, with the result that the former turns out to be "The Cobbler," and the latter "Adirondack," a variety I have been growing for the past eight years. Both of these were awarded First Class Certificates by the R. H. S., 1886, "after a thorough test in the society's experimental gardens." Both varieties were grown side by side with the sorts named as identical.—*W. S.* [Is there not some error here?—Ed.]

NOTES FROM SCOTLAND.

A Holiday Trip to Scotland *(concluded from p. 99).*—Leaving the Tweed Vineyards we turned our faces towards Edinburgh, the centre of horticulture in Scotland, and our first call was at

Salisbury Green,

The residence of Mrs. Nelson. Since our last visit many improvements have been, and are still being made; adjoining property has been purchased, and is being laid out and connected with the already extensive (for a town residence) grounds. Our inspection of the houses also showed that the same steady progress is being maintained by Mr. Laing, under whose able management the houses, gardens, and pleasure grounds have been entirely remodelled. The Orchid collection has increased greatly of late, and in point of health and cleanliness it is all that could be desired. On entering the cool-growing department one is struck with the gigantic specimens of Cœlogyne cristata, not only on account of the size of the plants but of the bulbs also. It may be of interest to those who advocate the occasional breaking up of this variety as conducive to its well-being, to know that the plants in question have not been potted for more than six years, and the bulbs they are now maturing are larger than any of the previous ones. The compost used at the last potting was fibrous peat, sphagnum moss, and cow manure, the latter dried and broken almost to a powder. In this department plants in flower comprised Odontoglossum crispum, O. maculatum, O. pulchellum majus, O. Uro-Skinneri, Masdevallia Lindeni, M. ignea, M. i. militaris, M. Veitchii, and M. V. grandiflora. Amongst the warmer-growing species there was much to interest and admire; a small plant of Renanthera (Vanda) Lowii, with two spikes of flowers, was a conspicuous object, the largest spike having thirty-two flowers, the other twenty-two. The most remarkable thing about this species is having dissimilar flowers on one spike; in most cases the first two differ from the others, but in this case the first three are alike, of a dull yellow, spotted with crimson, while the remainder are of a greenish yellow, and heavily blotched with dark brown. Some growers recommend cool treatment as bringing about the best results, but here it is grown in a rather warm moist stove, which would agree with what travellers tell us it requires, its native haunts being the humid forests of Borneo. In close company with the foregoing was a fine plant of the true Angræcum Ellisii, with a spike of its lovely white flowers, 2 ft. long; here also Cypripedium niveum, C. concolor and C. Godefroyæ were at home and in a state of health seldom seen in this class.

Cattleyas in flower were represented by C. Gaskelliana, C. Leopoldii, C. Eldorado, in company with the neat Lælia xauthina, and others. A Cattleya Triauæ about 1 yard across, haviug twenty leading growths, was much admired. Although Orchids get a large share of attention other things are not overlooked. Mr. Laing is very successful with Pitcher plants, of which he has a good collection. Grapes, Peaches, and Nectarines are also well done, and the establishment as a whole speaks volumes for the skill that is brought to bear on each department. Although time was rather limited we could not miss the opportunity of looking in at

Oswald House,

The beautifully-situated residence of J. Buchanan, Esq. Here also extra houses have lately been erected, to provide accommodation for the continual increase in the collection of Orchids, a fine span-roofed Cattleya and Lælia house being the latest addition. This latter is already filled to overflowing, principally with the larger specimens, and some noble examples of high cultivation it contains, such as Lælia purpurata, close upon 4 ft. through, and an equally large L. elegans, with nine spikes of flowers open, had a good effect. Cattleyas were also represented by some large masses, C. crispa Buchananiana being of special merit. Amongst others in flower was the highest-coloured form of C. exoniensis I have seen, the lip being of a dazzling purple, and the plant a fine healthy piece of fourteen bulbs and three leads. C. Gaskelliana, C. Eldorado Wallacei, and C. Harrisonianum also added to the show.

Amongst the numerous Cypripediums was one of C. Stonei, not less than 3 ft. through, and in excellent condition. Vandas are always a notable feature at this place. Amongst others in flower was a noble plant of V. suavis, Manchester variety, having twenty-seven pairs of leaves on one stem. This variety finds special favour with Mr. Grossart, Mr. Buchanan's head gardener. There are several establishments in the north where I have met with plants bearing the name "Manchester var.," but I have always failed to draw the line between them and the one more generally known as V. suavis, Veitch's variety. Several others were represented by large plants, especially V. tricolor, including Dr. Paterson's and Dalkeith varieties. Ferns are another great speciality at this place, and some gigantic plants are amongst the collection. One notable piece is Davallia Fijiensis plumosus, being 5 ft. across, and stronger-growing species are even more than that. Adiantum amabilis had fronds 4 ft. in length. On examining the Challenge Cup of the Royal Caledonian Horticultural Society given for six specimen exotic Ferns, the number of successive times Mr. Grossart's name is inscribed thereon demonstrates in a marked degree that the specimens from Oswald House are formidable opponents on the exhibition table.

With a hurried visit to the Great Exhibition in the western metropolis, a most enjoyable and instructive holiday was brought to a close. Although the industries here represented are legion, the art of the landscape gardener has added its quota of attraction in no small degree to the five millions of visitors who have passed the turnstiles since it opened in May; and visitors in quest of horticultural objects will find much to instruct them in the court set apart for that section.—*R. C. Fraser.*

FLORICULTURE.

Split Pods.

I AM pleased to hear through my old friend Mr. Dodwell that Carnation Mrs. Reynolds Hole did not burst its calyx with him. In addition to my own experience, a Carnation-growing friend, writing a few weeks ago, made the same complaint, and said that in almost every case his flowers had split pods. I hope that it is an accidental defect, and after Mr. Dodwell's statement would fain believe it is so. I take a great interest in this flower, because it was mainly through my exertion that a Certificate of Merit was given to it at Manchester, in 1886; and at my suggestion it was named by the present Dean of Rochester after his wife. It is a little unfortunate that it should bear two other names, for it is known as Gravetye Gem, under which designation it was certificated by the Floral Committee of the Royal Horticultural Society, and it was subsequently figured in *The Garden*, and re-named Apricot. This seriously complicates matters, and leads to confusion. I cannot follow Mr. Dodwell into the region of poetic sentiment, and term a Carnation with a split pod, "a veritable cascade of glowing colour." Such blooms, always loose, ragged, and irregular, resemble rather to me a kind of floral lunacy or inebriation, and I dislike them for decorative purposes; but my old friend and myself know and appreciate each other too well to wrangle, and he will not esteem me any the less for controverting his conclusion.—*R. D.*

Carnation Germania.

THOSE who have described this as a winter-flowering variety are, after all, not far wrong. Two of my plants that bloomed in the summer are throwing up flowering stems, and so bloom can be had at Christmas or soon after, also. In this respect it seems to be very accommodating. When I had taken the rooted layers from the plants, I turned them out of the pots, shook some of the soil from the roots, placed them in smaller pots, and added some fresh soil round the balls; the result is that they are making a free growth from the dead wood, and the young shoots so produced will no doubt flower next season. I look upon this as one of the most valuable varieties of yellow Carnations which can be grown for cutting from, and I should not be surprised if, when it is better known, it quite displaces Pride of Penshurst for general cutting purposes.—*R. D.*

Decorative Dahlias.

A SELECTION of the best twelve varieties for cutting should consist of Cochineal, rich shaded crimson, excellent habit; Charming Bride, white, tipped with soft lilac pink, very pretty and distinct, but the flowers are so much hidden by the foliage; Empress of India, crimson, shaded with maroon, excellent habit; Flambeau, very bright scarlet, shaded with orange, remarkably free, and excellent habit; Glare of the Garden, scarlet, an abundant bloomer, and good habit; Henry Patrick, pure white, the best in fact; Juarezii, intense scarlet; Lady Kerrison, amber-yellow, edged with crimson, very distinct and good habit; Lady M. Marsham, of the type of Juarezii, but of a pale salmon-red colour; Mrs. Hawkins, sulphur-yellow and rose, very free, but bad habit; Prince Alexander, fawn, shading to salmon; and William Pearse, bright golden yellow. This is the selection I should grow for bunching, but if it were necessary to reduce the number to nine varieties, then I should leave out Glare of the Garden, Lady M. Marsham, and Prince Alexander. Glare of the Garden is certainly very free and useful, but I look upon it as being distanced by Turner's Flambeau.—*R. D.*

LOBELIA CARDINALIS AND HYBRIDS.

I QUITE agree with your correspondent, Mr. Muir (p. 88), that these plants do not like to be kept dry at the roots. With us, north of the Tweed, it is not safe to leave them out in the open all the winter, even with protection, as many of the plants die off. As soon as they are killed down, we lift them with good balls of soil attached, and place them in boxes, which are kept in frames all the winter, never allowing the soil to become dry.

In spring, when the young growths are about 2 ins. long, we divide them into single crowns, securing a few roots to each, and insert them in boxes about 3 ins. apart. When the young plants are well rooted and hardened off, we place them in an open situation on well-manured land, administering copious waterings during dry weather. From plants treated in this way many of the hybrid varieties attain a height of 4½ ft. and 5 ft., branched down to the ground. By placing two or three plants together of a sort at intervals in herbaceous borders, they make a fine show during the autumn months. How seldom one sees a collection of these Lobelias in private establishments!

The following hybrid varieties, obtained from L. cardinalis and L. syphilitica, are worthy of extensive cultivation—namely: Amethyst, blue; Apollo, rosy purple; Challenger, rosy purple, free; Don Juan, mauve-purple; Etna, purple-crimson; Jupiter, rose-purple; Mizza, magenta, large flower, fine; Neptune, ruby-scarlet, dark foliage; Orion, crimson-scarlet, very fine; Purple Emperor, deep rose-purple; Queen Victoria, vermilion, dark foliage, fine; Queen of Whites, white; Stromboli, magenta; Sunrise, cherry, large flower, fine; and Vesta, magenta, fine.—*J. C. B., Kelso.*

[Our correspondent obligingly sends a box containing twelve of these named varieties, all of which are very interesting, especially considering it is so late in the season, and hardy plants in general have been ruthlessly killed down, except in the most favourable positions. We noticed a long line of Lobelia splendens Queen Victoria some 200 miles farther north the other week, which was equally late, if not later, but very healthy. Amongst the red, crimson, or scarlet kinds in the collection sent us, Orion, Mizza, Neptune, and Queen Victoria are brilliant and showy sorts. Neptune has dark foliage, but not so lustrous or crimson a black as is Queen Victoria, which we still consider is the best of the varieties in cultivation. It is a form of L. splendens. It is not clear whether L. fulgens has been used as a parent; but it is certainly a grand thing, differing from L. splendens in having pubescent stems and reddish leaves. The flowers are quite equal in size and colour, however, to those of L. splendens. Purple Emperor, Don Juan, and Sunrise are splendid violet-blue or purple kinds, the last named being the most robust, with thicker stems, larger leaves, thicker flower-tubes, and very large calyx segments.—ED.]

THE FAREHAM NURSERIES.

THE nurseries of Messrs. W. & G. Drover have within the past few years become widely known amongst the Chrysanthemum fraternity, and in all probability many growers of "Mums" are under the impression that little or nothing else besides these plants are cultivated at this establishment. Such, however, is not the case, for in spite of the present rage, which for the current year will soon be at fever heat, they of themselves are not the class of plants to make a fortune out of, or perhaps I should say a very good living, with a small margin of profit. Cut flowers for marketing, both wholesale and retail, may be said to form the staple trade of the firm, and these are produced in vast quantities, such as would astonish many a private grower, considering the comparatively limited area of land-space at their command. The principal part of the establishment, and which for convenience may be termed the home nursery, consists entirely of a series of glass structures, varying in length from 40 ft. to 150 ft. each. The first range we enter is a lean-to, in two divisions, of the combined length of 300 ft., devoted principally to the growing of Tuberoses, Roses—a greater portion of the back wall being planted with Niphetos—and Cucumbers in the summer months.

The next house is also a lean-to, filled with Camellia alba plena, all planted out, the back wall being utilised with the same kind of plants, and Rose Niphetos. Close by is a somewhat lofty span-roofed house, 40 ft. by 30 ft., occupied entirely with Stephanotis and Gardenias, the latter planted out. If one ventures on the spot to comment on the quantity of bloom that such a house will afford, you receive the rather laconic reply, "Yes, we cut such and such a number of barrowfuls of Stephanotis last summer." Perhaps the most noteworthy feature was the healthiness and cleanliness of the plants; not a single mealy bug was to be seen, and in answer to our inquiries as to how they manage to battle with that well-known enemy, the answer is, "We don't let them come in at the door, sir"—certainly a very terse and suggestive reply, and one that gardeners would do well to bear in mind. Start with a clean and healthy stock of plants and a clean house, adhere strictly to the above rule, and you will have no need for tedious labour, or to spend money on insecticides for the purpose of waging war on mealy bug.

One or two other houses are also devoted to the same purposes as the last-named, and we can hardly say how many more there are filled with double white Camellias, Palms, and Maidenhair Ferns, the last-named being grown in almost unlimited quantities. The whole of the plants are certainly pictures of health, a fact which is fully evidenced by the dark green hue of the foliage. Indeed, it does not pay trade growers in these days of keen competition to harbour sickly-looking plants. Arum Lilies are also made a specialty of, and at the time of my visit one large span-roofed house was filled from end to end with hundreds of plants, grown for the production of early flowers, these in their turn to be followed by other large batches from outside, so as to afford as long a succession as possible. To have an abundance of such flowers for Christmas and Easter decoration, they must receive liberal treatment through the summer months, and be afforded copious supplies of water, and when the flowers first begin to appear they must be fed with liquid manure. Amongst other subjects largely grown for cut blooms may be mentioned Azaleas and double white Primulas, the last named in vast numbers.

Two or three out-lying pieces of land are occupied in a different way, and do not contain any glass; one is devoted chiefly to Roses, about 3,000 plants being grown. One thing that we do not often meet with may be mentioned—*i.e.*, Apple trees dotted about here and there for the purpose of affording shade to the flowers, which, in such a warm climate as Fareham is, proves to be almost indispensable; of course, the trees are judiciously pruned, and thinned out as occasion requires. Another piece of ground we find is occupied in the summer months chiefly with Bouvardias, Syringas, and similar subjects planted out, potted up in the autumn, and forced in the houses at a later period.

With regard to Chrysanthemums we can quite imagine that some of your readers will want to know how the "Mums" are looking. Well, the reply is, my visit was in September, and at that time they gave every promise of producing high-class blooms for the November shows. M. C. Audiguier, Thunberg, Lord Wolseley, Prince Alfred, and other tall-growing varieties were from 10 ft. to 11 ft. high, with wood as thick as a good stout walking stick; other varieties proportionately high, all with dark green foliage—indicative of good health. Taking into consideration the remark made by the senior member of the firm—*i.e.*, that they did not take any particular trouble with them, and that their requirements were attended to chiefly in the evenings, we can only say that the man in charge of the plants deserves every possible credit for his work. The firm has now been established for a period of over twenty years, and is a good illustration of what may be done from small beginnings by dint of perseverance and hard work.—*J. H.*

VIOLETS IN FRAMES.

YOUR correspondent "F. R. S." (p. 83), writing on this subject, very wisely says that "violent heat at the bottom is detrimental to the well-being of Violets." That is so, and artificial top heat, in the way of hot-water pipes, is generally productive of red-spider, a prey to which Violets are very liable, even during the summer months, when growing out of doors, if the soil is light and sandy, and they are in a too sunny position. Some of the best Neapolitan Violets I have seen were grown at Firle Park, in this county. The plants were put out early in April on a cool north border; they were placed a foot apart each way, and well firmed and watered in. The ground had been well manured and dug during the winter, so that when planting time arrived the soil was well pulverised. The Dutch hoe was kept well at work during the summer, with frequent dampings overhead until well established, all runners being also cut off.

About the middle of September, when a three-light Cucumber frame was at liberty, more soil, such as the Cucumbers had been growing in, was added, and the Violets were carefully taken up and transferred to the frame, keeping the plants well up to the glass, which, I need hardly add, faced due south. When planted they received a good soaking of water, and were kept shaded from the bright sun until they had recovered from their shift, and the roots had taken hold of the new soil. The lights were kept off until frosts were likely to occur, and they had ventilation, little or much, according to the weather.

The linings were made up to the top of the frame, not so much for the sake of heat as for protection, and during severe weather the glass was covered with mats, on which was placed a good layer of long stable litter. The surface of the soil was kept stirred with a hand-

fork, and all decayed leaves were picked off, as damp is likely to attack them if there is an absence of sunshine, while severe weather necessitates the covering being kept on for days together.

Violets are universal favourites, and any trouble taken in their successful production is amply repaid by their fragrant blossoms when their less fortunate brethren that are left to the frosts and cruel blasts present a pitiable appearance outdoors. Some twenty years ago, when living at Chislehurst, a man was reckoned "no gardener" among the craft if he could not successfully cultivate Violets—a fact that had some significance a few years after, as the late Emperor of the French took up his residence in that picturesque locality, and the modest Violet was the Napoleonic emblem.—*George Potts, Jun., Northiam.*

Adiantum Farleyense, with pinnules resembling those of A. tenerum.

ADIANTUM FARLEYENSE.

Raised true from Spores.

That the Queen of Maidenhair Ferns may be obtained true from spores, is now a proved fact, as the following notes will show; but the first essential to success, is to obtain the spores, which will always be a difficult matter, knowing, as every one does who has had any experience with this Fern, that it is very shy in the production of sori. After a short correspondence in *The Gardeners' Chronicle*, at the end of the year 1886, respecting this Adiantum coming true from spores, I succeeded in obtaining spores in the month of January, 1887, from a very large specimen plant belonging to Edward Ecroyd, Esq., Edgend Hall, near Burnley, Lancashire.

The fact of this plant bearing spores was published in The Gardening World at the time (see p. 296, vol. iii). Only one frond could be found with any sori on it, and this was only discovered with the greatest difficulty by the then gardener, Mr. J. C. Durno. However, these spores were placed in my possession to sow and raise plants of the true A. Farleyense from, if possible. So much has been said and written that it will not produce itself true from spores, that I was exceedingly careful about the manner in which I sowed these spores that no mistake could be made with them.

On January 6th, 1887, I sowed very carefully a few of the spores on the prepared surface of soil in a 4-in. pot. I placed a flat piece of glass over the top, and tied it securely on with copper wire. I then placed the pot in a good warm case in the propagating house, fully expecting something good to result from my labour. On February 23rd, 1887, I sowed the remainder of the spores that had been laying in paper since the first batch was sown. I sowed this lot carefully in a 6-in. pot, and tied a 5-in. bell-glass down firmly over the surface of the soil.

Strange to say, the last batch sown showed signs of germination first, and another strange thing is, that it is only from the latter pot that any Adiantums have made their appearance. From No. 1 pot I only had Polypodium aureum, Dennstædtia davallioides, and a few other weedy Ferns. From No. 2 pot I had a splendid batch of Osmunda palustris, a few common Lady Ferns, one Adiantum somewhat resembling A. Waltoni, and twenty-one plants of A. Farleyense, true—true without the shadow of a doubt. This explodes the fallacy that this fine Maidenhair Fern not only will bear sori, but will, if only obtained from extra strong plants, produce itself true to the parent. Twenty years back a number of seedling Adiantums were put in the market purporting to be A. Farleyense, but every one turned out to be A. scutum, and I do not think that they were anything but seedlings of that form. The general appearance of A. scutum somewhat resembles A. Farleyense, whilst in a very young condition. Fern enthusiasts at that time at once declared that they had got the rare and scarce (at that time) A. Farleyense true from spores; amongst the many was your humble servant. The first season's growth soon proved them bastards, and the matter was forgotten, except now and again, when an occasional correspondent in some gardening periodical would ask the question, "Does A. Farleyense produce spores?" Then followed the usual paragraphs from numbers who thought it did, and others who were sure it did not. No satisfactory evidence had before been obtained that spores sown of it have ever produced themselves true to the parent—the general theory being that they have and always must come up like A. scutum—but in this case the spores were gathered in my own presence, sown with my own hand; I tended their wants as to heat and water, potted them with extra care, and, finally, have the satisfaction of knowing that I have healthy and vigorous plants of A. Farleyense true from spores.—*W. Goldby.* [Our illustration represents a striking peculiarity in this Fern. It is of a frond found on an adult plant at Chiswick some weeks ago, which bears numerous small pinnules intermixed with the ordinary ones. All were, however, alike barren, but the small pinnules more nearly resembled those of A. tenerum than of the leafy A. Farleyense.—Ed].

The Amateurs' Garden.

Tuberous Begonias.

As the plants go out of flower or get too straggling or leggy to be of any ornamental value, induce them to go to rest and the tubers to ripen by gradually withholding water. At the same time they should be kept in an airy well-lighted position till the foliage begins to change colour and become yellow. The stems will soon become severed from the tubers at a joint, when the pots may be stood away in some unnoticeable position where they are neither exposed to drip nor frost. By laying the pots on their sides so as to escape drip they may be placed under the stages of the greenhouses, but, as already mentioned, everything which would give the house an air of untidiness, or that would tend to encourage vermin, should be rigidly excluded from any house containing flowering plants.

Flowers for the Conservatory.

Naturally the occupants of this house, and which kept the latter gay during the summer and autumn months, will now be assuming rather a shabby appearance, and unless other subjects have been grown to take their place the owners cannot now expect the house to be gay. Early Chrysanthemums are, however, very plentiful, and the later and large-flowering kinds will be in abundance in a week or two. Zonal Pelargoniums that have been grown on for the purpose of winter flowering will now make their presence felt if sufficiently well forward. Variety and fragrance is added by Mignonette, tree Carnations, Heliotrope, Salvias, Bouvardias, and various climbers, such as Passion Flowers, Lapagerias, and Tacsonias, whose brilliant flowers are appreciated at any time. Several late-blooming Heaths are now the pride of the show house on account of their small but numerous and pretty flowers. They include Erica gracilis, E. caffra, E. hyemalis, and a few others. Chinese Primulas and Cyclamens, where brought forward early, will also be much appreciated. To enable the above subjects to bloom freely—or, indeed, in the case of several, to flower at all—a temperature of 50° will be required, with a slight rise during the day. Keep Mignonette close to the glass, and water it very sparingly. Ventilate during the day on all favourable occasions, so as to maintain the plants in a healthy condition.

Window Boxes.

As soon as the occupants of these get cut down, have them cleared away, together with the old soil in the boxes. A wholesale clearance of the plants at this time enables the cultivator to renew the exhausted material and supply fresh, making provision for ample drainage. The windows may be rendered very gay in spring by filling the boxes with bulbs and a few Wallflowers to take away the naked appearance during winter. Hyacinths and Tulips may be used in mixture, but the effect would be better if unmixed, as the two subjects mostly flower at different times. Crocuses in great variety would also be appreciated by other growers, but they do not last long as a rule, especially if the weather is bad or the windows exposed. Very pleasing and lasting combinations can, however, be made with the use of Conifers, Box, variegated Hollies, Euonymus japonicus, and several of its variegated forms, E. radicans variegata, and other dwarf evergreen subjects. Small plants of Aucuba japonica would be much appreciated by many, especially those in town. The above-mentioned kinds, however, supply great variety. Amongst Conifers the Retinospora, Thujas, Cupressus, green and golden Irish Yews, and others offer a wealth of pretty subjects that are perfectly hardy, and amenable as well as appropriate for window decoration. The boxes may be entirely filled with them in mixture, or spaces may be left for the insertion of Hyacinths, Narcissi, Tulips, Scilla sibirica, Chionodoxa Luciliæ, Crocuses, Primroses, Silene pendula compacta, or other subjects at the amateurs' disposal or suited to his liking.

Indoor Window Plants.

What flowering plants there are in season, such as Chrysanthemums, Chinese Primulas, Zonal Pelargoniums, and late Fuchsias, may be used for decorative purposes, as they are easily renewed if they should get damaged; but Heaths should never be taken into dwelling rooms if at all valuable, as the atmosphere is wholly unsuited to them, causing the leaves to drop in a short time, especially if the plants are allowed to get dry, which they are very liable to do. More acceptable, perhaps, and more suitable for the season are Ficus elastica and its variegated variety, Aralia Sieboldi Aspidistra lurida variegata, and Ferns with leathery evergreen fronds. The latter include various species of Pteris, Polystichum, Cyrtomium falcatum, and Scolopendrium vulgare in great variety.

The Vegetable Garden.

Before the recurrence of any more frost, have the late batches of Celery finally earthed up to protect them from its effects. Choose a dry day for the operation, when both the soil and the plants will be in such a condition that they can neither get puddled nor muddy in the working. Finish the planting of Cabbages for spring use as well as that of Coleworts. The little heat that still remains in the soil will allow of the plants getting established before the approach of winter. Clear away all vegetable rubbish and weeds so as to keep the garden clean, and prepare for digging or planting as the case may be. The planting season is now practically upon us, but as fruit trees drop their leaves planting will be carried on in real earnest, and amateurs would do well to be prepared as to what their requirements will actually be, so that planting may be completed in due season.

NATIONAL APPLE AND PEAR CONFERENCE AT CHISWICK.

The conference and exhibition, opened at Chiswick on Tuesday afternoon last, proved in its initiatory stages to be of a singularly practical and interesting character, collections of excellent fruit from all parts of the country being staged, and visitors being present from counties so wide apart as Midlothian in the north, and Dorset in the south. At 3 p.m., when Sir Trevor Lawrence, Bart., M.P., took the chair, supported by Dr. Hogg, Mr. G. F. Wilson, Mr. H. J. Veitch, Mr. T. B. Haywood, the Rev. W. Wilks, Colonel Beddome, Mr. Dyer, and Mr. Morris, there was a fair attendance of visitors, mainly consisting of well-known practical horticulturists.

The President's Speech.

The president, in opening the proceedings, remarked that, while he disclaimed any pretension to be entitled to express any opinion on the subject of fruit cultivation, he yet was aware that a very large amount of interest was at the present time being brought to bear upon the question. This was in some measure due, he believed, to observations made by gentlemen occupying positions in the political world who were somewhat at a loss very often for a subject. An address of considerable length was lately made at Hawarden, by Mr. Gladstone, and he was not quite sure that those persons who had read the accounts of ladies, with thirty or forty chickens, making £5 a year, and of others making a profit variously stated at from £200 to £40 a year from an acre of strawberries, and who thought they might repeat these remarkable successes, were liable to be a little disappointed. It was important in dealing with this subject that they should not pitch their anticipations too high, and that it should not be supposed that in a reasonable extension of the cultivation of hardy fruit would be found any real panacea for the troubles which had been afflicting the agricultural classes of this country. The utmost that could be done would be to give those classes some small help, where intelligence and skill were brought to bear. Of course, as long as we continued to import such large quantities of fruits and vegetables—between six and seven millions sterling in value—persons would point to that total as indicating a direction in which more might be done in this country. But it must not be forgotten that that total included some fruits which could not be cultivated in this country, and further, it was by no means clear at present that where hardy fruit, such as Pears and Apples, could be successfully cultivated, it could be done so as to bring anything like a satisfactory profit. He had been asking two authorities what they thought on that subject. One gentleman, who was a most successful cultivator of fruit, had told him that where all possible care and intelligence were bestowed upon the cultivation of Apples and Pears, the profit was not more than about 6*d.* per sieve. The other gentleman, on the other hand, had said that he was quite certain that for all the hardy fruit which could be grown in this country a good market could be found. In the present conference the exhibition of such varieties only as found favour, or might be considered thoroughly worthy of cultivation, had been invited; and one object of the conference was to illustrate by facts and examples the present state and future prospects of commercial fruit culture in this country. That, he ventured to think, was a thoroughly practical object; and, having regard to the exceedingly unfortunate season which they had passed through, it must be admitted that the present show of Apples and Pears by the leading fruit growers of the country was eminently satisfactory. After referring to the attacks made upon nurserymen in connection with the question of worthless varieties as uncalled for and ungenerous, he said that the Horticultural Society had been most anxious to do all it could to lead the public in wisely making use of the feeling that existed for the cultivation of hardy fruit.

Mr. S. Hibberd, in moving a vote of thanks to the council of the Royal Horticultural Society, remarked that he had no confidence in similar associations which had been started lately, and he should like to see the society by its action render it unnecessary that these other bodies should be promoted. Mr. Cheal seconded the motion, which was agreed to, after which the president declared the exhibition open, and said the question whether the matters touched on by Mr. Hibberd came within the province of a horticultural society was one upon which opinions might differ. They were, no doubt, of importance in connection with fruit growing. But their main object now was to enable persons who devoted themselves to the growth of hardy fruit to do so to the best advantage. He was informed that the collections exhibited that day were much more accurately named than those shown in 1883 and 1885, which proved that one result of these conferences had been that people understood their business much better now than they did at that time.

On visiting the exhibition of Apples and Pears at Chiswick, many will no doubt be agreeably disappointed if they expect to see a poor turn-out of small, badly coloured samples of fruit, owing to the past wet and sunless summer. Even allowing that many of the largest and most highly coloured specimens have been grown in pots, the least sanguine must be prepared to admit that, even in the worst of seasons, the British climate is capable of producing wonders in the way of fruit growing. There is, evidently, no reason why we should not beat the foreigner out of the market, even with the finest samples. Though lacking colour, sometimes the flavour of home-grown fruit is second to none.

The Display in the Vinery.

On entering the large vinery, a splendid sight meets the eye. Two large tables run along the centre for nearly the whole length, while the side benches are fully occupied all round. The first collection confronting the visitor on entering by the right-hand side is that of Messrs. J. Veitch & Sons, Chelsea. Most of the specimens were grown in their fruit nursery at Langley, near Slough, and very fine they are. Cellini, Warner's King, The Queen, Cox's Pomona, Lord Suffield, Lord Grosvenor, Stone's Seedling, Ribston Pippin, Winter Hawthornden, Grenadier, Alfriston, Peasgood's Nonsuch, Prince Albert and Tom Putt are all splendid examples of cultivation, each according to its kind, and we could name as many more in the collection of fifty, and the same might be said of other exhibits were the space at our disposal. There are nineteen entries in this the first class for fifty of the best sorts for cultivation, and amongst the undermentioned are many most meritorious collections. Next on the table comes the Sherborne Castle collection, with neatly-written labels indicating whether the trees were grown as standards, pyramids, bushes, or cordons, and the stocks used. Peasgood's Nonsuch, Lord Derby, Lord Suffield, Ecklinville, Hawthornden, Hollandbury, Cox's Pomona, and others are grand samples. Messrs. R. Veitch & Son, Exeter, comes next, exhibiting splendid samples of Peasgood's Nonsuch, Lord Suffield, Emperor Alexander, Cox's Pomona, Worcester Pearmain, and others too numerous to mention. Messrs. Dicksons, Limited, of Chester, have excellent samples of Pott's Seedling, Ecklinville, Ribston Pippin, Warner's King, and others. The collection is less highly coloured than more southern-grown specimens as a rule. Warner's King, Grenadier, Lord Grosvenor, Lane's Prince Albert, and Stirling Castle are some of the finer specimens of Messrs. H. Lane & Son's exhibit from Berkhamstead. A meritorious collection is that from Messrs. Wm. Paul & Son, Waltham Cross, including Cox's Pomona, Warner's King, Lady Henniker, Beauty of Kent, Stirling Castle, and others. Mr. T. Bunyard, Ashford, Kent, has fine samples of Beauty of Kent, Cox's Pomona, Golden Noble, Warner's King, and others. Mr. J. H. Rose, Lockinge Gardens, Wantage, shows a collection in which the specimens are rather small, Northern Greening, Yorkshire Beauty, and Cox's Pomona being amongst the best. Mr. Charles Turner, Slough, exhibits good samples of Lord Derby, Catshead, Alfriston, Blenheim Orange, &c. The best specimens

of Emperor Alexander in the show, are five fruits exhibited by Messrs. Geo. Bunyard & Co., Maidstone. Lord Grosvenor, Stirling Castle, The Queen, Cox's Pomona, and many other grand examples of cultivation might be named. The labels attached to them supply much information. A finely-coloured and well-ripened collection is shown by Messrs. J. Cheal & Sons, Crawley, Sussex, including Lord Grosvenor, Caroline, Manks' Codlin, and others. Mr. G. Griffin, gardener to Baron de Rutzen, Slebeck Park, Haverfordwest, has also a well-coloured collection. Beauty of Kent, Lord Derby, Alfriston, Warner's King, and others, exhibited by Messrs. Charles Lee & Son, Royal Vineyard Nursery, Hammersmith, are very creditable indeed. A clean and well-coloured collection is shown by Messrs. Paul & Son, Cheshunt. The collection of Mr. John Watkins, Pomona Farm, Withington, Hereford, is notable for the size, colour, and clean skin of the specimens. The same may be said of that of Mr. G. Sclater, Devon Nurseries, Exeter, but the samples are rather smaller. Many of the samples shown by Messrs. T. Rivers & Son, Sawbridgeworth, are amongst the largest and best coloured of their kind in the conservatory, including King of Tomkins County, King of Pippins, Dumelow's Seedling, Cox's Orange Pippin, and others too numerous to mention. The collection shown by the Royal Horticultural Society in this class contains many fine specimens, but they are not very highly coloured. A very meritorious collection of fifty varieties that have been grown on bush trees is exhibited by W. Roupell, Esq., Harvey Lodge, Roupell Park, including Peasgood's Nonsuch, The Queen, Ecklinville, Pott's Seedling, &c., all of large size and fine colour.

THE "TWENTY-FOUR" CLASS.

The second class consists of collections of twenty-four sorts. The following exhibitors have very fine collections, namely, Messrs. Lucombe, Pince & Co., Exeter; Messrs. J. Veitch & Sons, ; Messrs. J. Laing & Sons, Forest Hill; the Messrs. Rothschild, Gunnersbury Park, Acton (a very meritorious collection); Messrs. H. Lane & Sons, Berkhamstead; A. H. Smee, Esq., The Grange, Wallington; Messrs. G. Bunyard & Co., Messrs. J. Cheal & Sons, Messrs. John Peed & Sons, Mitcham Road, Streatham, S.W.; Messrs. William Paul & Son, Messrs. Saltmarsh & Son, Chelmsford; and H. A. Brassey, Esq., M.P., Preston Hall, Aylesford, Kent, the latter collection being very attractive. Nor can we overlook Mr. J. Rust, Eridge Castle Gardens, whose samples were grown at an altitude of 400 ft. above the sea-level; Mr. J. Watkins, Mr. W. H. Frettingham, Beeston, Notts; The Duke of Newcastle, Clumber, Worksop; The Earl of Ducie, Gloucester; Messrs. J. Jefferies & Son, Cirencester; J. A. Rolls, Esq., The Hendre, Monmouth, Lady Frances Fletcher, Yalding; Sir R. Sutton, Bart., Newbury; and W. E. Brymer, Esq., Ilsington House, Dorchester. Other exhibitors in this class are, The Earl of Warwick, The Right Hon. Sir T. D. Ackland, Killerton, Exeter; H. N. Middleton, Esq., Dorchester; P. Thelluson, Esq., Doncaster; Messrs. T. Southall, Worcester; and Mr. John Grey, Stamford. Many of the above named exhibit in several of the classes, some of which we are unable to mention. The third class consists of collections of twelve varieties, and besides some of the exhibitors above named, the following have fine collections, namely, H. J. Atkinson, Esq. (gardener, Mr. J. Hudson), Gunnersbury House, Acton, who has the best samples of Golden Noble in the show; Mr. W. H. Divers, Ketton Hall, Stamford; Mr. C. Warden, Clarendon Park, Salisbury, and Mr. R. Milner, Sundorne Castle Gardens, Shrewsbury. Classes are set apart for collections of Apples, grown on standards, cordons, or other specified ways, and for new Apples. In the miscellaneous class, a large collection of Apples and Pears is shown by Mr. M. Dunn, Dalkeith Palace, Midlothian. The specimens are of good average size for the climate of Scotland, but not highly coloured. A large collection is also shown by Messrs. Dickson & Co., 1, Waterloo Place, Edinburgh, and smaller ones by Messrs. McDonald, Perth, and Messrs. W. Drummond & Sons, Stirling.

PEARS.

Pears naturally excited less interest than the Apples, but there are, nevertheless, some grand collections containing wonderful samples of cultivation, notwithstanding the unfavourable nature of the season. They occupy a large and separate tent. The first class is made up of collections of thirty-six of the best and most deserving of cultivation. The exhibit of Messrs. T. Rivers & Son contains huge specimens of Pitmaston Duchess, General Todleben, Marie Louise d'Uccle, Duchess d'Angoulême, and Doyenné Boussoch. Messrs. J. Veitch & Sons have also grand dishes of Pitmaston Duchess, Doyenné Boussoch, Beurré Clairgeau, and Souvenir du Congres. Messrs. J. Cheal & Sons have similar samples to the above as well as Beurré Hardy, Belle de Bruxelles, Brockworth Park, and Doyenné du Comice. The leading sorts again appear in fine form in the collection of Messrs. John Peed & Sons, together with Doyenné de Merode, Beurré Bachelier, and Louise Bonne of Jersey. Messrs. Charles Lee & Son have fine dishes of Williams' Bon Chrétien, Catillac, Beurré Clairgeau, and Gansel's Bergamot. The Messrs. Rothschild again come well to the front with Pears, showing grand dishes of Uvedale's St. Germain, Duchess d'Angoulême, Souvenir du Congres, and Pitmaston Duchess. Uvedale's St. Germain is well shown by Messrs. R. Veitch & Son, Exeter, together with the beautifully-coloured Forelle and others of the large-growing kinds. Amongst other sorts very large specimens of Grosse Calebasse are shown by the Lady Florence Fletcher, Yalding (gardener, Mr. R. Smith). Noticeable in the exhibit of Messrs. William Paul & Son are fine samples of Doyenné Boussoch, Marie Louise d'Uccle, and Beurré d'Amanlis. Very creditable and all-round good collections are also shown by Messrs. Geo. Bunyard & Co., Richard Smith & Co., Worcester; Charles Turner, and W. G. Pragnell, Sherborne Castle, Dorset.

A large number of exhibitors show in the class for twenty-four varieties of Pears, many of the collections exhibiting very fine samples of all the most meritorious varieties in cultivation. The exhibitors are J. A. Rolls, Esq., The Duke of Newcastle, A. H. Smee, Esq., H. A. Brassey, Esq., W. E. Brymer, Esq., Sir R. Sutton, Messrs. J. Veitch & Sons, Dicksons, Chester, J. Cheal & Sons, Lucombe, Pince & Co., Saltmarsh & Sons, J. H. Rose, and R. Parker, Impney, Droitwich.

The class for twelve dessert Pears has also brought out a large number of good and interesting exhibits, and although the variety is considerably limited, yet it is by no means limited to twelve sorts, but only shows what twelve sorts do best in particular localities. The exhibitors in this class are Viscount Eversley, Heckfield, H. J. Atkinson, Esq., Earl Ducie, Earl Beauchamp, The Marquis of Abergavenny, Tunbridge Wells, Kent, whose gardens produce wonderful samples at an altitude of 400 ft. above sea-level, Peter Thellusson, Esq., The Messrs. Rothschild, Messrs. Paul & Sons, Cheshunt, T. Southall, South Bank, Worcester, Saltmarsh & Sons, C. Turner, W. H. Divers, S. Ford, T. Richardson, Barnes, and R. Milner. A few other exhibits are in the large tent, while a second but smaller tent is occupied with many of the smaller exhibits in other classes, as well as the Apples from Scotland.

AT THE CONFERENCE ON WEDNESDAY,

Dr. Hogg took the chair at 1.30 p.m., and called upon Mr. Geo. Bunyard to read his paper on "Apple Culture for Profit" (see below); then Mr. William Paul read a paper on "Fruit Culture for Profit." Mr. T. F. Rivers sent a telegram regretting his inability to be present to read his paper (which he also omitted to send). Mr. Wildsmith read a paper on the "Fewest Varieties of Pears to keep up a supply from August to March," and Mr. Shirley Hibberd read one on the "Pruning of Apples and Pears." The following gentlemen took part in the discussions that followed, namely, Messrs. J. Wright, Shirley Hibberd, A. Dean, C. Pearson, Geo. Bunyard, Geo. Cannon, William Paul, Rev. W. Wilks, W. Roupell, and others. Mr. Shirley Hibberd proposed a vote of thanks to the chairman; and the Rev. W. Wilks proposed, and Mr. R. Dean seconded, a vote of thanks to the readers of papers.

APPLES FOR PROFIT.

BY MR. G. BUNYARD.

THE commercial growth of Apples for the market is frequently entered upon in a wrong manner, because many start into the enterprise without sound information. They fight shy of the growers of trees, under the unfair notion that they would recommend those kinds of which they held a stock; they then procure the "tips" from the salesmen in the various markets, who as far as they can, and in good faith, give them the names of the kinds that sell well, which fruits, so to speak, dispose of themselves by names or appearance. Many of the finest Apples produce but a small crop, or are so long in coming to a state of profitable production that a planter gets discouraged; others are recommended which are very slow growers or rarely make good orchard trees, and thus the land is not fully utilised. As the markets are supplied from a large area, the salesman has but a general idea of the suitability of the sorts suited to a district, and hence much valuable time is lost. In the short space at my disposal, I propose to give a few hints as to the formation of a profitable Apple orchard, or plantation, where the return shall be speedy, and the outlook for half a century shall yet be promising a good result. The first operation is the procuring of suitable land. In a district where little fruit is grown, an idea can be gained from the growth of the few fruit trees in the cottage gardens, and perhaps the orchards near gentlemen's seats. If the Apples show a kindly and clean growth, with an absence of lichens and canker, and if Elm trees flourish, it will be so far favourable. Exposure to prevailing winds is to be avoided either by shelter planting, or better still by taking advantage of existing woods or hedges, and a slope to the south or west is to be preferred, but in order to secure a permanent orchard care must be taken to get deeply cultivated, or rich deep soil, or a few years of fertility will only be the precursor of decay and disappointment.

Having settled on suitable land, the tenant or purchaser next proceeds to put the land in order for planting, either by steam cultivation or by thorough digging or trenching—the latter, though expensive at the start, is of permanent benefit. The ground should then be set out, and standard trees of the following, on the crab or tree stock, planted at 24 ft. apart; 75 to an acre.

Standard Apples for Warm Loamy Soils.

1.—Desserts to pick and sell from the tree.

August.	September.
Devonshire Quarrenden	Lady Sudely
Sugarloaf Pippin	Yellow Ingestrie.

2.—To store October to Christmas.

King of Pippins	Cox's Orange
Mabbott's Pearmain	Blenheim Orange.

3.—Kitchen Apples to sell from the tree. August and September.

Early Julien	Lord Grosvenor
Keswick Codlin	Grenadier
Lord Suffield	Ecklinville.
Duchess of Oldenburg	

4.—To store October to December.

Warner's King	Golden Noble
Schoolmaster	Tower of Glamis
Coucillor	Waltham Abbey Seedling.
Lord Derby	

5.—To keep from January to May.

Wellington	Lady Henniker
Winter Queening	Bramley's Seedling
Norfolk Beaufin	Annie Elizabeth.

If the soil is cold but rich, omit Lord Suffield and add Ringer, and omit Cox's Orange and King of Pippins.

So far for the top crop, the intermediate space being utilised by placing three dwarf trees between each standard, others at 6 ft. apart, which less seventy-five for standards will be 1,135 per acre, until the whole ground is filled up. These dwarfs will produce the best fruit from trees on the Paradise or surface-rooting stock, and will consist of the following for gathering from the trees direct for market.

Apples for bush or tree-pyramidal style to be grown on Paradise stocks.

1.—Dessert kinds to sell from the tree.

Early.	September.
Gladstone	Duchess Favourite
Red Juneating	Worcester Pearmain
September.	Duchess of Oldenberg
Colonel Vaughan	Yellow Ingestrie.

2.—To store for sale. October to Christmas.

Cox's Orange	Gascoyne's Scarlet
Cox's Pomoma	Beauty of Kent
Peasgood's Nonsuch	Beaumann's Reinette.

If the soil is cold omit Cox's Orange and Worcester, and if very rich and good warm land add Adams' and Hubberd's Pearmains, Ross, Nonpareil, and Gipsy King.

3.—Kitchen Apples of large size to sell from the tree.

Lord Grosvenor	The Queen
Ecklinville	Grenadier
Manks' Codlin	Coucillor
Pott's Seedling	Loddington Seedling
Stirling Castle	Golden Spire.

4.—Large and fine kitchen Apples to store.

Lord Derby	Lane's Prince Albert
Small's Admirable	Bismarck
Histon Favourite	Winter Peach
Wurfitt's Seedling	Dutch Mignonne.

In six years' time the trees immediately beneath the standards can be removed to other land, and will, if removed with care in October or early in November, suffer little from removal, and in the second year will produce heavy crops. Until the 6-ft. trees cover the land, vegetables or soft fruits, such as Currants or Gooseberries, may be grown between the rows, or Lily of the Valley, or Daffodils; but if land be cheap, the

space may remain without a crop, and the trees will benefit greatly from the use of all the land. Weeds must be kept down, and no Corn crop must be taken. The plantation should be dug in December or January each year, and be knocked over with a prong-hoe in March.

After the sixth season the orchard should be left with a permanent crop of dwarf Apples, and standards at 12 ft. apart. The dwarfs, at some future time, could be cut away, and the standards, which should then be established and strong, should be laid to Grass, and thus a crop of fodder for sheep keep, and a top crop of Apples, secured annually.

Oxen and horses should not be allowed in young orchards. Shelter can be quickly obtained by planting Damsons or bush Plums—the latter a Kent sort—with Crawford or Hessel Pears as an inner line at 12 ft. apart, and this screen would pay its way. If desired, Plums could be placed between the Apple standards and Gooseberries and Currants, omitting the dwarf Apples. If the land be properly prepared, the Apples should need no manure for some years, as the use of stimulants while the trees are young is prejudicial by inducing a sappy unripened growth, which lays the trees open to damage by frost. When the trees are carrying a heavy crop, mulching may be carried out in June, or liquid manure can be used with advantage in the growing time. Such a plantation as described would commence to bring a return from the dwarfs in two years, and the fruit, with a little care in thinning, would command a ready sale, because when grown in this manner it is cleaner in appearance and much larger in size. In three or four years the standards would commence to fruit, and a larger return would then annually be made, and at the end of fourteen years, if properly managed, would buy the fee simple of the land outright.

In order to make the highest price, all fruits should be "graded," as the Americans say, and be of an even sample throughout, and properly named, and packed carefully, so that the baskets open clean and bright at the market. In the case of choice dessert kinds it would probably pay to pack them in light card boxes, such as those introduced by Mr. Tallerman for Cherries, &c., and manufactured by Johnson. In fact, we should take a leaf out of the French books, and put up our produce in an attractive form. The pruning of Apples in February or March is of the simplest: for the first two years commence to form the standard trees by taking out all the inner wood to attain a shape, and cut back to three or four eyes to a bud pointing outward; the fourth or fifth year cut the trees back to 6 ins., or 12 ins. if new wood, and keep the centres clear, and after that time let them grow as they like, merely shortening the tips to procure an evenly balanced head, and taking out any crossing pieces of growth. In the dwarfs they can be cut in to form pyramids or basins, as desired, for two years, and after that be allowed to grow freely. Other matters, such as securing the limbs in a heavy crop, and staking the standards, will have to be attended to, and the stakes must be removed in the winter from the standards as soon as the trees can do without support, as the ties are apt to cut into the bark and produce canker.

For Apple growing, land need not be contiguous to a railway station, as they will travel well if carefully packed. Storing enables a grower to realise a high price at the time when good Apples are scarce; where proper stores, such as the Hop oasts of Kent do not exist, a frost-proof shed will do, and if care be taken to store all sound fruit, a thick covering of straw will effectually keep out all danger of frost, and keep the fruit plump and heavy. If 1,100 trees bear half-a-gallon each, in three years the crop would be about seventy bushels per acre, which at 4*s.* would be £14 per acre; in five years one gallon would double the produce, and so on. When the top and bottom crop come to pick, an average of half-a-bushel would give a return of about £120 per acre. The risk of loss by wind is small with dwarf trees, and the cost of picking is less than with tall kinds, while they can be more readily thinned and attended to.

BRITISH FRUIT GROWERS' ASSOCIATION.

On Thursday, the 11th inst., a conference of fruit growers and others was held in the Garden Hall at the Crystal Palace to receive a report from the committee appointed at the previous meeting to consider the advisability of establishing a Fruit Growers' Association. Mr. T. Francis Rivers presided, and in opening the proceedings congratulated the meeting upon the complete success obtained at the last meeting of the association. The inception of the association was, he said, wholly due to Messrs. Gordon and Castle, and the results of their efforts had been to draw the attention of the English people to the important fact that a large and lucrative industry was being silently withdrawn from our country with great profit to those who had skilfully taken advantage of our apathy and indifference. The association owed a great deal to the very generous and liberal co-operation of the Crystal Palace Company, who had placed a room at its disposal in the palace for the transaction of business and the meetings of members.

Mr. G. Bunyard, in moving the adoption of the report, which has already been published in our columns at p. 88, said he could not avoid referring to a scandalous statement which had been lately made in one of the daily papers, to the effect that nurserymen, as a rule, grew ninety-nine "rogues" to one good fruit tree. He had had considerable experience in this matter, and on his own behalf, and that of numerous others in the nursery trade, he stigmatised that statement as absolutely false. Mr. J. Cheal, seconded the motion, and after a few remarks from Mr. W. Roupell and Mr. R. Dean, it was carried unanimously.

Mr. J. Wright read a paper on "Profitable Fruit Farming, mainly Gooseberries," which will be found in another column; and Mr. D. Tallerman followed with a paper which purported to be an inaugural address upon the formation of the Association. At the conclusion of the paper, questions were asked as to whether the association was pledged to adopt the suggestions made by Mr. Tallerman, in his "Inaugural Address"; whether the association had appointed Mr. Tallerman as Editor of its Transactions and Reports; and whether the association was to be used for promoting the interests of the companies with which Mr. Tallerman was connected. Negative replies were given, and a vote of thanks to the chairman brought the business to a close.

GARDENING MISCELLANY.

Dianthus Hybridus Napoleon III.

On several occasions that this has come under our notice it has always been our impression that the variety is of weak constitution; but it seems that the leafless condition in which the plant is found is owing to its floriferous nature. All the shoots, with few exceptions, produce flowers, so that towards autumn when one desires to propagate it very few cuttings are available, and certainly none that can be layered. In this respect it seems more difficult to perpetuate than the older varieties of D. hybridus, but it is none the less hardy and more floriferous. This we are compelled to say after seeing two lines of it, in the aggregate measuring 250 ft. in length, in the gardens at Glenbervie House, Kincardineshire. The plants formed good sized bushes about 12 ins. to 15 ins. in height, and were simply one blaze of crimson-red. This was in the last week of September, and the plants had been in grand condition for some time previously, and although a little past their best then, were really the most brilliant feature of the borders. Possibly a northern climate is more favourable to its well-being than a southern one, as in the case of Hesperis matronalis alba plena, which flowers here magnificently, and is of the purest white, resembling a double Stock.—*F.*

The Eucharis Mite.

In your issue for October 6th (p. 88), Mr. W. J. Murphy asks what your readers think of the proposition that there is no such thing as the Eucharis mite? My experience teaches me that what the Messrs. Dickson state is correct—*i.e.*, that the mites discovered in the bulbs get there through some check the plants have received, such as too low a temperature, over-watering, the too free use of stimulants, or applying very cold water to the roots. Any of these will cause the plants to become unhealthy, and then, in most cases, the mite makes its appearance. I further believe, however, that if plants so affected be properly treated, they can be restored to a healthy condition.—*Edwin Beckett, The Gardens, Aldenham House, Elstree.*

Hybrids of Begonia Frœbelii.

Hitherto it has been declared that B. Frœbelii was not amenable to hybridisation, but that view has at last been dispelled. The Messrs. Veitch, of Chelsea, who have done so much in the earlier stages of the improvement of the tuberous Begonias, have succeeded in raising a batch of seedlings from this hitherto apparently unimprovable species, and when once the break has been obtained there is no telling to what extent it may be carried. B. Frœbelii, as the seed parent, has been crossed with a bright scarlet unnamed seedling of the tuberous type as now understood, and the result is a batch of seedlings having the dwarf compact habit of the seed parent, with greatly-enlarged flowers and the narrower leaves of the summer-flowering section of hybrids. The blooms are about 3 ins. in diameter, with the inner sepals of the male flower much smaller than the outer ones. In colour they range in individual seedlings from a deep scarlet, almost crimson, to rosy pink. The leaves are broadly and obliquely cordate, crenate and hairy, with a trace of bronzy markings on the upper surface, and more distinctly so on the under-surface, with reddish petioles and stems. The flowers last a week and then drop, thus showing a greater endurance than that of the mother plant. The leaves of B. Frœbelii vary considerably, but are much broader than the seedlings, almost round, and are often entirely red beneath, and more or less bronzed above.

Passiflora cœrulea Fruiting.

At Ealing, which is five miles west of London, and quite on the verge of the Thames valley, this hardy Passion Flower fruits freely. On not a few of the villa residences here can be seen very fine specimens growing against the walls on the sunny side, and the plants flower and fruit with great freedom. In fine mild autumns the orange fruits can be seen mingling with the blossoms. It does remarkably well in the fertile loam resting upon our gravel subsoil.—*R. Dean.*

Anthracite Coal.

The use of Anthracite for heating horticultural boilers is most deservedly extending. We use it largely, and find it more cleanly and economical than coke. Instances have come to our knowledge where, owing to a deficiency of boiler power, the men in charge have had to be up half the night when coke was used, but who, since the use of Anthracite coal was adopted, have been able to go to bed comfortably at 10 o'clock, and yet find everything all right in the morning. I can cordially recommend that supplied by Mr. Essery, of Swansea. The quality is unsurpassable, and what is of great importance where expenses have to be kept down, we do get weight. I object to receiving a truck estimated to weigh so much; and Mr. Essery's weigh the amount they are represented to do.—*W. B. G.*

Physianthus grandiflorus.

In general appearance the flowers of this species resemble those of P. albens, which is much better known and appreciated as a greenhouse or conservatory climber. They are, however, very much larger, and pure white, with five ovate somewhat revolute segments. The green calyx is, as usual, large, but does not overpower the corolla. They are produced in axillary cymes, and although not so numerous as in its better known rival, they are still very attractive. The opposite leaves are larger than those of P. albens, hairy, and more membraneous, elliptic in outline, and cordate at the base, with the auricles overlapping so as to form a small sinus. Many of these characters are very distinct, as will be seen from those of P. albens, the leaves of which are hastate at the base—that is, the auricles spread nearly at right angles from the midrib. One of the most interesting peculiarities of this plant is its odour, which may be described as smelling distinctly of Coco-nut, although not disagreeable. The plant may be seen in the Begonia house at Kew.

Pyrethrum uliginosum.

With the glass some 10° Fahr. below freezing point during the first week of October, all supplies of cut flowers from the open borders are at an end, unless perchance one has a few frost-proof plants capable of looking fresh after several nights' frost. The above-mentioned plant is such an one; a long row of it in our kitchen garden is now quite a wealth of flower, large white blooms that are extremely useful for indoor decoration, and help wonderfully where glasshouses are not too numerous. Only a few days since the flower borders were aglow with colour; now nearly everything is frost-bitten and black, even the Sunflowers have gone in the general slaughter, consequently any flowers in the open are valuable, and the one under notice should be grown largely if only for cutting purposes. A damp rich border is the best situation for it to grow to perfection, but it can be naturalised in the wild garden or shrubbery with good effect.—*J. W. O.*

Perennial Asters.

Aster lævis and its varieties, A. ericoides and A. Novæ-Angliæ, are among the few Asters that are looking bright after the severe frost of last week; these useful North American species are as a rule very much neglected in English gardens, and it is only after such a sudden change from the glorious colours of the autumn flowers to the dismal aspect of blackened plants and leaves, that one can really appreciate the quiet colours of the perennial Asters.—*J. W. O.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

CINERARIAS.—It is no longer safe to keep these in frames or pits that are unheated. A considerable amount of frost can be excluded by simply matting the frames over at nights, but the leaves are so easily injured that it is better to err on the safe side by removing them to the shelves or stages of a house where heat can quickly be turned on should there be any danger of severe frost. If the plants are well advanced, and intended for early work, place them in an intermediate house. Subject them to close scrutiny before removal, and if there be any green-fly on the foliage fumigate the whole batch.

CHRYSANTHEMUMS.—In order to retain the foliage as well as possible till flowering time, be careful not to crowd the plants more than can be helped, but allow plenty of ventilation and the best possible exposure to light. Those that have their buds well advanced or already expanded may be removed to the conservatory or show house, in order to give the others more room. These early varieties are generally much appreciated. Keep them well supplied with moisture, and manure water may still be given till the buds commence to expand.

PRIMULAS.—The earliest batch of Chinese Primulas are now well advanced and throwing up their flower-buds. Keep them at all times well exposed to light near the glass, and ventilate well to prevent the leaf-stalks getting drawn and slender. If space cannot yet be provided for them on the side benches of the house, a swing shelf may be put up over the pathway for their accommodation. Later batches may be kept for some time longer in frames that are not provided with a heating apparatus, but they must be well protected with mats at night.

BULBS.—If potted up when the first arrivals came to hand the first batch of Roman Hyacinths should now be sufficiently advanced to be urged onwards by gentle forcing. Should they be well rooted, and the foliage and flower-spikes advancing, they may be considered in good condition for forcing. All bulbs of Hyacinths, Narcissi and Crocus should be potted up, even for late batches, otherwise they will now deteriorate by pushing up their flower-spikes and foliage at the expense of the bulbs and in the absence of roots.

THE FRUIT HOUSES.

VINERIES.—The Vines in the earliest house should be pruned without further delay, and the whole house put in order by giving it a thorough cleansing, both glass and woodwork. A top-dressing to the border may still be given if considered necessary. Be very careful in the removal of the soil, if the roots are near the surface, as they ought to be to derive any benefit from feeding, using a fork to avoid damage, which cannot be sufficiently repaired before they are called upon for further work. Work in this new compost about the roots, and tread firmly. Close the house about the end of the month if fruit is required early, and give a thorough watering with water at a temperature of 85° or 90° Fahr. At first the house should be kept at a temperature of 45° at night, rising to 55° with sun-heat; and this may be further increased as the buds advance. Houses in which late crops are hanging now want careful attention to prevent damping, keeping the atmosphere dry and well ventilated. Discontinue damping down the Muscat house, as the Grapes should now be thoroughly ripe. If the border be too dry to maintain the berries in a plump condition, one good watering will suffice. A night temperature of 55° will now be quite sufficient, and later on as the temperature outside sinks, that of the inside may be lowered also. By that time the atmosphere should be very dry. Shut the bottom ventilators early in the afternoon before damp air can get into the house.

THE KITCHEN GARDEN.

APPLES AND PEARS.—In ordinary seasons it would be time to collect and store all the late varieties of Apples and Pears. The severe frosts with which we were visited lately make this the more imperative now, and at the same time we are confronted with the fact that the fruits are still far from maturity in many instances. Store thinly in the fruit room, giving them more than ordinary attention afterwards in removing any that may show decay. Maintain as even a temperature as possible, and avoid fluctuations. In looking over the trees with a view to choosing such new or old kinds that may be required to make up blanks, or to supplant old and useless trees, it is well to consider the nature of the soil, subsoil, exposure and altitude before ordering a selection of desirable kinds. Late varieties for cold or upland districts should always be planted on a south-aspect wall. The earlier sorts, that come into use before Christmas, may be grown as standards or pyramids in the open garden.

ORCHID NOTES AND GLEANINGS.

THE WALTON GRANGE COLLECTION.

THOSE who have visited the superb collection of Orchids belonging to W. Thompson, Esq., Walton Grange, near Stone, have been gratified and well recompensed for their trouble, and the more so if they have been shown round by Mr. Stevens' the Orchid enthusiast, who has had charge of the collection for so many years. Just now many fine species and varieties of various Orchids are in flower, amongst them being the beautiful Dendrobium longicornu majus, a pretty and distinct species in the way of D. formosum, but not so strong in growth. The flowers are not so large either, but are pure white, with a yellow dental lip. It lasts a very long time in bloom, for the same flowers are now in good condition that were open the first week in August. This is a great recommendation to it. Many grand forms of Odontoglossum Alexandræ are likewise in flower, and a branched spike of sixty-three blooms will soon be open. This may astonish many, but here it is on a strong well-grown plant. Many O. Pescatorei are also in flower, and of Masdevallias several of the Chimæra type are nicely flowered. Mr. Stevens also has some very interesting hybrids of Masdevallias, which will soon reveal to him what they are. From their parentage they ought to produce something good, and we trust it may be so. The curious but interesting Restrepia antennifera is represented by a well-grown plant of many flowers; Odontoglossum grande is well done also, Mr. Stevens was a long time before he could grow the latter to his satisfaction, but that he has succeeded no one can doubt, when they see the magnificent strong bulbs it has made, sufficiently strong to carry two fine spikes of enormous flowers from one bulb. These were grown on a shelf in the intermediate house, and this is undoubtedly the way to grow this Orchid. He also succeeds well with Oncidium Jonesianum, many fine plants flowering freely, and growing in the same house as the Cypripediums, of which many were in full bloom. C. Spicerianum is represented by several twin flowers. In the same house is a superb variety of Vanda Sanderiana also nicely in flower. The innumerable spikes and sheaths showing upon the Lælias and Cattleyas speak well for a future display. The same may be said of the Odontoglossums and Oncidiums. Amongst the latter fine strong spikes of O. macranthum attract one's attention. Mr. Thompson has many hundreds of well-grown Odontoglossums, and at all seasons of the year something of interest is to be found in a collection so practically handled as this is by Mr. Stevens.—*Rusticus.*

NEW ROCKERY AT CHELSEA.

ONE of the houses in the nursery of Messrs. J. Veitch & Sons, at Chelsea, has been converted into a show house for Orchids. It is square, or nearly so, and occupies a central position, abutting on and opening into a number of others. Rockwork, consisting of Derbyshire tufa, is being constructed all round the sides, and a dripping well occupies the centre. It was nearly completed when we saw it the other week, and was gaily decorated with Orchids. Parts of it are filled with soil, and planted with Ferns, Begonias, and Ficus repens minima. From an elevated and rugged column a little to one side of the well, a broken stream of water trickles over a projecting ledge. The tufa being very porous is admirably adapted for the purpose. Pockets or cavities are left here and there for the reception of Orchids in flower, together with the pot or basket containing them. Amongst those in flower at present are Oncidium ornithorhynchum, O. tigrinum, O. crispum, Vanda cœrulea, Cattleya bicolor, Lælia elegans Stelzneriana, L. e. alba, L. Rothschildiana, and Cattleya porphyrophlœbia, the latter having rosy sepals and petals, with a white lip tinted with rose at the tip and on the tube. A very fine piece of Aërides suavissimum surmounted the highest part of the dripping well, in the centre of which its sprays hung gracefully about. The yellow labellum contrasts beautifully with the rose-coloured sepals and petals. A large basket plant of Cœlogyne Massangeana hung from the roof, showing off its long pendent spikes of white, brown, and yellow flowers very conspicuously. Many pieces of the new autumn-flowering Cattleya Bowringiana stood about the house, bearing from twelve to fourteen flowers on a spike. The sepals are rose-coloured, the petals broader and darker, while the lip is of a very rich dark purple, with the paler tube rolled over the column.

VANDA CŒRULEA.

THIS is one of the most beautiful Orchids in cultivation, and flowering at this season of the year makes it all the more welcome. A very fine example of good cultivation is at present in flower in one of the houses at Keele Hall, Staffordshire. A dense raceme of ten fine bold flowers nearly 5 ins. in diameter on a spike is grand. The flowers of this variety are bold and well shaped, of fine form and substance, and most beautifully mottled with deep blue, more so than is generally the case. This plant succeeds well under Mr. Wallis' treatment. Generally speaking, we find it grown in too much heat, which it does not require, as it comes from the Khasya Mountains, and during the growing season delights in plenty of water.—*Rusticus.*

CATTLEYA DOWIANA.

A VERY fine form of this is now flowering at Gunnersbury Park, Acton. Mr. Roberts states that he received it from Messrs. F. Sander & Co. as a very distinct variety, and it is remarkable for the size of the blossoms, the massive proportions of the lip, its exquisite golden venation, and broad purple margin. —*R. D.*

HORTICULTURAL SOCIETIES.

Crystal Palace.—*October 11th to 13th.*

THE autumn fruit show, held on the dates named, and with which was associated a meeting of fruit growers, called with the object of establishing a British Fruit Growers' Association, was of a much more successful character than, considering the unfavourable nature of the season, could have reasonably been anticipated. The display of Apples was especially good, much superior to that of Pears, while the show of vegetables was everything that could be desired—the cold wet season notwithstanding—and, in our opinion, was the special feature of the exhibition. The Turner Memorial prizes, for twelve distinct dishes, brought about a competition of the keenest character, and a display of unrivalled excellence. For the first prize the contest between Mr. C. J. Waite, of Glenhurst, Esher, and Mr. Lambert, gardener to Colonel Wingfield, Onslow Hall, Shrewsbury, was exceedingly close, and the first-named exhibitor only secured the premier position with a few points to spare. He had samples of Cardoons, Chancellor Potatos, Parsnips, Early Silver Ball Turnips, Tomatos, Autumn Giant Cauliflowers, Rousham Park Onions, Intermediate Carrots, Prizetaker Leeks, Wroxton Brussels Sprouts, and Cucumbers, and needless to say every dish was perfect of its kind. Mr. Lambert's collection contained perhaps larger samples all round, and his examples of the Autumn Giant Cauliflower, Major Clarke's Solid Red Celery, Globe Artichokes, Edgcote Purple Potatos, and Duke of Albany Peas were superb. Mr. Pope, Highclere Castle Gardens, was a good third. There was a fine competition also in a class for the best collection, not more than four dishes of any kind, each of the bulky lots staged being of the most meritorious character. The awards were made as follows:—First, Mr. Waterman, gardener to H. A. Brassey, Esq., Preston Hall; second, Mr. T. A. Beckett, Penn, Amersham; third, Mr. J. Neighbour, gardener, Bickley Park; and fourth, Mr. W. Mist, Ightham. In another competition Mr. Pope came in first, and Mr. Lambert second; and for Messrs. Sutton's prizes, Mr. T. A. Beckett came in first.

The Veitch Memorial Prize for a collection of dessert fruits was won by Mr. Goodacre, Elvaston Hall, with very fine Muscat of Alexandria, Gros Maroc, and Gros Colmar Grapes; Princess of Wales Peaches, specially fine; Pines, Melons, Plums, Apples, Pears, Figs, Currants, Gooseberries, Nuts, &c. Mr. Platt, Longleat, was second, his *pièce de résistance* being a dish of superbly ripened Muscats. Third, Mr. A. Evans, Lythe Hill, Haslemere; and fourth, Mr. J. W. Reed, gardener at Broadwater, Oatlands Park. Contrary to the usual rule, the best prize for a collection of kitchen and dessert Apples this time went to Hereford instead of to Kent, the first and second awards being made to Mr. J. Cranston, of King's Acre, and Mr. J. Watkins, of Withington, and the third only going to Kent, as represented by Messrs. G. Bunyard & Co. Each and all were worthy of high praise, but undoubtedly a remarkably fine dish of Alexander, in the Maidstone collection, was the most conspicuous sample in the show. The best Pears came from Mr. Butler, of Sittingbourne; and among the miscellaneous contributions specially worthy of mention were a collection of eighteen sorts of Apples, a very fine selection, from Messrs. G. Bunyard & Co., and a most interesting collection of Apples, grown on the English Paradise stock, by Messrs. John Laing & Sons. In this department also Messrs. Sutton & Sons contributed a fine selection of Potatos, including several seedlings under numbers, of a most promising character. The arrangements of Mr. Head, as usual, gave the utmost satisfaction, and the exhibition was well attended.

National Chrysanthemum.—*October 10th.*

At the meeting of the Floral Committee of this society on Wednesday of the above date the exhibits were very few compared with those of the Chrysanthemum and Dahlia Show on the 12th and 13th of September; but this, of course, might be anticipated. The largest exhibit consisted of a stand containing nine varieties of Japanese Chrysanthemums, shown by Mr. Robert Owen, Floral Nursery, Maidenhead. These were Mons. William Holmes, crimson, reflexed; M. Levêque, pink; James Salter, soft pink; Miss Burgess, pale rose; Rose Beauty, quilled rose; M. Doboul, pink, tipped white; William Cobbett, soft rose-pink; Edwin Molyneux, crimson and yellow reverse; and Sam Henshaw, rose-red, with a creamy white reverse tinted blush. All the blooms were in excellent condition, and may be considered amongst the earliest of the Japanese kinds. He also showed a rosy purple new incurved variety named Geo. Addison, for which a vote of thanks was awarded. A similar award was made to Messrs. H. Cannell & Sons, Swanley, Kent, for a quantity of double blooms of tuberous Begonias in yellow, scarlet, pink, blush, and white shades. They also exhibited leaves of Cannell's select ornamental Beet (Beta chiliensis), the petioles of which were broad and flat, and crimson, scarlet, rose, pink, white, striped, and yellow in various shades.

PRUNUS PISSARDI.

Among hardy ornamental trees this fine species from Japan holds a high place. The wood and leaves alike are of a deep claret-purple colour. Equal to the purple Beech, it opens of a good colour, and retains the hue until the autumn frosts cause the leaves to drop. So valuable is it that it received two Certificates of Merit from the Royal Horticultural Society—one for its foliage and the other for its flowers. The last-named specimen was brought up from that Eden among nurseries—the Coombe Wood Nurseries of Messrs. James Veitch & Sons. The tree is quite hardy, and it stands in good condition alike in the north as in the south of England; but it is only in highly favourable positions that enjoyment of its blossoms can be expected. It flowers very early in the spring, and therefore is in great danger of having its floral beauty destroyed by late frosts. Therefore I recommend that specimens intended to flower should be lifted and put into pots, and have the shelter of a cool greenhouse or conservatory, for then its harvest of flowers can be enjoyed without fear of blemish. I have a specimen in a pot that has grown well, and has been an object of great interest in my forecourt garden all the summer. It is now housed in a cool greenhouse for the winter, and I hope it will bloom pleasantly in the spring. The summer beauty of its foliage is well-nigh gone, for the leaves are falling fast.—*R. D.*

QUESTIONS AND ANSWERS.

Walnuts and Filberts.—*H. G.:* The preservation of home-grown Walnuts will, we fear, be a difficult matter this year, inasmuch as they have not in many cases ripened well, and the kernel is far from being so plump as it should be. However, the best method of procedure is to thoroughly dry the nuts in an airy shed or loft, so as to get rid of all external moisture; then pack them in jars, boxes, or something of that kind, placing a layer of dry sand between each tier of nuts, after first having dried the sand, if need be, in an oven. Put the boxes, &c., in a dry but cool place until required for use, when a quantity may be taken out and steeped for half-an-hour or so in water, to which a small quantity of salt has been added. By this means they will keep plump and fresh provided they are good when stored.

Pears Cracking.—*P. Haddon:* Your Pears are very badly affected with Fusicladium pyrinum, a variety of Cladosporium dendriticum, a fungus that attacks the leaves as well. Apples are also very frequently attacked by the typical form and often seriously injured. If the characteristic spots are not very numerous the fruits may be spoiled in appearance but will not crack. In the specimen before us, however, the affected spots are so numerous as to coalesce, forming broad patches. When this happens in the early part of the season, before the fruits attain full size, they are unable to swell, owing to the injured and dead epidermis, and splitting takes place to such an extent as to render the fruits useless, as in your case. When leaves, shoots and fruit are affected in this way, the tree becomes unhealthy. No cure is known, and when trees are badly affected the only course that remains is to destroy all affected fruit, uproot and burn them. By lifting the trees, if not too old, and replanting them in fresh turfy soil, they are enabled sometimes to overcome the disease by making strong healthy growth.

Pentstemons.—*J. C.:* In the southern and more favoured parts of Britain a great many of these prove quite hardy, but as a rule the more tender of them succumb in any part of the country in severe winters. The best plan is to take cuttings during August and September and root them in pots, they can then be easily preserved in large numbers in a cold frame. After the weather becomes fairly warm in spring, say during April or May, these rooted cuttings should be planted about a foot apart in well-prepared beds or borders; they soon grow away and form much better plants than old specimens do. If, however, you have prepared no cuttings and must protect the old plants, you could put them in pots or boxes and place them in a cold frame, matting it up during severe frost.

Grub on Pear.—*P. Haddon:* Your Pear tree is attacked with slug-worms, which are the grubs or larvæ of Eriocapsa limacina, a species of saw-fly. The name slug-worm is derived from the resemblance of the grubs in the earlier stages to a slug, due to the presence of a black slimy secretion on the body. At the last moulting this outer coat is thrown off and the grubs are pale in colour, almost white. The best remedy to use is Hellebore powder mixed in water, and to apply it to the trees affected with grubs through the rose of a watering pot. They soon leave the trees after this time and take to the soil, where they hibernate till the spring. By removing the first 3 ins. or 4 ins. of soil and burning it, or carting it a long distance from any fruit trees, you would be able to get rid of the pest. Burning, however, is the surest remedy. The flies themselves, however, are very sluggish, and may be shaken from the foliage of the tree on to a white cloth and destroyed in great numbers, as they feed on the trees in summer.

Mealy Bug on Vines.—*B. and H.:* A composition in which gas-tar plays the most prominent part has been found a very effectual remedy by many growers; gas-tar can be bought at any manufactory at a very cheap rate per gallon. Take a quantity of clay, rub it down fine and pass through a ¼-in. mesh sieve, and add one part of the gas-tar to three of the clay; knead them together till thoroughly incorporated and then add water till the mixture becomes as thin as cream. Hot water answers the purpose best, by causing the ingredients to mix well. The mixture will keep for weeks and only requires stirring up before use. Scrub your Vines after pruning with soft soap and water, using a hard brush, then wash them by syringing and afterwards paint. Give the Vines a thorough cleansing with water mixed with petroleum, and whitewash the walls.

Names of Fruits.—*G. C. C.:* Pear Beurré Bachelier. *G. Bartle:* 1, 10, Williams' Bon Chrêtien; 2, Windsor; 3, Autumn Bergamot; 4, Beurré Bachelier; 5, 11, 12, not known; 6, 7, 13, Beurré Diel; 9, Van Mons. Leon Le Clerc.

Names of Plants.—*C. A. G.:* The plant looks like a seedling of the Evening Primrose, Œnothera biennis, grown in a dry place. *W. Stirling:* 1, Pyrus fennica, also known as P. pinnatifida; 2, Claytonia sibirica; 3, Zygopetalum Mackayi. *O. P.:* 1, Chrysanthemum uliginosum; 2, Aster Novæ Angliæ; 3, Aster acris; 4, Solidago; 5, Helianthus decapetalus multiflorus pleno. Fruit next week. *H. R. M.:* 1, Aster Novi-Belgii var.; 2, Aster Linosyris, also known as Linosyris vulgaris; 3, Linaria triornithophora; 4, Achillea ptarmica flore pleno; 5, Impatiens Roylei; 6, Alyssum maritimum variegatum. *A. L.:* 1, Cratægus pyracantha; 5, Viburnum lantana; 3, Symphoricarpus racemosus.

TRADE CATALOGUES RECEIVED.

G. Bunyard & Co., The Old Nurseries, Maidstone.—Descriptive Catalogue of Fruit Trees.

G. Cooling & Sons, Bath.—Roses, Fruit Trees, &c.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending October 13 was 29·89 in.; the highest reading was 30·04 in. on Monday morning, and the lowest 29.70 in. on Saturday morning. The mean temperature of the air was 45·0°, and 7·2° below the average in the corresponding weeks of the twenty years ending 1868. The mean was considerably below the average throughout the week; the coldest days being Sunday and Monday. The direction of the wind was variable, and the horizontal movement of the air averaged 9·3 miles per hour, which was 0·9 of a mile below the average in the corresponding weeks of sixteen years. Rain fell on Friday to the amount of 0·02 of an inch. The duration of registered bright sunshine in the week was 24·6 hours, against 34·8 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

October 16th.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a good speculative trade being done in Clovers. Prices keep very firm. American Red Clover is again dearer, and large quantities have been bought. There are no new samples of English Red Clovers in the market yet. The new samples of Trefoil are very inferior in colour. Tares are firm, with a little better trade doing. Hemp and Linseed are dearer, and other Bird Seeds unchanged. Blue Peas are dearer.

COVENT GARDEN MARKET.

October 17th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½-sieve	2 0	4 6	Pine-apples, St. Michaels, each	2 0	5 0
Cobs ....per 100 lbs.	65 0	70 0	Pine-apples, Eng., lb.	1 6	2 0
Grapes .....per lb.	0 8	2 6	Plums, ½-sieve	2 6	4 0
Melons	1 0	3 0	Peaches.....per doz	2 0	8 0

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 6		Lettuces ..per dozen	2 0	3 0
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	0 9	1 3
Cabbages .... per doz.	1 6		Onions, per bushel	7 0	9 0
Carrots, New, per bun.	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	3 0	4 0	Radishes, per dozen	1 6	
Celery, per bundle	2 0		Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	0 9	
Herbs, per bunch	0 2	0 4	Turnips, per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Asters .....per doz.	5 0	10 0	Ficus elastica each	1 6	7 0
Chrysanthemums, per dozen	4 0	9 0	Fuchsia, per doz.	3 0	6 0
— large plants ..each	2 0	5 0	Hydrangea, per doz.	9 0	18 0
Cockscomb, per dozen	3 0	6 0	Liliums, var., doz.	18 0	30 0
Colens .....per doz.	2 0	4 0	Marguerites per doz.	6 0	12 0
Cyperus, ..per dozen	4 0	12 0	Mignonette ..per doz.	3 0	6 0
Dracæna term., doz.	30 0	60 0	Palms in variety, each	2 6	21 0
— viridis, per dozen	12 0	24 0	Pelargoniums, scarlet, per dozen	2 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Solanums....per doz.	9 0	15 0
Ferns, in var., per doz.	4 0	18 0			

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Asters, doz. bunches	6 0	9 0	Lilium longiflorum, 12 blooms	5 0	9 0
— (French), 1 bunch	1 6	2 6	Marguerites, 12 bun.	3 0	6 0
Bonvardias, per bun.	0 6	1 0	Mignonette, 12 bun.	2 0	4 0
Camellias, 12 blooms	3 0	4 6	Pelargoniums, 12 sprys.	1 0	1 6
Carnations, 12 blooms	1 0	2 0	— scarlet, 12 sprays	0 4	0 9
Chrysanthemums annual, 12 bunches	2 0	4 0	Primula, double, bun.	0 9	1 0
Chrysanthemums, 12 blooms	1 0	6 0	Pyrethrums, 12 bun.	2 0	4 0
— 12 bunches	6 0	12 0	Roses, Tea, per dozen	0 6	1 6
Cornflower, 12 bunch.	1 6	3 0	— Red .....per doz.	0 6	1 0
Eucharis, per dozen	3 0	6 0	— Saffrano ..per doz.	1 0	1 6
Gardenias, 12 blooms.	1 6	4 0	Stephanotis, 12 sprays	4 0	6 0
Gladiolus, 12 sprays	3 0	6 0	Tuberoses, per dozen.	0 6	1 0
Heliotropes, 12 sprays	0 6	1 0	Violets ..12 bunches	1 0	1 6
Lapageria, 12 blooms	2 0	4 0	— Parme, French, 12 bunches	3 0	4 0
			— dark French, bun.	1 6	2 6

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Next Week's Engagements.

MONDAY, Oct. 29th.—Sales of Dutch Bulbs at Stevens', and Protheroe & Morris's Rooms. Sale at the Osborn Nursery, at Sunbury, by Protheroe & Morris (2 days).

TUESDAY, Oct. 30th.

WEDNESDAY, Oct. 31st.—Sale at the Abbey Wood Nursery, Kent, by Protheroe & Morris. Sale of Bulbs, &c., at Stevens', and Protheroe & Morris's Rooms.

THURSDAY, Nov. 1st.—Sale at the American Nurseries, Leytonstone, by Protheroe & Morris (2 days). Sale of Bulbs at Protheroe & Morris's Rooms.

FRIDAY, Nov. 2nd.

SATURDAY, Nov. 3rd.—Sales of Bulbs at Stevens', and Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, OCTOBER 27, 1888.

CURRENT TOPICS.

CHISWICK REDIVIVUS.—In all discussions which crop up in relation to the welfare of the Royal Horticultural Society, Chiswick, and its future will as constantly be the theme as does a certain question in Imperial politics. But the late remarkably interesting exhibition of Apples and Pears, with the added and singularly enjoyable Conference, have done very much indeed to attract attention to the undoubted advantages which Chiswick presents as a horticultural centre, and as a home for the old Society. The undoubted superiority of the noble vinery there as a place for gathering and for exhibitions over the huge, cold, cheerless barn in James' Street, Westminster, was so clearly established, that everyone was set wondering why it was the Council should have ignored the Society's own gardens for the miserable meeting-place in the vicinity of Victoria Street.

Still further, the excellent attendance at the Conference each day—attendances which would, in our experience, appear to be big crowds at the Drill Hall—plainly evidenced that, in spite of all that may be said to the contrary, people will go to Chiswick if so required. The ordinary attractions of the gardens, in addition to the delight of meeting in such a splendid building as the great vinery, are so numerous that the Drill Hall and its surroundings have no case whatever in comparison. We fervently trust that the rumour may be true that the Council have resolved to hold half of their summer meetings next year in the gardens.

The suggestive resolution which wound up the business of the Conference, and which was so ably proposed by Mr. Malcolm Dunn, of

Dalkeith, so forcibly seconded by Dr. Masters, and supported by Mr. J. Wright, Mr. Roupell, Mr. E. J. Baillie and others, and unanimously adopted, may not have meant so much as we have indicated, or it may have meant very much more. In any case, we shall be pleased if its spirit is allowed to operate in the Council, that Chiswick be taken in hand, if moderately at first, yet generously, that its buildings may —ere it is too late—be put into proper repair, its labour added to, and its locale popularised by the holding in the gardens of the regular meetings and some occasional shows; and we cannot doubt but that very much greater and more practical work will follow. The Society wants money—that fact was emphasised by Mr. Smee at the concluding meeting—but it will not get it in any appreciable amount until it shows greater willingness to do more for Chiswick, and thereby for practical horticulture, than it has done for some years past. Its name has now no talismanic significance in the country, and it is only by its works that it can in the future hope to obtain a liberal measure of public support. Horticulturists have been so long disgusted with the shilly-shallying, waiting for something to turn up sort of policy of the Council, that they no longer take its intentions upon trust. The Council must act now if public confidence is to be retained, and it must act quickly or more energetic bodies will undertake the work that it has too long neglected.

Mr. Hibberd's Resolution.—Whilst it was very obvious that permitting the Conference to disperse without taking some action in relation to the future of fruit culture would be unfortunate, very few of those present at the concluding meeting on Friday were aware of the intention of Mr. Tallerman, on the one hand, or of Mr. Shirley Hibberd on the other, to propose resolutions of a somewhat analogous nature, and, if acted upon, of a practical character also. Mr. Tallerman having treated in an admirable paper on the question of "Railway Rates of Transit for Fruit," thought the Council of the Royal Horticultural Society should be urged to appoint a special committee to look after the interests of fruit growers before the Board of Trade.

Mr. Hibberd apparently desired a wider reference, and seeing that two other readers of papers had asked first for better means for fruit distribution, in the shape of more open markets, and second, for greater facilities for the planting of fruit trees by occupiers of land, as well as for full compensation to such persons for orchard trees; made his resolution to include apparently all matters which in relation to horticulture come under the term of legal or Parliamentary. What the effect of carrying these resolutions almost unanimously, by the Conference, may be on the Council, it is hard to say, although we are far from being sanguine in the matter. The Council is thus placed as it were upon its trial, and if it fails now confidence must for ever be withdrawn from it as an exponent of the horticulture of the nation, however it may represent that of a very limited area.

The promotion of certain bodies termed fruit-growers' leagues and associations just now is more due to the apathy and inaction of the Council of the Royal Horticultural Society than to any other cause; but now they have been so formed it seems doubtful whether they may not find ample scope for useful work, let the Council take what course it may.

The National Chrysanthemum Society.—The convening of the recent general meeting of the members of this growing society, in London has called from a correspondent, also a member, the expression of an opinion that the evening of either of the coming November or January show days, but the November show for preference, should be selected for such purposes. He suggests that as the society includes in its membership so many provincial residents, few of whom can get to London except on the occasion of the chief shows, some endeavour should be put forth to enable all such to share in the business, as well as in the exhibition arrangements of the society. Further, he says that the cost of attending all or only a major portion of the society's gatherings in the year is, for persons who reside only a moderate distance from London, three or four times as much as is the cost of membership, and therefore, efforts should be made to hold meetings at such times as would enable members to attend at the least expense.

The proposal to hold a general meeting of the members in conjunction with the two big shows of the year is a good one, provided the labours of the day will admit of such an arrangement. We very cordially sympathise with our correspondent's desire to share in the business proceedings of the society, and especially as the secretary, in the circular issued convening the last meeting, laid special stress upon the fact that it was to be held to enable members to bring forward any proposals or suggestions they might desire to submit. Of course, such proposals could be sent in writing, but members would not only prefer to do so in person, but also to take part in the discussions respecting them. A conference or gathering is proposed to be held in connection with the Sheffield show on November 16th: why cannot a members' gathering be held on November 7th in London?

Nottinghamshire Horticultural and Botanical Society.—At the monthly meeting of this society, to be held at the Arboretum Rooms, Nottingham, on Wednesday next at 7.30 p.m., Mr. M. Gleeson, Clumber Park Gardens, will read a paper on the "Pine Apple." The Chrysanthemum, Fruit and Potato Show will be held at the same place on Wednesday and Thursday, November 21st and 22nd; and on December 12th essays will be read "On the Duty of the Employer to his Gardener," for prizes offered by Mr. R. Sankey, Bulwell.

The National Auricula and National Carnation and Picotee Societies.—The annual meeting of these societies took place at the Hotel Windsor, Victoria Street, S.W., on the 23rd inst., the Rev. H. H. D'Ombrain in the chair. Present also, Messrs. S. Hibberd (treasurer), J. Douglas (secretary), H. Turner, J. Lakin, R. Dean, T. E. Henwood, &c. The notice convening the meeting having been read, Mr. S. Hibberd presented the accounts as follows:—National Auricula Society: Receipts, including balance in hand, £91 12*s.* 1*d.* Expenditure, including £61 12*s.* 6*d.* prizes, £73 14*s.* 9*d.*, leaving a balance in favour of the treasurer of £17 17*s.* 4*d.* National Carnation and Picotee Society: Receipts, including balance in hand of £11 6*s.*, showed an income of £59 7*s.*, and an expenditure of £52 3*s.* 2*d.*, leaving a balance in hand of £7 3*s.* 10*d.* The financial condition of both societies is highly satisfactory, especially when it is remembered that nothing in the way of financial help came from the Royal Horticultural Society. The accounts were remitted to the auditors, and it was agreed that the financial year shall in the future end on September 29th. The chairman was requested to send a letter of condolence to Mrs. Whitbourn, on the death of her husband, the late president of the society, and Mr. Shirley Hibberd was elected president for the year, Dr. Hogg, Dr. Masters, Mr. J. T. D. Llewellyn and Mr. H. J. Veitch being re-elected vice-presidents; and Mr. T. E. Henwood, of Reading, was elected treasurer in the place of Mr. Shirley Hibberd. The following were elected the committee for the ensuing year:—Messrs. H. Cannell, E. Hill, J. James, R. Dean, C. Phillips, G. W. Wheelwright, W. L. Walker, H. Turner, and T. S. Ware. In the case of the National Carnation and Picotee Society, the president and vice-presidents were re-elected, Mr. T. E. Henwood being appointed treasurer of this also, and Messrs W. L. Walker, J. Lakin, and H. W. Headland being added to the committee. Mr. J. Douglas was re-elected secretary to both societies as heretofore. The appointment of judges was referred to the new committee. The matter of the place of exhibition for 1889 was then considered, and it being thought possible that the Royal Horticultural Society might not be in a position to offer the societies accommodation as usual, the Rev. H. H. D'Ombrain and Mr. S. Hibberd were requested to approach the Crystal Palace Company, to see if they would be willing to provide a place of exhibition at the Crystal Palace, and also make a donation to the funds of both societies.

FRUIT PRODUCTION AND DISTRIBUTION.*

By E. J. Baillie, Chester.

Coming up from pastoral pursuits to this great centre of crowding, clamouring life, how can one express the feelings that somehow naturally force themselves to the front? They may be said to be somewhat thus: Here you have in your great crowded centre somewhere approaching 5,000,000 of souls. This area, with its vast population, has practically grown nothing but bricks and mortar save the trees and flowers in its beautiful pleasure parks and its promenades; and if this great centre were dependent upon its own resources for market produce for its daily needs it would very quickly have to answer its children's cry for bread by giving them stones.

This great multitude must take some feeding. The open country of the shires gives garden ground enough for all. The earnings of the provinces find their way largely into the pockets of the land-owners, and they, in the natural order of present-day methods, spend a large portion of their time and the greater part of their wealth in London. There is a kind of feeling that, seeing so much of the wealth of the country comes here, more might be done for us, and less for the foreign coquettes who court your favour and gain your sympathy and support for such things as we can grow quite satisfactorily at home.

I do not at all fear the bogey of foreign competition. This is, I remind myself, a national conference, but the subject is really universal. The idea involved in fruit production and distribution is too large for a nation. We cannot, for instance, grow the Orange; we should not like to dispense with it, therefore we invite the foreigner to send it to us. But we can produce Pippins; then why should you raise your eyes above the beautiful fertile plains, say, of Kent and Sussex, and with the telescope of a false economy find beyond the seas, in the broad acres of America, Canada, Australia, and elsewhere, the admitted beauty of fruitful plains, but also an added imaginary beauty, really nothing beyond what you could have seen without the glasses within the confining hedgerows of our British orchards?

Land Cultivation the Basis of Economy.

We must, however, get somewhat nearer the chief points to be considered. We must drop figure, and get to facts. We think we may safely start with an aphorism. Cultivation of the land is the basis of all economy. Mother Earth, after all, nurtures the whole family of the human race. "The profit of the earth is for all; the king himself is served by the field." The political economist and the social scientist can touch no profounder problem than the problem of production, and we cannot escape the consideration of the threefold aspect of the laws of life which all rightly civilised people recognise:—1. The population must be properly employed. 2. The people must be clothed and fed. 3. As a necessary condition the land must be cultivated and cropped.

Now, we have already reminded ourselves that we have to take ourselves outside the limit-line of streets and alleys, and get into the open country, where we find agriculture and horticulture side by side, sometimes overlapping each other, but always mainly concerned with these four phases of occupation:—1. Cattle production, under which I would include the rearing and breeding of all animals for slaughter or other purposes. 2. Wheat production, under which head I would include all arable farming. 3. Dairy farming, under which I would include all milk, cheese, and dairy products. 4. Fruit farming, including the production of vegetables and other market produce of this character. The consideration of the question of supply immediately brings before us the question of demand. We ask ourselves—What is demand? Why is it needful to produce? An elementary question truly, but one which has been handled peculiarly by the jugglers of political and other economists. Briefly, produce is needed for the maintenance of political life. It was easy for the French wit to say, "Give me the luxuries of life, let who will take its necessities;" but necessities are—necessities! We then ask ourselves upon what can good health and happy life be best maintained?

The Needful Food of Man.

Well, I fear we should here quickly get into conflict of

* Condensed from a paper read at the National Apple and Pear Conference at Chiswick.

opinion. Doctors differ. I am justified, however, upon the grounds of science and of experience in asserting that men can live, and live healthfully and happily, on cereals and fruit, so that a wheat farm and a fruit farm would meet all national needs. Cattle farming we are not now concerned about.

I know I strike a chord which may not be one entirely of harmony in a meeting of this character, when I say that man can derive all needful sustenance from the cereals and fruit; that is to say, humanity has in fruits—for cereals are fruits—all that it needs. Mark, please, I do not say it has therein all that it craves, but all that it needs.

The Labour Question.

After the determination of what is essential for the maintenance of life we must consider the labour question. Which of the four systems under which we have divided the question of cultivation employs the largest amount of labour, and in which are our labourers the most happily and healthily engaged? Unhesitatingly, with firmest decision, we answer, in fruit production. Quite lately I, by chance, became the travelling companion of one of the largest agriculturists in our county, whose farm lands had been laid down to grass. He had given up corn for cattle, and he told me that as a result fifteen cottages were at that moment standing empty so far as farm labourers were concerned. He had no further use for the latter, and they had gone—where? He did not know, but in all probability to swell the already congested population of the towns. How are we to get our open-faced, honest-hearted country population back to the green lanes and the gardens?

One of the best methods is the development of the industry of fruit production. But is our climate such as to encourage safely the cultivation of hardy fruits? Let us not commit the often rash errors of a too eager enthusiasm. I do not know which most to pity or blame—the blind optimist, who to every question suggesting the possibility of big profits, Arcadian delights, and a contented population always basking in the sunshine of ease and unconcern, replies, "I answer enthusiastically, Yes," or the poor pessimist who says our Apples are only Crabs; that there is a worm at every core; that the glory has departed, and we are all tumbling into the Slough of Despond. But there is a *via media*. It is possible to make the crooked straight, and the rough places plain, if we only set ourselves heartily to find the more excellent way.

Tastes Differ.

Hardy fruits can be grown, and well grown, in this much-despised climate of ours; but, like everything else, it must be done properly. No more subtle sweetness, crispness, and altogether right flavour can lurk beneath the skin of Apple or Pear than can be found in the flesh of a British-grown Cox's Orange or Ribston Pippin, or some of our best Pears; and no sprightly sauciness of brisk acidity can be found in the often insipid flavour of many of the foreign sub-acid Apples to compare with that of a northern-grown Keswick or Lord Suffield. There are those about us, and apparently warmly interested in this movement, who go to extremes in both directions. In this problem of production let us remember we have all tastes to suit, all palates to please, and therefore a wide range for our catering.

For instance, in the larger Lancashire towns, Apples of a brisk sharp flavour find much readier sale than the sweeter fruits, for which there may probably be greater demand in the south. If you can sell at Cottonopolis Keswicks or Lord Suffields by the ton, why not grow them by the acre rather than coddle with somebody's new seedling said to surpass the Newtown Pippin in its sugary flavour when the season is favourable enough for it to fruit? Meet the demand of the district, and proceed cautiously; extend as rapidly as you like, but carefully.

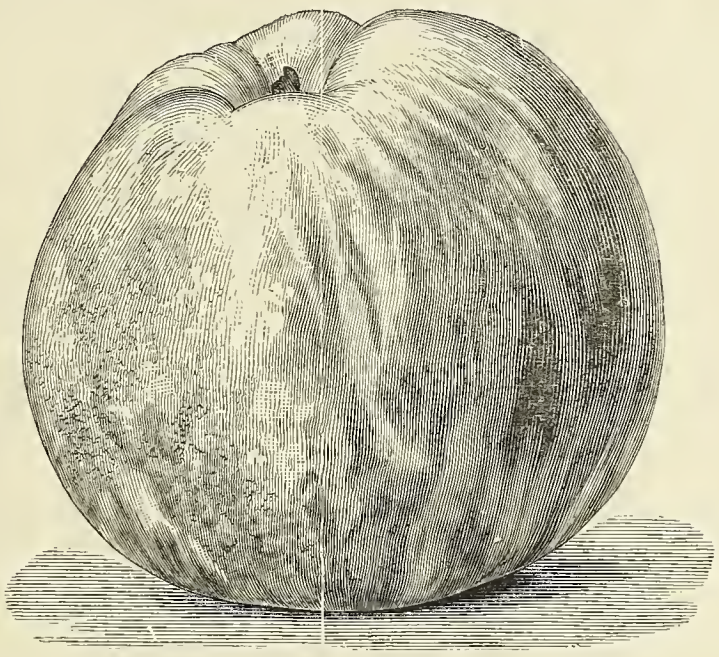
The Typical Farmer's Orchard.

If time permitted me to draw you a picture of the typical farmer's orchard, you would not wonder that fruit growing is a feeble industry in many places. Such so-called orchards are, many of them, excellent hunting-grounds for the entomologist or the cryptogamic botanist, whose special attraction is amongst mosses and lichens. Most of the trees are favourable specimens of artistic antiquity. The only evidence of anything approaching a pruning process which I have ever witnessed amongst some of them was the wreckage of the storm, or the broken boughs at Appletide which had snapped asunder under the weight of the ladder against them.

If the orchards are carelessly kept—or carefully unkept—it is an equally peculiar fact that when fruit is borne by the trees it seems to suggest no necessity for right handling. Mark Twain in one of his sketches enlarges, I think, upon his experience in days when he was assumed to have the editorial charge of an agricultural paper, and in reply to a correspondent, he told him he thought he had himself to blame for the condition of his Turnip crop, the defects of which he had just described. "You should wait," said Mark, "until they are nearly ripe, then get up the tree and shake them down." He found that was not the way Turnips were treated, but the editor had probably seen a county farmer gathering his fruit, for that is precisely the method he follows on such an occasion. All this and much more must be changed before British fruit-growing takes the important place to which it is entitled.

Market Operations and Regulations.

I do not intend to take up the time of this meeting by attempting to deal with one of the most damaging conditions which we meet with as a most serious obstruction in the very outset, namely, that of the railway rates. Nor do I attempt to touch upon that other forcible deterrent—the question of land tenure; both this and the railway question will, I find, be dealt with in separate papers; but until some sweeping change is made in the present system of railway charges, it seems that the British fruit grower will find his industry shackled and weighted to such an extent as to prevent his making a profit at all commensurate with that which he is helping to put into the pockets of railway shareholders.



Apple, Lady Sudeley. Certificated at the Chiswick Conference. See p. 133.

Next to the railway question we require the establishment of some responsible agency or agencies to take up, in combination, the conditions which cannot be successfully fought single-handed, and this agency should not be merely commercially protective, but also educational. Amongst other matters it should collect and publish careful data as to districts, climatic influences, meteorological notes, and such other intelligence as would serve to guide. This body would have to be influential and potent, for the power of monopoly is, as matters now stand, almost invariably against the producer and the consumer, and in favour of some intermediate agent, whose name is legion, apparently, and whose presence may be necessary for the discharge of commercial enterprise, but who ought to be regarded more in the capacity of a carrier or an agent rather than a trader or merchant.

Next we require the provision of centres of sale. Endless time is lost by the producer in his effort to find a market, and neglect at home is consequently unavoidable. It is essential that persons having produce to sell should be brought into contact with persons requiring to purchase, but we have at present no such facility.

Buying Fruit by Name.

Then we ought to be able to purchase fruits by name as to variety. To the farmer mind not so many years ago everything green upon the face of the field was grass. To the mind of the average citizen or citizen's wife anything that is round, and that has been plucked from a tree in an orchard, is an Apple; it matters not whether it be a flavourless Crab or a Golden Pippin—it is an Apple; but we want to initiate the public into a knowledge that certain Apples carry with them certain qualities and certain flavours, and we want then to show that precisely what they want can be supplied. There are advertisements in connection with domestic commodities, which seem to suggest the grave importance of your being sure you get somebody's starch when you ask for it. The same caution should be applied in the pomological department, and when the cook finds out that a certain kind of Apple can be depended upon for a certain quality we should find the beginning, too, of a more definite order of things.

Another great impetus to the home product might be insured if at railway stations and other places where the public gather themselves in masses, English fruit could be obtainable instead of the everlasting French Pears and American Apples. And I should like, if those ugly iron *impedimenta* called "automatic deliveries," or some such wonderful name, are to be tolerated, that they should, in response to the penny and the push, give orchard Plums instead of sugar plums, and Apples and Pears in preference to chocolate or candy.

Selling from Sample.

Another idea that has long possessed me is the idea of the selling of fruits from sample. According to present methods of distribution a producer gathers his fruit and carries it away to the markets, there to stand with a load of it until it is distributed. Those who have learned the art of modern marketing have found out that prices decline as the day wears on, for the grower does not desire to cart even part of a load home again. On the other hand, there may be a system of "topping"—I may be excused if I explain, for of this my present audience is doubtless ignorant, that this implies a process, possibly accidental, by which the larger, better fruits in a basket gravitate towards the top! This is, of course, open to suggestions of unfairness on the other side, but if the grower submitted samples of his fruit just in the way the farmer does who has grain and seed to sell, an immediate relief would result. A farmer does not think of carting the yield of his grain fields to the open markets, but asks the merchant to buy upon the sample placed before him in the market; and he can sell or hold as he then thinks best. He would then be in a less likely position for the imposition of injustice.

Recognition of the Fruit Industry.

Then I think in the interests of distribution our leading agricultural and horticultural societies—agricultural societies especially—should recognise the industry, and admit home fruit products into their schedules of subjects for competition. I am glad to observe that the Royal Agricultural Society of England has taken up the matter, and hope other agricultural societies may now be induced to follow. It is likely that more good will arise from sources of this character than through minor efforts of less prominent bodies, as the subject would then be considered along with the problems of land cultivation in their more important and varied aspects.

I must not forget to include the all-powerful press. We have natural friends in the editors of horticultural publications, but I am glad to see the general press of the country is now taking an interest in the question. Whilst many newspaper readers are evidently competent to take an intelligent view of the matter, there are some who seem to discern in the agitation something like the sectarian movement of a new faith, for which they have quickly set themselves to invent the name of the "Faddist." Well, let it be so.

If we are to get public attention called to the question, we may hope that the long delayed interest will be fairly and fully aroused, and whilst we rejoice in the peace and prosperity of a nation preferring pruning-hooks and plough shares to swords and spears we shall yet the more rejoice when we gain the greater victory, and proclaim the wider conquest of the sickle and the spade.

GARDENING NOTES FROM IRELAND.

THE WEATHER IN THE SOUTH OF IRELAND—NARCISSI.

I SEE by your last issue that very severe weather has recently been experienced in the North of England and Scotland, even affecting the raising of the crops. In New York and Canada it is worse, as I see by the daily papers there is snow knee-deep. Here, except for a few days at the beginning of this month, when there was at night 3° and 4° of frost, there has not been a shower of rain for two months. I was within the past week re-making some beds and borders, some containing bulbs, Roses, and perennials in variety, being undisturbed for several years. I was very unfortunate in the want of moisture, and shall consider myself lucky if I do not lose many of the Roses and Narcissi owing to the want of it, as they had made new growths, which are now dried up as with a March north-easter. Fancy sprinkling and watering to keep Pansies, Anemones, Daisies, Auriculas, Polyanthuses, Primroses, and various spring-flowering bulbs from dying of drought in the last days of October! Yet so it is, in our impossible-of-anticipation climate.—*W. J. Murphy, Clonmel.*

THE EARLY FROSTS.

THE frost seems to have been pretty general on the 2nd and 3rd inst. Here we registered 6° on the first-mentioned date, and 5° on the latter, which was sufficient to cut down Dahlias and other tender subjects, also Beans, Vegetable Marrows, &c. Chrysanthemums, however, have escaped unhurt, except the buds that were commencing to show colour, and then the outer florets were damaged. This is much earlier than I have previously known anything to be cut up.—*E. Dumper, Limerick.*

DOUBLE SUNFLOWERS.

A FEW days ago, when visiting the gardens at Lota, Circular Road, Limerick, the residence of Lieut.-Col. the Hon. L. Butler-Massey, I was much struck with a large double Sunflower, evidently a chance seedling, in a row of Helianthus annuus, but each flower was most perfect, a circumstance not always the case with double Sunflowers. The largest flower produced measured 14 ins., which had only been cut a few days previously. Those I saw were nearly 1 ft. in diameter.—*E. Dumper, Limerick.*

RIPE RASPBERRIES AND GREEN PEAS IN OCTOBER.

IN spite of the sharp frosts at the beginning of the month, the existence of ripe Raspberries and Green Peas is reported this week from Youghal, on the south coast of Ireland. The report states that "such mild weather as has prevailed in the south for the last few weeks has been rarely witnessed, and but for the sharp frosts of a few nights this month, vegetation would have been little checked. This week ripe, full-grown Raspberries were picked at Springmount, near Youghal, and in other places Green Peas can be had. The canes from which the Raspberries were pulled were only put down early in the year, which may account for their bearing fruit at this particular time." Much, I dare say, is also due to the wet and late season for such an unusual state of things.

GREENFIELD, DONNYBROOK, CO. DUBLIN.

THIS place belongs to Mrs. Jury, who is the owner of the celebrated hotel bearing her name in Dame Street, Dublin. It is not a place where money is expended to gratify solely the whims or tastes of the owner, but possesses in a marked degree the qualities recently so much admired by Mr. Hall—"skill and enterprise." Here we have the cultivation of vegetables carried out in a first-class manner; fine plantings of Grange's Autumn Cauliflower now in full use, with other growths of Veitch's Autumn to succeed the former a little later on. There are also good breadths of several varieties of Turnips, Potatos and Mangles. The Potato crop is now being lifted, and proves to be a remarkably fine one for the season, the kind most grown being Beauty of Hebron, all of fine size, and not so much as one diseased tuber amongst them. In addition to these there are large plantings of Jerusalem Artichokes, Cabbages, Brussels Sprouts, Celery, Sea Kale, Rhubarb, &c., all showing the immense amount of production and consumption of vegetables that is going on. With the exception of Mangles and Swede Turnips, which are grown for the use of the cattle and pigs, everything in the vegetable way goes to supply the wants of the hotel visitors. To them such an arrangement must be of great value, as instead of getting vegetables two or three days old, and after the usual knocking about passing through a market, here they have them served up a few hours after leaving the ground, without any breaking or bruising. Of such excellence are the vegetables grown here, that Mr. Mahony, the able and energetic gardener, succeeded in scoring first prize for a tray of them at the show lately held in Dublin.

FRUITS.

APPLES and Pears are grown here in great abundance, and in all manner of ways—espaliers, standards, bushes, pyramids, &c. Here, too, is a large orchard, which would have delighted the heart of Mr. Hall, but whether from the want of skill in selecting the site, or otherwise, I cannot say, but there has not been any profit so far, although the trees are at an age when they should be in a good bearing state. In the garden I found the best crops of Apples and Pears I have seen this year. Some grand old standards were carrying very heavy crops, among them being a couple of Croftons, which have not come under my notice for many years past; these were the white and brown Croftons.

THE ORCHARD.

ALTHOUGH the orchard has been alluded to as not being profitable, so far as fruit is concerned, yet it is turned into a useful purpose, and I have no doubt a profitable one too; and young Mr. Jury is to be congratulated on his enterprise, and the extraordinary patience and skill which he devotes to a department he has made his own. At the south end of the orchard he has constructed a series of houses for the accommodation of fowls, and these latter have the advantage of a fine grass run through the orchard.

AN INCUBATOR.

ALTHOUGH a chat about incubators can hardly be said to be "talking shop," still I have no doubt many of your readers will be interested in knowing what sort of success Mr. Jury has in general with his incubator. First, it may be useful to explain that the one he uses is "Hillier's Patent Atmospheric," which is designed to hatch out 250 eggs at one time. It is not often this is done here, but the chickens are brought out in batches of forty weekly, this mode being found to answer best for the accommodation afforded in another department to which the little chicks are transferred after being hatched. This atmospheric incubator is likely to supersede all those made on the hot-water principle, both on account of its simplicity in construction, and for the ease with which it can be managed. If space permitted, I would gladly try to convey a description of its working, but if I give the results I think it may suffice. Well, with this incubator fully 90 per cent. of the chickens are hatched out and reared, and I remember that not so long since 60 per cent. was thought to be a fair return for the hot-water incubators. After the chicks are hatched they are put into a warm chamber on the top of the incubator, where they are left until they become quite dry. They are then removed to a house containing what is called a "rearing mother." This is a small lamp-heated structure, admirably adapted for keeping up the necessary temperature, and from which they are allowed out when thought needful for fresh air and sunlight. The treatment they were receiving appeared to be of the right sort, as a large number of those permitted to run in front of their houses were robust and hardy chicks. As the result of spring and summer hatching, there is a stock of turkeys and geese, and large numbers of ducks had already been disposed of.

THE HOUSES.

I HAVE scarcely left myself room to notice these, but even here if there are things ornamental there are also some things useful. For instance, in one of the houses treated as a moderately heated stove, I found Cucumbers trained up the roof and bearing a lot of young fruits, and here too is the now popular Tomato, warranted to bring good prices during the winter and spring. A fine Stephanotis is also growing luxuriantly in this house, as well as a numerous collection of other flowering plants. In a cool house there are two fine Abutilons, one being Boule de Neige, white; and A. rosæflorum, red. Another house contains fine plants of Safrano and Maréchal Neil Roses, and various plants of Azaleas, Chrysanthemums, and Rhododendrons.

MISCELLANEOUS.

As showing more of the skill and enterprise carried on in this place it is right I should mention that a very large number of the medium-sized Yorkshire breed of pigs is kept, and precautions are taken to keep the breed pure. In like manner, no cows are kept but pedigree shorthorns, the produce of these, both milk and calves, being used—as also the pigs—to supply the hotel demands. On the whole it cannot be denied that in conducting this establishment there is a good deal of skill, energy, and forethought exercised, and which I would gladly see pushed into many of our private undertakings.—*W. D.*

NOTES ON VEGETABLES.

NEW VARIETIES OF POTATOS.

When "W. S." (p. 115), asserts that Carter's Surprise and King of the Russets are identical with Cobbler and Adirondack, he makes a statement I cannot verify. Adirondack is one of our main crop Potatos; the other three have been grown here two seasons, and they are all so distinct as to give no indication of being one and the same. I feel sure "W. S." must either have planted mixed or substituted seed; the latter is not an unknown practice.—*J. Muir, Margam, South Wales.*

POTATO, KING OF THE RUSSETS.

"W. S.," at p. 115 of your last issue, says that King of the Russets and Adirondack are one and the same thing. Will you allow me to say that Adirondack had not been grown in these gardens when King of the Russets was raised by me from seed. I consider it more after the style of Red-Skinned Flourball, but it is a much better table variety, and far superior to Adirondack in quality besides being more prolific. I do not say that it will cook so well this year as last, the wet summer having been against it, but the wet season notwithstanding it has proved to be one of the best disease-resisting varieties. I planted sixty-three sets of it this year, and the produce therefrom was 207 lbs., out of which only 5 lbs. were bad, which I think speaks well for it. As a constant reader of THE GARDENING WORLD, I should be obliged by your inserting this note in your next issue.—*James Lye, The Gardens, Clyffe Hall, Market Lavington.*

ONION, CRANSTON'S EXCELSIOR.

Amongst the Onions which we have grown this season Cranston's Excelsior has proved itself undoubtedly the best. The seeds were sown inside on the 6th of February, and transplanted into a well-prepared quarter whenever the young plants were large enough to be handled. The crop we have now taken up is highly satisfactory, the bulbs being well shaped and large, one we measured to-day girthing 15 ins., and weighing 21 ozs., while many of them weigh about 1 lb., and girth from 11 ins. to 13 ins.—*W. L.*

CHRYSANTHEMUM NOTES.

EFFECTS OF THE EARLY FROSTS.

Numerous are the complaints to be heard from all points of the compass about the frost of October 3rd.; one place near Windsor registered 16°. Mr. Gibson, of Morden Park, tells me he registered 13°, but he, unlike a great many "Mum" growers, can afford to laugh, for before the thermometer registered 13° of frost all his family (I mean his "Mums") were safely housed under glass—fortunate man! Speaking of early frosts reminds me that I had a letter from one of my correspondents in Sutherlandshire, three weeks ago, which contained the consoling information that they had just had two day's snow, and the corn was still standing; no wonder flour has gone up 8s. 6*d.* per bag in two months.

Mr. Stevens, of Putney, appears to have been one of the greatest sufferers by the frost, but he has still a plentiful supply of good plants for competition, and his groups at the Aquarium may yet show the red light to his fellow competitors in the group classes for the Gold Medal. I was at Messrs. Laing's, of Forest Hill, a few days ago, where they have been more fortunate with their plants, few if any of their buds having been destroyed by the frosts; they already have a nice group of early flowers, and amongst them I noticed some very fine new seedlings. Florence Percy, for which Messrs. Laing obtained the N. C. S. Certificate last year, had some large blooms on a plant about 3 ft. 6 ins. high. This is a grand flower, after the style of Meg Merrilies, but not half so difficult to grow, and carries a much larger flower.—*Practical.*

NEW CHRYSANTHEMUMS.

LINCOLN'S INN.—This new Japanese variety first came out last year. The flower-heads are brownish crimson, and yellow on the reverse of the florets, which are densely arranged, and somewhat twisted. Specimens shown at the Drill Hall, Westminster, on Tuesday last by Mr. William Holmes, Framptou Park Nurseries, Hackney, were only about 18 ins. high. Blooms were also shown by Mr. R. Owen, Floral Nursery, Maiden-

head, and a First Class Certificate was awarded in both cases by the Floral Committee.

SUNFLOWER.—The flower-heads of this Japanese variety are deep yellow, with long, narrow, somewhat twisted florets. It is a new kind of this year's introduction. Blooms of it were exhibited by Mr. William Holmes, at the Drill Hall, Westminster, on Tuesday last, and a First Class Certificate was awarded to it.

EDWIN MOLYNEUX.—There is some affinity between this Japanese variety and Comte de Germiny, although both are quite distinct. The florets are broad, irregularly incurved, brilliant crimson, and nankeen-yellow on the reverse side. It was shown at the Drill Hall, on Tuesday last, by Mr. Geo. Stevens, St. John's Nursery, Putney, and was certificated by the Floral Committee.

MAGICIENNE.—In this we have another variety belonging to the Japanese section, with large brouzy orange heads and recurved florets, while many of them are tubular till near the apex. It was exhibited at the Drill Hall, on Tuesday last, by Mr. Robert Owen, Floral Nursery, Maidenhead, and received a First Class Certificate from the Floral Committee.

CAPUCINE.—The flower-heads of this variety are bronzy orange, and about the size of those of Madame Desgrange. It was exhibited on Tuesday last by Messrs. J. R. Pearson & Sons, Chilwell, Notts, and recommended by the Floral Committee of the Royal Horticultural Society as an early-flowering decorative variety.

CHRYSANTHEMUM SHOWS.

Our thanks are due to numerous readers for additions to the list of dates published in a previous issue, and which are of sufficient importance to warrant the republication of the list as amended.

NOVEMBER.

5.—Surrey, at Peckham.
6, 7.—Southampton, and Isle of Sheppey.
7, 8.—National, at the Westminster Aquarium, Tooting, and Bath.
7, 8, 9.—Portsmouth.
8.—Dawlish.
9.—Acton and Hitchin.
9, 10.—Crystal Palace, and Leicester.
10.—Derby.
12.—St. Neots.
13, 14.—Ascot, Brighton, Winchester, Maidstone, Lambeth, Southwark, Southend, Watford, and Twyford.
14.—Ealing, and Chelmsford.
14, 15.—Bromley, Faversham, Hampstead, Market Harborough, Kent and County at Blackheath, Dartford, Highgate, and Southgate.
14, 15, 16.—York, and Falmouth.
15.—Chiswick, Taunton, Dublin, Wimbledon, Pembroke, and Tiverton
15, 16.—Hinckley, Weald of Kent, Salisbury, Barnsley, Ipswich, and Stroud.
16.—Exeter.
16, 17.—Provincial Show of the National Society at Sheffield, and Canterbury.
19, 20.—Wolverhampton.
20.—Oxford, and Finchley.
20, 21.—Liverpool, Hanley, and Edinburgh.
21.—National: Floral Committee Meeting.
21, 22.—Birmingham, and Rugby.
22, 23.—Hull.
23, 24.—Bolton.
24.—Bacup.

DECEMBER.

5.—National: Floral Committee Meeting.

WINTER-FLOWERING HYBRIDS OF BEGONIA SOCOTRANA.

NOTWITHSTANDING the distinct appearance, habit and botanical characters of B. Socotrana from other species in cultivation, it has proved amenable for producing hybrids with other species widely distinct in almost every particular by which Begonias are characterised. This can best be seen by a consideration of the undermentioned kinds. John Heal is decidedly the gem of the lot at present, and the type of the "new winter-flowering race." A large batch of it in Messrs. James Veitch & Sons' nursery at Chelsea is now a conspicuous feature in one of the low span-roofed houses there, kept at a temperature of from 55° to 60° Fahr., with ventilation at top and bottom, making the atmosphere for visitors very agreeable.

The flowers are of a pleasing shade of rosy carmine, of moderate size, and borne on loose leafless cymes carried well above the foliage, and erect at first, but afterwards slightly drooping. They last from eighteen to twenty days in good condition, and then wither on the plant, commencing at the tips of the sepals. It may be mentioned that trusses of flowers cut off and laid in the sun on a dry shelf to ripen pollen were quite fresh after 24 hours, although the house was ventilated. Plants have been staged at exhibitions three times in succession, and have not been greatly damaged after being taken home. Fog is greatly inimical to the flowers, utterly destroying them; but on the accession of a clear atmosphere they commence to open again, and the plants, in a short time, look better than ever. One very striking peculiarity of this hybrid is that no female flowers are ever produced, so that it can never be used as a seed parent. More is the pity, seeing that the habit is so desirable! It strikes from cuttings, however, like weeds, if they be inserted singly at the side of a thumb-pot. The whole batch now flowering was struck in July, and are now lovely plants, with obliquely heart-shaped light green leaves, densely arranged on the base of the stem. The whole plant is about 6 ins. or 8 ins. high.

B. Adonis commences to flower rather later in the season than the above, and has larger blooms with a good dash of scarlet, the plants running up to a height of from 12 ins. to 14 ins. It is the result of crossing one of the tuberous hybrids with pollen of John Heal, and like that variety, produces no female blooms. The relationship to B. socotrana can be seen in the leaves, which are nearly orbicular. The flowers are more drooping than John Heal, resembling in that respect the ordinary tuberous type. A peculiarity to be noted here is that both of the above mentioned have been propagated from a single seedling in each case, as no more germinated, thus exemplifying some of the risks that attend hybridisation. Adonis strikes from cuttings as readily as John Heal, and both produce bulbils at the base of the stem in the same manner as B. socotrana.

Winter Gem is another hybrid, produced by crossing B. socotrana with one of the tuberous seedlings. The leaves are orbicular, peltate, crenate, and light green, like the seed parent. The plant is a true hybrid, but the flowers only have been changed, being of a deep crimson-scarlet, and although rather small are very freely produced. It flowers even later than the above, and is therefore well named. The plants are very dwarf, and have not yet commenced to flower.

Autumn Rose is the result of crossing B. insignis with B. socotrana. The former is well known as a species which flowers grandly about Christmas, and the hybrid shows most affinity to it; but instead of being 18 ins. or 24 ins. high, is only about 6 ins. or 8 ins., very bushy or leafy. The flowers are rather small and rose-coloured, but freely produced in axillary cymes that rise above the foliage. The latter is light green, resembling that of B. socotrana; the flowers are pretty and already freely expanding.

A more singular instance of hybridisation is seen in a batch of seedlings which have been raised from B. socotrana crossed with B. Rex. The two species, as is well known, are widely diverse in general appearance, and the seedlings show great range of variation in the foliage; but the flowers are of no decorative value as yet, whatever improvements may be effected in them. All of the seedlings exhibit the obliquely heart-shaped form of B. Rex, with the bronzy, silvery grey, and other markings; but the most striking of them has orbicular leaves with overlapping auricles, thus showing a great approach to B. socotrana. There is a small green patch in the centre, surrounded by a broad silvery grey zone, and that again by a brouzy green margin, and the under surface is bronzy red. The plant is evergreen, bushy, leafy, about 6 ins. high, with leaves about the size of those of B. socotrana.

NOTES FROM SCOTLAND.

Notes from Fife.—We annually read the reports, from far and wide, of the state of the fruit crops, and the kinds which are bearing best in the districts from whence the reports are sent, but we know for certain that many of the remarks and facts adduced are not representative, being only from one isolated garden, and not calculated to give correct data of the district. A large garden, with fine walls, plenty of orchard and other trees may be seen, but under no system of cultivation, at least, such as might keep the trees in fruitful condition. While a short distance off root-lifting, systematic summer pruning, and skilful attention is given, which keeps the trees in such a good condition as to warrant good reports in most seasons.

But while such attention is so justly given to furnish correct reports on the fruit crops, it is a matter of surprise why pains to report vegetable crops is not taken, such as noting the kinds, soil in which they are grown, productiveness, and quality. Fruit, especially Apples and Pears, can always be purchased at a low rate, but good fresh vegetables are not so easily secured in inland districts; and one hears of, and sometimes sees, great failures, especially when the seasons are dry like the summer of 1887, and also wet and cold like the past months of 1888 between March and September. Correct notes, from reliable sources, might show how fair success may be realised in some gardens, be the season what it may, and not always where situation and soil favours the cultivator, but where skilful manipulation of the soil has from year to year had consummate attention. While we have seen some gardens during the past season which have been unproductive, others have been visited which yield good crops when cold and wet have been excessive, as well as when drought has been scorching.

DUNNIKIER GARDENS.

While making a hurried call at the gardens of Dunnikier, near Kirkcaldy, a short time ago, we noted the skill applied by Mr. Dewar, the head gardener, to so manipulate the land that the greatest quantity might be taken, as well as to raise produce of sterling quality; and this is not land that can be scratched with a rake after the preceding crop has been removed, minus manuring or digging, but ground which has been brought to a high state of cultivation by deep tilth and abundance of hard work. We know that some cultivators can, with impunity, avoid trenching and such labour as that referred to in this fertile Fife garden, but we also are aware that such favoured cases are where the soil has in earlier days been turned upside down frequently, and every effort made to make it friable and sweet. The crops then in use at Dunnikier, and those which are to give supplies months hence were alike most creditable, and are at all times such as attract attention by their profusion minus confusion. Those who object to a free use of the spade in the vegetable garden might be induced to change their opinions if they knew the amount of good produce which has from season to season been raised at Dunnikier, and the success attained in vegetable culture by indomitable perseverance with tenacious cold unwieldy soil. The kinds of vegetables which are suitable to soil and district are cultivated; new ones of promising character receive impartial trials, and good results follow, as we noticed in some plots of Potatos that were yielding enormous crops. Peas, which have generally filled badly this season, were of the finest description, though the names of them we fail to remember.

Vegetable culture is not the only specialty at Dunnikier, for herbaceous plants, outdoor fruits, and Grapes and Peaches under glass have had skilful management for many years, and the quantities of them which have been raised from season to season have given excellent returns for the labour and skill expended. Black Hamburgh is here considered the earliest Grape, with Muscat for later supplies, while for the latest kind the much-valued Lady Downes is cultivated. Among Peaches Royal George appears to be valued most. There are many fine features at this comely and interesting place which are of interest, and worthy of special note. The fine views from the beautiful front of the mansion are very attractive, stretching across a fine park and woods in the distance, beyond which is the Firth of Forth, completing as fine a picture in the landscape as may be found in Scotland. There are many old plantations giving shelter, which are attractive by the density of their outline; walks leading to shady nooks, where Ferns and Rhododendrons grow in great luxuriance. A path leads through a Fir plantation, where one comes suddenly on a small lake situated in one of those happy positions which is so difficult to find in many places where the formation of a lake is very desirable. Additions to this water picture have been made with care and due consideration to assist a natural object, rather than to deface the same by mechanical art, as is too often the case. There are outside the private policies miles of walks in glens where the respectable inhabitants of the somewhat thickly populated district are admitted to enjoy, unmolested, the quiet and refreshing retreat so ample and varied on the beautiful estate of Dunnikier.

It need not be wondered at that the worthy proprietor has attained a popularity second to none in the country. The kindness of J. T. Oswald, Esq., at home commands the esteem of those to whom he is best known, and the urbanity of his deportment towards his neighbours in the district has ensured this Fifeshire Laird the respect which he so justly deserves.—*Caledonian.*

FLORICULTURE.

Winter-flowering Carnations.

I HAVE proved long since that under certain conditions those varieties of Carnations which are known and classed as summer-flowering may be had in bloom during the autumn, winter, and spring months; but I do not accept this fact, though it be considered as a proof that, in the natural order of things, they can be relied upon as being *bonâ fide* winter-flowering. My experience rather leads me to the conclusion that circumstances of an extraordinary and unusual character to which the plants have been subjected have very materially conduced to an extraordinary growth; hence the issue in the results obtained. I have for years past propagated these plants, especially the yellow kinds, by means of cuttings, or, perhaps, to use the old and more technical phraseology, pipings. These having been put in at different periods of the year, has led me to conceive the idea that the whole issue evolved was, in the main, due to the treatment to which the plants had been subjected. I have frequently taken up plants from borders and beds in the autumn, well and beautifully furnished with flowering stems, and by potting them carefully, and placing them in a warm part of the plant house, they have given a continuous supply of fully-developed lovely blooms during the winter and early spring, when, as a matter of course, they are most acceptable.

The Carnation and the writer are very old friends. I have a few fine robust plants that will flower early, the seed of which was sown on April 16th last. These are throwing up apparently for bloom, and at the same time making strong lateral growths, which will be made use of for increasing those that may prove worthy of perpetuation. I have also a nice healthy little batch of seedlings from Pride of Penshurst crossed with another fine yellow, that were sown on July 22nd last. These have been potted off for some considerable time, and are sturdy little plants, which are watched with considerable interest.

In looking over some of my plants growing in the open border I find several are throwing up for bloom—some have their buds formed. These, of course, will be carefully potted up, and, as on previous occasions, are sure to do well. I have had some little to do with the Carnation in my time, but I am not slow to confess that your correspondent, "R. D.," has much the advantage of me in practical experience, as in speaking of his treatment of Carnation Germania his manipulation is of such a character that, as he states, his plants are "making a free growth from the dead wood." When I read this paragraph I all at once became somewhat mixed in my ideas, and the words "Can these dry bones live?" at once suggested themselves to my mind. Perhaps "R. D." will be induced to more fully explain what he intends to convey in respect to the paragraph to which I allude.—*George Fry, Lewisham.*

Seedling Carnations.

MY old friend, William Wardill, of Luton, whose heart, with its great love for flowers, will always be young, even if he lives for another century, writes to say what a treat he has this season enjoyed in blooming a large number of seedling Carnations. In an outburst of enthusiasm, he writes: "I dearly love the glorious Carnations and Picotees of the show section; but I must say that nothing in this way is so delightful and interesting as a bed of seedlings, if obtained from a good and reliable strain; to sow the seeds, to watch their germination, the development of the seed-leaf, and witness the grass acquiring a healthy richness; to see the lengthening of the flower-stem, the swelling of the bud; to note the formation of the calyx, to calculate whether the flower will be semi-double or fully double, until it bursts forth in all its splendour of goodness or disappointing mediocrity." I can quite understand this outburst on the part of my old friend, for both the poetry and the romance of flower culture is included in the process of raising and blooming seedlings.

Mr. Wardill bloomed a large quantity of seedlings of good blood during the past summer, and he reports that he has not been disappointed, although the weather was so much against the perfect development of the blooms. He had some very good ones—some indifferent, of course, but none bad, which is saying a great deal, and never before had he so small a proportion of single flowers. It is the fancy and yellow Picotees that are more particularly engaging Mr. Wardill's attention. He has some promising wire-edge yellow-ground Picotees, which he will prove next season, and hopes to have among his batch of selected ones some that will compare, in point of quality, with the white-ground Picotees. Mr. Wardill's aim is to obtain a batch of true yellow-ground varieties, and I sincerely trust he may succeed.

My old friend is an example to all who are lovers of the Carnation, as all who can should raise seedlings. I am afraid the past summer has proved a very bad one for the production of seed. Many of the pods swelled up, and seemed as if they would fill with good grains; but they are quite barren, so that it may prove difficult to get good seed; still, it is to be obtained in the right quarters. The safest plan is to sow in early spring; but anyone who has a warm house or frame in which to keep their seedlings during the winter will do well to sow at once in pots, pans, or shallow boxes, using a fine, light, sandy soil.—*R. D.*

THE LATE MRS. EYRE CRABBE.

THE death is reported of this estimable lady and kindly patron of horticulture, so well known at Southampton, the sad event having taken place at Bellagio, Italy, on the 12th inst., and at an advanced age. Mrs. Crabbe's beautiful place near Southampton, known as Glen Eyre, is a very lovely garden, full of pleasing features, and rich in choice trees and shrubs; whilst in the matter of Camellias, few gardens have greater wealth. The deceased lady, who was a thorough gardener, and possessed a knowledge of plants far from common, made the cultivation of Camellias as ordinary hardy shrubs at Glen Eyre one of her specialties, and remarkably well was she repaid. It was always a part of Mrs. Crabbe's garden creed that Camellias are as hardy—nay, even hardier—than Laurels. Certainly, in this somewhat southern locality, they grew like Laurels and bloomed in marvellous profusion.

Glen Eyre partly lies at the head of, and partly in, a glen looking east. The mansion stands broadwise across the head of the glen, and the grounds drop away from it in a series of richly-planted terraces, and on either side of the glen in sloping form, clothed with fine Conifers, Rhododendrons, Azaleas, &c., whilst the Camellias are dotted or clumped here and there in diverse positions. The soil, which is of a semi-peaty nature, such as naturally suits the Rhododendron, seems most admirably adapted to the requirements of the Camellia also.

Some fifty years ago, the late Mrs. Crabbe—then Mrs. Spooner, for she had married her first husband when quite young—was a notable supporter of the old Hampshire Horticultural Society, which then held its meetings alternately at Southampton and Winchester, and in rooms which, for dimensions, as compared with the immense tent area now covered by the Royal Southampton Horticultural Society's shows, serve only to raise a smile. Still, fifty years ago horticultural societies were not only in their infancy, but the amount of material at the disposal of growers compares very indifferently with the wealth of material now at their command. It is a long time since, but still there remains vividly impressed upon my mind the reports of those early shows when the awards for plants seemed to be made with persistent monotony to Mrs. Spooner; the Rev. Mr. Beadon, later Canon Beadon, who a few years since died a centenarian; the Rev. the Warden of Winchester College, whose gardener was Mr. Weaver; and the Rev. Mr. Rasleigh, of Hamble. It was not a matter for surprise if in time such a poorly patronised society died out, and from its ashes arose the present Southampton Horticultural Society, which is without exception the largest of its kind in the South of England.

In those days the site of what is now a huge skating rink comprised the chief exotic, or as termed, the Spa Gardens of the town. They were the palmy days of the old nursery firm of W. B. Page & Son, who also had extensive nurseries at Hill, just outside of the town, long since given over to the speculative builder. Some few smaller nurseries existed in the town also, but these, too, have disappeared, whilst almost alone there remains intact the famous Red Lodge Nurseries, situate in a commanding position at the top of the grand drive, some two miles long, which leads from the town towards Winchester. Here also Mr. W. H. Rogers, J.P., one of the old nurserymen of half a century since, still conducts an extensive business. Almost immediately opposite to the Red Lodge Nursery, a road branching off to the east leads to Glen Eyre, which is about half a mile further on. The district is very elevated, is a singularly beautiful one, and commands one of the finest views in the county of Hants.

For the whole of the period of the late Mrs. Eyre Crabbe's residence at Glen Eyre, she has been efficiently seconded in all her gardening enterprises by her faithful gardener, Mr. Stewart. Even when the Glen was a waste of common and woodland, Mrs. Crabbe, with her late husband, Colonel Crabbe, and Mr. Stewart, planned and arranged, worked and planted, until from out of the wild waste in time arose the garden paradise which is now Glen Eyre. Specially devoted to the culture of spring flowers, and possessing a situation which planting had done so much to shelter, Mrs. Crabbe always had during the early spring a very lovely floral display in her terraced gardens—Primroses, Daisies, Pansies, Forget-me-nots, Aubrietias, and, indeed, any good massing early flowers, from out of which gloriously-coloured Tulips, Hyacinths, Narcissi, &c., would arise in rich beauty. Ere these flowers had passed away the Camellias would be blooming profusely, and the earlier Rhododendrons and other shrubs would still further help to enrich the garden with beauty and sweetness.

It may interest some of our readers, especially that just now Apple culture is so much on the tapis, to learn that the Beauty of Hants Apple—a seedling from the Blenheim Pippin, but more conical in shape and brighter in colour—originated at Glen Eyre, the parent tree standing near Mr. Stewart's house in the gardens. Mrs. Eyre Crabbe is succeeded at Glen Eyre by her son, Major Eyre Crabbe, who inherits all his late mother's fondness for gardening—a taste which seems to run in families, and blessed indeed are those families in which a love for horticulture is a dominant feature. Mrs. Crabbe was a munificent supporter of philanthropic institutions in her locality, and it is very possible that in remembrance of her goodness some memorial may be raised to her memory. To my mind, however, remembering only her devotion to horticulture, I regard Glen Eyre itself as her noblest memorial, because practically the creation of her own gardening ideal.—*A. D.*

THE TREE OF HEAVEN.

THE beauty of its leaves and its elegant appearance make the Ailanthus an ornament to any plantation. Ailanto is the name of this tree in the Moluccas, and it is said to signify the Tree of Heaven, an appellation probably bestowed on account of the rapidity of its growth and the great height to which it reaches in the East Indies, its native country. It has proved quite hardy, and is frequently to be met with, being a conspicuous feature among other trees. When quite young it is not unlike a Sumach in appearance, but the extreme rapidity of its growth, and the great size of its pinnated leaves, in some instances 4 ft. and 5 ft. long, soon distinguish it from that shrub. During the first half-dozen years it outstrips almost any other deciduous tree in vigour of growth, and leading stems have been measured which had grown 12 ft. to 15 ft. in a single season. In four or five years, therefore, it forms quite a bulky head, but after that period it advances more slowly, and in twenty years would probably be overtopped by the Poplar, Plane, or any other fast-growing tree. It has been stated that European workmen have applied its wood to cabinet work, for which, from its close grain and bright satin-like lustre, it is well adapted. The Ailanthus has been much planted under the name of the Celestial Tree in the streets of New York and Philadelphia. I do not think it has been so used in this country. It is said to be well suited for the purpose, for it will insinuate its roots into the most meagre and barren soil, where few other trees will grow, and soon produce an abundance of foliage and fine shade. It appears to be also perfectly free from insects, and it is not a slovenly tree like the Acacia and others, for the leaves, instead of dropping slowly and for a long time, fall off almost immediately when frost commences. The male and female flowers are borne on separate trees; the male forms the finer ornamental specimen, the female being rather low, and spreading in its head.—*E. W.*

THE NATIONAL APPLE AND PEAR CONFERENCE.

THE enjoyable and instructive conference held at Chiswick last week, was brought to a very satisfactory conclusion on Friday afternoon, and on Saturday at 4 p.m. the show was closed to enable some of the exhibitors to get their collections away to Manchester for the show at Old Trafford this week. The number of visitors was not large at any time, but they were of the right sort—mostly men deeply interested in the business on hand, as distinguished from the mere sight-seeing portion of the community.

The total number of dishes of fruit staged was, we believe, about 4,000, the greatest number being composed of Apples, but whilst the national fruit thus considerably exceeded the Pears in bulk, it must be

admitted that, having regard to the season, these latter were generally exceptionally fine. The chief weakness was to be found in some of the high northern collections, but these were equalised by some of the samples from western districts, so that we may freely admit that the Pear season is a very moderate one. Both of Apples and Pears, the finest fruits staged were from house-grown trees, and some of the samples were remarkably fine, but beautiful as they were, they were yet unfortunately misleading, because no indication was afforded to the onlooker that they had been so produced. We should be greatly disappointed in the product of the conference were it assumed that only good samples of Apples and Pears can be produced under glass, and specially unfortunate would such an impression be at a time when so much effort is being made to stimulate hardy fruit culture as a national industry.

As to Apples generally it was made fully evident that apart from the glass-produced samples, we can grow fruit second to none in the whole world, if we will only set about it in the right way, and with the right sorts.

Of new kinds there were not many of exceptional merit that were not seen at the first Apple Congress, but these were shown in greater numbers, and came out strong in the class for new or recently introduced varieties. From this class the judges selected some seventeen varieties for the award of Certificates of Merit, of which we give brief descriptions.

King Harry.—Fruit of medium size, conical, yellow, red on the exposed side, and suffused with russety spots; early, and sweet. Dessert. Exhibited by Messrs. Jas. Veitch & Sons, Chelsea.

Baumann's Red Winter Reinette.—Medium size, flat, very red, and handsome. Culinary or Dessert. Exhibited by Messrs. J. Veitch & Sons, and by Mr. C. Ross, Welford Park, Newbury.

Bismarck.—Large, flattened, deep red, handsome. Culinary. Exhibited by Messrs. J. Veitch & Sons, and by Messrs. Geo. Bunyard & Co., Maidstone.

Mrs. Barron.—Known also as Yellow Bellefleur. Fruit large, conical, greenish yellow, and somewhat angular at the eye. Culinary. Exhibited by Messrs. J. Veitch & Sons.

The Sandringham.—Large, conical, yellowish green, suffused with brownish red, and somewhat spotted. Culinary. Exhibited by Messrs. James Veitch & Sons.

Seaton House.—Fruit medium to large sized, flattened, yellow, suffused with red on the exposed side. Exhibited by Messrs. J. Veitch & Sons.

Tyler's Kernel.—Large, conical, deep red, and greenish yellow on the shaded side, handsome. Dessert. Exhibited by Messrs. J. Veitch & Sons, and by Messrs. George Bunyard & Co.

Schoolmaster.—Medium to large size, round, but deep, and inclined to be conical, greenish yellow, suffused and spotted with brownish red on the exposed side. Culinary. Exhibited by Messrs. J. Veitch & Sons.

Herefordshire Beefing.—Also called Herefordshire Beaufin. Fruit small or medium size, broad at the base, flattened, deep purplish red, except at the base. Culinary. Exhibited by Messrs. J. Veitch & Sons.

Bramley's Seedling.—Large, flattened at both ends, green, slightly suffused with red. Culinary. Exhibited by Messrs. Robert Veitch & Sons, Exeter, by Messrs. J. Cheal & Sons, Crawley, Sussex, and by Mr. W. H. Frettingham, Beeston, Notts.

New Northern Greening.—Medium to large, round, or the larger ones flattened, green, slightly spotted red. Culinary. Exhibited by Messrs. George Bunyard & Co., and by Mr. W. H. Frettingham.

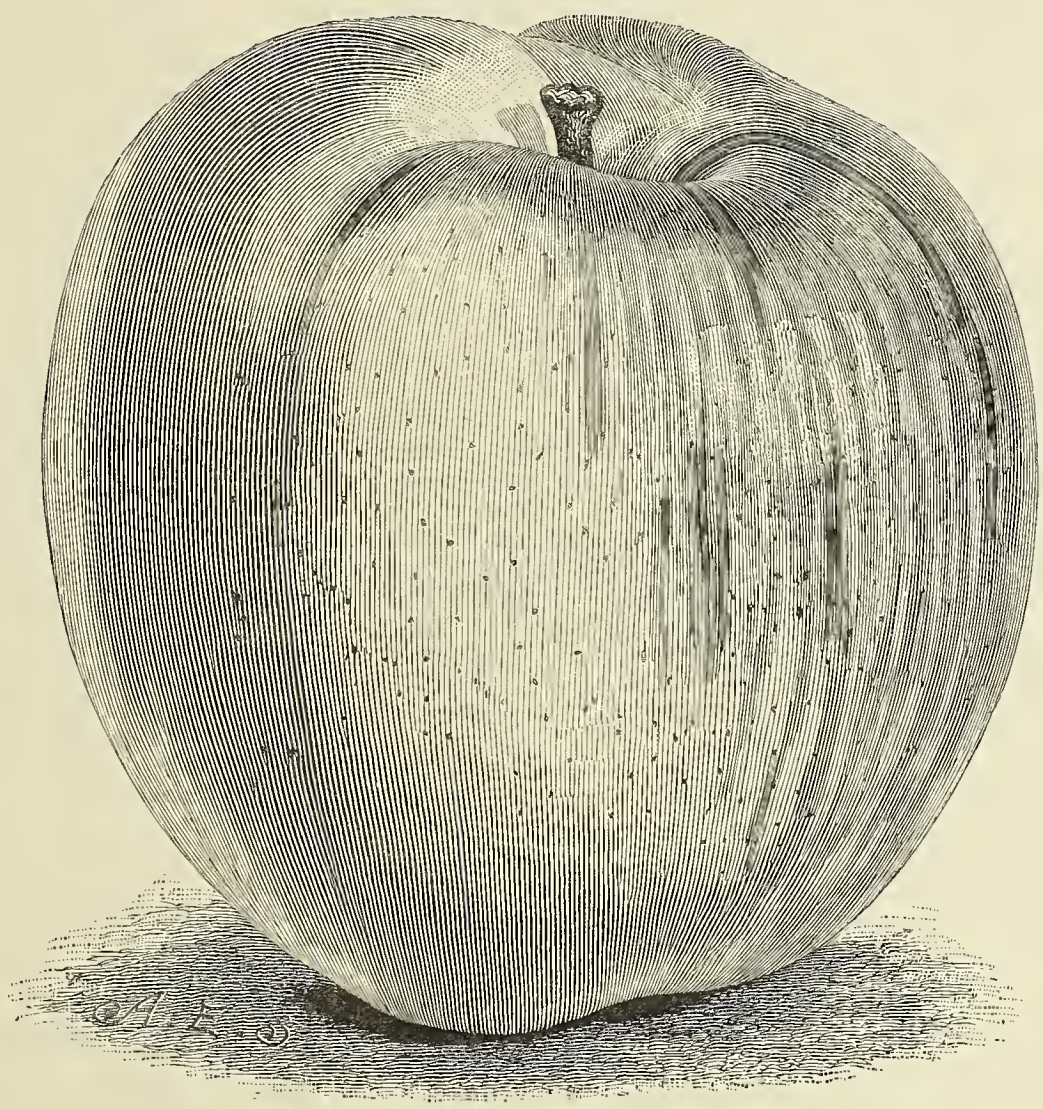
Gospatric.—Medium to large size, conical, yellow, deeply plaited round the eye. Culinary. Exhibited by Messrs. Geo. Bunyard & Co., and by Mr. C. Ross.

Scarlet Nonpareil.—Small, round, green and suffused with brownish red. Dessert. Exhibited by Mr. Charles Turner, Slough.

Gascoigne's Scarlet Seedling.—Medium size, flattened, strongly five-angled, bright red, spotted, handsome. Culinary or dessert. Exhibited by Messrs. Geo. Bunyard & Co.

Okera.—Also spelt Akera. Medium or small size, oblong-conical, five-angled, yellow, or heavily suffused with salmony red, and often of a deep red on the exposed side. A Swedish Apple. Dessert. Exhibited by Messrs. Geo. Bunyard & Co., by Mr. T. Bunyard, Ashford, Kent, and by Messrs. J. Cheal & Sons.

Lady Sudeley.—Medium to large size, flattened or oblate, yellow, and richly suffused and splashed with red. A very handsome early dessert Apple. Exhibited by Messrs. J. Cheal & Sons and by Messrs. George Bunyard & Co. (see p. 129).



Apple, Mrs. Barron, Certificated at the Chiswick Conference.

Egremont Russet.—Medium or small size, round, flattened, mid-season, of a uniform pale russety colour. Dessert. Exhibited by Messrs. George Bunyard & Co.

It was a feature of the show that no prizes of any kind were given to the collections, but individual samples of exceptional merit of all the best known kinds were selected for the award of a special certificate, and a large number were so honoured.

The Conference.

In our last we gave a brief summary of the conference proceedings on Wednesday. On Thursday, when Mr. Shirley Hibberd took the chair, the first paper read was on "Canker in Fruit Trees," by Mr. E. Tonks, Knowle, Warwickshire, and in the discussion which followed Mr. Clarke, Mr. Pearson and Mr. J. Fraser took part, the latter gentleman pointing out the absence in Mr. Tonks' paper of any reference to the experiments of Goethe, who in 1880 discovered that canker was produced by a fungoid organism, to which the name of Nectria ditissima was afterwards given. The chairman then stated that Mr. J. Douglas was unable to be present to read his paper on "Canker: its Cause and Cure," and pointed out its salient features, which led up to the general conclusion that good cultivation was its best preventative. Mr. John Fraser next read a paper on "The Enemies of the Apple and Pear," Mr. Clarke, Mr. Roupell and Mr. Pearson taking part in the discussion which followed. The succeeding paper was by Mr. J. Cheal, Crawley, on "Varieties of Apples for Sussex, and their Cultivation on Heavy Soils," at the conclusion of which Mr. C. J. Heale, Mr. Cannon, Mr. Bunyard, and Mr. Clarke entered into the general discussion. Mr. M. Dunn followed with a paper on "The Selection of Apples and Pears for Scotland," which brought the proceedings to a close.

On Friday Mr. Harry J. Veitch took the chair, and the papers read were on the "Distribution of Apples and Pears from a Provincial Point of View," by Mr. E. J. Baillie, of Chester (see p. 128); on "Compensation for Orchard Planting" by Mr. W. E. Bear; and on "The Railway Difficulty in Relation to Fruit, and how to deal with it," by Mr. D. Tallerman, at the conclusion of whose admirable paper Mr. Shirley Hibberd moved

"That a conspicuous result of the conference this day concluded is to make it evident that the subject of commercial fruit culture is one of great and growing public interest, and that there exists a corresponding desire to remove or modify the various impediments that law, usage, and misconception of facts have created and sustained against it. The Royal Horticultural Society, having special facilities for obtaining and diffusing information on all that relates to horticulture, this conference respectfully requests the appointment by the council of a Law and Parliamentary Committee for the consideration of the impediments above referred to." Mr. J. Corner seconded the resolution, which was agreed to.

Mr. Tallerman then moved, "That in the event of the committee being appointed, this conference desires to urge the early consideration of the question of railway charges as affecting the growers of fruit and vegetables." This was seconded by Mr. Philip Crowley, and also passed.

Mr. Malcolm Dunn next moved, "In view of the great public advantages that have accrued from the previous conferences held in these gardens, and the marked success of the present one, members of the executive committee of this conference, Fellows of the Royal Horticultural Society, and other horticulturists here assembled, who are deeply interested in the society's welfare, and in the important question of developing the progress of scientific and economical horticulture, including especially the fruit-growing capabilities of the country, respectfully submit for the earnest consideration of the council of the society the desirability of concentrating the society's resources to the utmost practicable extent upon the maintenance of the Chiswick Garden, so as to enable it to fulfil its mission as the national exponent of practical and experimental horticulture." Dr. Masters, F.R.S., seconded the resolution, which, after some discussion, was unanimously adopted. Votes of thanks were passed to the readers of papers, to the Rev. W. Wilks, the secretary of the society; to the chairman, Mr. Veitch; and to the superintendent of the Garden, Mr. Barron.

Lobelia syphilitica.—This species is a capital plant for a damp boggy corner. In such a position it will flower very freely, and assist in converting an unattractive spot into an interesting part of the garden. Our best plants are growing in company with L. fulgens in a bog bed raised a few inches above the water level. The best flower spikes are produced by taking the off-sets early in the autumn, and growing these on in preference to keeping old plants.—*J. W. O.*

The Amateurs' Garden.

Winter Bedding.

Various substitutes have from time to time been proposed and used in the beds in place of the gay summer occupants. Amongst these the use of coloured stones, including white marble, coals, slates, red bricks, and other things, supplies colour, but they constitute but a poor substitute for living plants. Variegated Kales have also been used, but although they afford a considerable amount of variety in colour they have never become popular. Prejudice has no doubt a great deal to do with it, as few care to have the flower garden planted with vegetables, notwithstanding the purple, red, white, yellow, and other shades with which the finely curled leaves are variegated. When winter bedding pure and simple has to be done, no better substitute has been found than such as are supplied by Conifers, Hollies, Box, Euonymus, and other evergreen subjects. Amongst Conifers, small plants of Retinospora plumosa, R. p. aurea, R. p. argentea, R. leptoclada, R. squarrosa, Cupressus Lawsoniana aurea variegata, C. L. lutea, C. L. erecta viridis, and many others could be named, that if obtained in a small state, will answer the purpose for some years in succession, till they become too large. All of those named submit to pruning, and can therefore be kept in a small state. Variegated Hollies in many forms and hues supply a warm rich glow of colour, such as few or no other subjects can.

Spring Bedding.

Now that there is no further excuse for retaining the summer flower bedding in its present dilapidated condition, the plants may be thoroughly cleared away, and the beds manured and dug up. In their stead plant Wallflowers, Silene pendula compacta, Daisies, Polyanthus, Primroses, Arabis albida or its variegated variety, Myosotis sylvatica, M. s. alba, and many other early-flowering subjects that render the spring garden one of the most enjoyable of the whole year. As to which of the above should have preference, if space is limited, individual taste will have to determine. Of course, by planting the beds with neat and tasteful designs, all may readily be utilised, and prove effective when in flower. In late seasons spring bedding lasts till well into summer, and one feels loath to pull it up when at its best, although the summer occupants greatly require planting. A little foresight should be exercised, so that spring-flowering subjects may occupy the beds intended for planting last. For instance, where carpet bedding is attempted, those beds are generally the last to be filled with their summer occupants; Heliotropes are also late in being put out, so that spring-flowering subjects may more conveniently be planted in them. Pelargoniums, Fuchsias, Lobelias, and other things in pots would also prove suitable for planting out after the spring bedding has been pulled up.

Herbaceous Borders.

As soon as annuals, such as Marigolds, Clarkias, Stocks, Asters, and similar things that may have been planted in the borders for the sake of variety, become cut down by frost or look untidy, they should be cleared away to the rubbish heap. Lift Dahlias and Gladiolus if not already done. Tie the latter in bunches, and hang them up in a cool airy place to dry. Before cutting down any of the perennials, the proper occupants of the borders, see that their heights have been notified, so that tall ones may be transplanted into the back lines, and dwarf ones brought forward if need be. Perennial Asters, Chrysanthemums, and such things as are still flowering should not be disturbed at present, but they may be marked out for regulation later on. Fleshy rooted plants, including Pæonies, Delphiniums, Aconitums, and Alstrœmerias had better be left till spring. Although quite hardy, they would be less able to repair any damage to the tubers than they would when growth recommences. The present is, however, a good time to lift most things that have completed their growth, if necessary to transplant or divide. The soil is still dry, and retains a little warmth, so that a good deal of root growth will yet take place before winter, and damaged roots will have time to recover themselves.

Ventilation of Frames and Greenhouses.

Many amateurs may be disposed to think that in the absence of bright sunshine there is no necessity to ventilate. But short days, damp weather, and fogs, will in a short time now make their unwelcome presence felt by the damping of all kinds of bedding plants, but particularly Pelargoniums and Lobelias. The latter are very liable to get lost, should they consist of late-struck and badly-rooted cuttings. All these difficulties can best be surmounted by thorough ventilation on all favourable occasions. In mild weather, all houses containing bedding plants should be ventilated top and bottom, unless foggy. Cold frames should have the sashes taken right off during the day, unless it rains or the weather is otherwise unpropitious. They may, however, be well tilted up when it is mild. In this way only can the occupants be kept in a robust and healthy condition. In the greenhouse very little water will be required, and only those plants that are actually dry should be watered; this should be done in the morning, so that all may be thoroughly dried up before night. Wipe up all moisture from the paths, and remove all decaying leaves from plants, of whatever kind in the house.

HOLWOOD, KENT.

Situated as it is, on rising ground amongst trees, this country residence of Lord Derby commands a wide view over a large tract of country. The visitor on approaching it can only get occasional glimpses of the mansion through vistas or openings amongst tall trees of great age and dimensions that stud the grass everywhere, and spread their umbrageous, spreading heads over a great extent of ground. The approach is made by long carriage drives, or by what are called "rides," which consist of green walks separated from the rest of the park only by the grass being closely mown. In the absence of a guide the visitor may experience a little difficulty in determining the way except the day be clear, as one "ride" is often intersected by others leading in diverse directions.

On reaching the gardens, however, we found Mr. Garrett, the gardener, very courteous and obliging, and by his permission proceeded to inspect the place, commencing with the houses. A heavy crop of Peaches had just been taken from the old trees indoors, and this, as well as some other houses, was occupied with Chrysanthemums which had rapidly been conveyed indoors on account of the frost. Later on the plants, of which there are upwards of 600, will be transferred to the conservatory. The first flowers of Peter the Great were already fully expanded, while a number of other blooms will be open in a few days, including Lady Talfourd, Lady Selborne, Grandiflora, Comtesse de Beauregard, and Fair Maid of Guernsey. Several others besides these are well advanced, and promise to develop fine heads.

A few bunches of Grapes were still hanging on the Vines in the early house, although the first of them were cut on Whit Sunday last. A heavy crop still hangs in the late house, and the bunches are all neatly enclosed in white tissue paper to keep away the flies. Lady Downes, Alicante, Muscat of Alexandria, and Madresfield Court are the varieties grown, but the last mentioned proves unsatisfactory here on account of the liability of the berries to split. Figs are grown in an unheated house and furnish a large supply during the autumn months. It is one of similar houses of that kind to be seen in this district of Kent, and in cold summers like the past gives satisfaction when Figs on the open wall fail. It may here be stated that Apples are almost a failure this year, while there is in many instances a heavy crop of Pears, Pitmaston Duchess and Marie Louise being most heavily cropped. Unfortunately, however, many of them are cankered and cracked, seemingly owing to a cold subsoil. Orleans and Coe's Golden Drop Plums fruited well, and at the time of our visit the latter still hung on the trees.

With the exception of the zonal Pelargoniums, the winter-flowering stuff had been grown in the open air till recently, when they were all huddled indoors late at night, after having suffered somewhat from frost. Peristrophe speciosa and Eupatorium riparium seemed to have suffered most. Strange to say, Ageratum mexicanum album did not seem to have suffered at all. In the same house was a good strain of seedling tuberous Begonias in many shades, some of the yellow and orange-scarlet varieties showing beautifully-marked foliage of the B. Pearcei type. In a stove close by were many other kinds, including fine varieties of the B. Rex type, B. fagifolia flowering beautifully, as were B. conchæfolia, B. metallica, and others. The variegated Hibiscus Cooperi flowers freely here, which is more than can be said of it in some gardens. Allamanda nobilis is of more moderate dimensions than A. Schottii (A. Hendersoni), and has clear yellow flowers, with a white spot at the junction of the segments. The conservatory is a three-quarter span building near the mansion. The most striking feature of the house is the climbers, but particularly Tacsonia van Volxemii, which covers the greater part of the roof, and from which the richly-coloured flowers depend in great numbers. Other climbers are Passiflora cœruleo-racemosa, Abutilon megapotamicum variegatum and Noisette Roses, including Maréchal Niel and Lamarque. Out of doors a large breadth of the Czar Violet was just commencing to flower, while Statice latifolia and Aster diffusus horizontalis were battling strongly with the frost. Most conspicuous were the single Hollyhocks, towering up to a height of 8 ft. to 12 ft. The seeds had been sown a little more than a year, and planted out in August, 1887, so that now they are flowering for the first time, and seem to withstand a considerable amount of frost. The colours are rose, pink, salmon, and some almost black, and are not only conspicuous but very effective.

From the front of the mansion magnificent views are obtained over a wide extent of Kent, and the house itself presents a massive and bold front, owing to the heavy copings, corners, sides of the windows, and massive pillars at the entrance, and which are all of Portland stone. The front walls are covered up to a height of 30 ft. or so with Magnolia grandiflora, Clematis Jackmanni, C. flammula, Gloire de Dijon and climbing Devoniensis Roses, all of which were flowering, some very profusely. The white and yellow Banksian Roses also run up to the above-mentioned height, which is as far as they are permitted. The yellow variety flowers most freely.

In the vicinity of the house and on the lawn some ponderous trees raise their heads, including a wide-spreading Cedar of Lebanon, about 80 ft. in height, and feathered with branches nearly the whole way. The Turkey Oak (Quercus Cerris) runs up about 70 ft., and Limes to 100 ft. Beech, Birch, and Pines also attain noble dimensions in the heavy rich soil at Holwood. Very interesting are two aged trees of the Cork Oak (Quercus Suber) about 25 ft. and 30 ft. respectively, with gnarled-looking and rugged corky bark, riven to a great depth. One of the trees was very much damaged by the memorable snowstorm of Christmas, 1886. There are probably few trees of the size of these, both with regard to height and diameter of the trunk, in this country. Close by one of these is what is known as Lord Cranworth's Oak, a large specimen of Quercus pedunculata, with long boughs resting on the ground. Lord Cranworth formerly owned this estate. Pitt's Oak, behind the kitchen garden, is a low spreading tree, with a short bole of a trunk, now hollow, and about 30 ft. in circumference. The branches are girded together by means of iron rods. Another Oak, on the brow of an eminence overlooking Keston, is celebrated as being that under which Mr. Wilberforce, in conversation with Mr. Pitt, resolved to give notice in the House of Commons of his intention to bring forward the "Abolition of the Slave Trade." This note was taken from Mr. Wilberforce's diary, dated 1788, exactly 100 years ago. The old tree is hollow, and the branches are now literally roped together with iron rods, looped into one iron ring in the centre. A stone chair was erected beside the Oak by the Earl of Stanhope, with Lord Cranworth's permission, in 1862. There are many other old Oaks, all specimens of Quercus pedunculata, now hollow and gradually crumbling to pieces, all of which point to the great antiquity of the place. Old and spreading Yews are also plentiful; but the most interesting instance, perhaps, is that of an Oak and a Yew which have become firmly locked or literally grown together to the height of 4 ft. or 5 ft. Evidently one originated as a seedling at the foot of the other, probably the Yew, which after having grown to the above-mentioned height, was obstructed by a large limb of the Oak, which thus grows over the top of the Yew, dwarfing the stature of the main trunk. Although the wood of the one overlaps that of the other, it is improbable that any vital union has taken place.

EDINBURGH NURSERIES.—I.

The Royal Winter Garden.

This is practically a garden or nursery under glass, at West Coates, situated towards the western side of the city, but almost entirely surrounded by buildings. There is, however, a large frontage of glass towards one of the main thoroughfares leading out of the city, and the public have ample encouragement or inducements to enter. The large conservatory facing the road is occupied with Tree Ferns, Camellias, and a varied assortment of flowering plants in season, including all the leading and best summer-flowering

Chrysanthemums, while baskets are hanging overhead, which add greatly to the appearance of the place. On the darker and more shaded side of the house is some rockwork, planted with Ferns and other subjects, while there are some larger specimens of Todea superba and T. hymenophylloides in pots.

Stove Plants.

The collection of these is very extensive, including many new as well as rare old subjects seldom met with in this country. The Croton-house is replete with most of the best and valuable kinds for decorative purposes, ranging from 6 ins. or 8 ins. to 2 ft. or 3 ft. in height, and in the most healthy and perfect condition. Codiæum (Croton) Aigburthiensis and C. interruptum are very fine kinds, with long narrow leaves, variegated with yellow, crimson and green. C. Massangeana has graceful linear lanceolate leaves, about a foot in length, while another variety has much broader leaves, and variegated like the caricature plant. Very attractive is C. Mortfontainensis, with broad, three-lobed leaves, brilliantly variegated with crimson and yellow. Dracænas are also very varied and most interesting. The specimens of D. terminalis range from 1 ft. to 4 ft. in height, and are finely coloured. Very broad-leaved kinds are D. Massonii, D. regis, and D. recurva, all having bronzy red leaves, but differing in minor particulars. Seedlings and new kiuds offer special attractions, and a narrow-leaved variety, named Mrs. Laird, has bronzy red leaves with a bright red margin, arching towards the tip, and very graceful. Noticeable amongst other seedlings were some very pretty little plants, with short, moderately broad leaves, attractively variegated and strikingly distinct. Specimens of Oleandra, about 18 ins. in height, are beautifully furnished with leaves, and variegated at the margin with pale yellow. There was also in this house a varied assortment of other subjects, including Cocos Weddelliana and Astrocaryum Murumura, with large irregularly lobed leaves and spiny petioles. Other beautiful Palms are Phycococcus orecinus, Ceroxylon niveum, with large leaves covered with a snowy white scurf on the underside, and Livistona rotundifolia, of which there are small and pretty specimens. Variegated Figs, including Ficus Parcelli and F. elastica variegata serve to vary the habit and colour. Less better known are Alocasia Sanderiana, Camœnsia eminens, Mussænda erythrophylla, Philodendron Andreanum, Trevesia eminens, and Pavetta borbonica. The latter has showy, leathery dark green leaves, with a crimson midrib, and blotched with yellow. The Trevesia resembles an Aralia, with palmately divided, nine to eleven-lobed segments, and, if less curious and interesting than T. sundaica, is far more effective as a decorative plant.

The Palm house contains large quantities of the more useful Palms, such as Kentia Belmoreana, K. Fosteriana, Areca lutescens, Phœnix rupicola, the best of its class, Acanthophœnix, and large specimens of Livistona, Seaforthia, and others. Pancratium fragrans and Aspidistra lurida variegata are grown in large quantity, while the former furnishes a considerable amount of bloom at all seasons mostly. In one of the propagating pits is a fine lot of Elæodendron orientale, better known as Aralia Chabrieri, as well as Aralia Veitchii and A. V. gracillima. Newer subjects are Dracæna australis variegata and Phrynium variegatum, of which there is a good stock of plants. Nephrolepis rufescens tripinnatifida amongst Ferns is now pretty well known and appreciated for its rich plumy fronds, while the newer Gymnogramma Pearcei robusta is much more elegant and finely divided, as is Adiantum Collisii amongst the Maidenhairs.

A house devoted to Ferns contains a large assortment of the more useful subjects, such as Adiantum Farleyense, A. schizophyllum, Selaginella serpens, S. gracilis, with the young leaves of a bronzy green, Davallia fœniculacea, Nephrolepis Duffii and N. Bausei. Both of the latter are most serviceable subjects, and N. Bausei forms compact tufts of bipinnatifid leaves from 12 ins. to 18 ins. high. Every collection should contain them on account of their distinctness and compact ornamental habit. About five other low span-roofed houses are filled with a varied assortment of things, such as are required in a large nursery business. Choice and useful subjects are Dracæna Lindeni, Allamanda Hendersoni, A. nobilis, and Alocasia regina; the leaves of the latter are large, opaque, green above and bronzy beneath. The Gleichenias are an important class of plants which the modern gardeners, unfortunately, seem to neglect. A well-grown specimen is always a credit to the grower and a conspicuous object in the house. The crested Nephrodium molle corymbosum is grown in quantity and well done. We also noted a fine strain of Gloxinias which were still flowering. Begonia Clementinæ is of the B. Rex type, and has brouzy green leaves, blotched with grey, and stood out conspicuously amongst a group of the same class. Double white Primula sinensis and Poinsettias occupied the greater part of one house. Besides the climbers already mentioned, a large stock of Lapageria rosea, L. r. alba, and Stephanotis floribunda is kept. Orchids are not extensively grown, but amongst those in flower was Cattleya Gaskelliana.

Greenhouse Plants.

Some houses built over various sheds and the offices of the department are set apart for the cultivation of Pelargoniums, hard-wooded and other subjects. A large quantity of the show, fancy, and regal or decorative Pelargoniums was still in flower at the time of our visit in the last week of September. Of the zonal kinds there are some new varieties, including Toussaint l'Ouverture, a single puce-purple variety. Ivy-leaved and other kinds are also grown in considerable numbers. Adjoining this was a collection of large pyramidally-trained Azaleas in pots; but they, together with Camellias, also large plants in pots and tubs, are less valuable than they used to be. The trade in cut-flowers is, however, increasing, and amongst the newer additions to the stock is Azalea Deutsche Perle, one of the best double white Azaleas in cultivation, and most serviceable for cut-flower purposes. A collection of smaller specimens occupies another division of the houses. Hard-wooded stuff includes a great variety of Heaths, Epacris, Boronia megastigma, now a universal favourite, together with Tremandra verticillata, Asparagus arborea, and Dracophyllum gracile, so well known on the exhibition table. Fuchsia Lord Ardilaun is a garden form in the way of F. dependens, with scarlet and crimson flowers, which are produced with great freedom.

Pinkhill Nursery.

This is an old branch of the same firm situated on rising ground on the right-hand side of the road leading westward, about two miles from the city. The approach leading up the hill is beautifully planted with a varied collection of Conifer and ornamental shrubs. Veronica Traversii forms large bushes about a yard in height and 4 ft. to 5 ft. broad, and gets no protection. Notwithstanding the unfavourable nature of the season Dimorphanthus mandshuricus was also flowering in the borders.

Considerable alterations and improvements were being effected in the houses at Pinkhill at the time of our visit, with a view of preparing a number of the houses for the cultivation of Palms on a large scale according to the requirements of the times. Two large boilers have also been built into position to heat the whole of the houses, and which will be a great improvement on the old system. Many of the houses were, however, occupied, and one was filled with a collection of all the leading varieties of Vines, including Black Hamburgh, Gros Colmar, Mrs. Pince, Alicante, Foster's Seedling, Muscat of Alexandria, and others. The canes were in fine condition, and some were being ripened off. A large collection of summer-flowering Chrysanthemums occupied the central stage of one spacious house, and included such fine varieties as Madame Desgrange, G. Wermig, Mr. W. Piercy, maroon-red; Fred Pill, dark red; and Mrs. J. R. Pitcher, pink or white indoors, and nearly as large as the first-named. A collection of tuberous Begonias, chiefly continental named seedlings, occupied a side stage. A novel and pleasing feature was Euonymus radicans, E. japonicus, and its broad-leaved golden and silver forms, trained as standards on stems 3 ft. or 4 ft. high. Vitis striata, better known as Ampelopsis sempervirens, has evergreen leaves, digitately divided into five segments. Clematis Marie Van Houtte, with large white flowers, was still in bloom. A large specimen of Rhododendron argenteum, 8 ft. or 9 ft. high, in a tub, bore 500 blooms when it flowered last spring.

A number of the houses are at present filled with various decorative subjects, including Ferns and Palms, such as those previously mentioned. A considerable number of Clivia seedlings will soon commence to show what they are. Amongst Primulas of recent introduction, none, perhaps, have become so suddenly popular and widely spread as P. obconica, which flowers constantly provided it has plenty of room to make growth. Here, as elsewhere, hybrid greenhouse Rhododendrons are grown in quantity. Besides the old R. jasminæflorum, such sorts as R. balsaminæflorum album, R. b. aureum, R. b. carneum, Duchess of Connaught, Duchess of Edinburgh, Fragrantissima Taylori, Princess Alice, and others too numerous to mention, speak for themselves. Tea Roses, Tomatos, and others occupy different houses.

Out of doors the chief features were the florist's flowers, such as Chrysanthemums, of which there were 5,000 to 6,000 of the late-flowering kinds, Gladioli, Antirrhinums, African Marigolds, Gaillardias, Pyrethrums, varieties of P. roseum flowering a second time, Pentstemons and Dahlias. Amongst Pentstemons, Geo. McKinnon, Henry Irving, and Jessie Clark are noticeable for the size of their flowers and fine colours. A border of seedlings is also floriferous. The Dahlias were notably dwarf this year, but owing to the unfavourable nature of the season, the double kinds had not flowered very satisfactorily. Fine sorts, however, are Nellie Cramond, Mrs. Peter McKenzie, Excellent, and Diadem. The collection of single sorts is both extensive and replete with the best named kinds, as well as numbers of noteworthy seedlings.

L'ORCHIDÈENE.

The first meeting of this society was held on the 14th of October, in the saloon of L'Horticulture Internationale, Parc Leopold, Brussels. Notwithstanding that it was wet and rather cold, eighty-five Orchids, comprising a great range of species and varieties, were presented by a goodly number of members. The jury was made up of M. de Lansberge, president, M. E. Wallaert, secretary, and Messrs. Massange de Louvrex, J. Moens, A. Van Imschoot, Lallemand, O. de Meulenaere, G. Miteau, and A. L. Lubbers, members. The jury having finished their labours the plants were arranged on two large tables, and exhibited to the public, among those who greatly admired the exhibits being many notabilities. M. Linden sent a grand Catasetum Bungerothii with twenty-three flowers; M. Massange de Louvrex, a superb Cypripedium vexillarium, and a fine C. expansum; M. le Chevalier Ludovico Modigliani, of Florence, a Cypripedium Sanderianum; and M. le Comte de Bousies, a Vanda Sanderiana, which was much admired. M. Peeters sent several beautiful specimens, an Odontoglossum vexillarium superbum and some rare Cypripediums being remarkable. A fine Lælia Perrinii and an Oncidium phymatochilum came from M. Moens; M. Wallaert sent Cymbidium giganteum superbum and Oncidium tigrinum, both the perfection of good culture; Messrs. E. Vervaet & Co., of Ghent, sent a dozen good Orchids, as also did Madame Block, of Brussels. Mons. Miteau exhibited flowers of a grand form of Miltonia Moreliana; M. Van Noten, a Masdevallia Chimæra, with gigantic flowers and perfect culture; and Mr. James O'Brien, of Harrow-on-the-Hill, near London, sent an interesting collection of dried specimens of Disas, Satyriums, Habenaria, Brownlea, Huttonæa, and other Cape terrestrial Orchids. The awards of the jury were Diplôme d'Honneur to Mons. Linden, for Catasetum Bungerothii. First Class Certificate of Merit to Messrs. Peeters, for Odontoglossum vexillarium superbum; Chevalier Lud. Modigliani, for Cypripedium Sanderianum: Van Noten, for Masdevallia Chimæra; Massange de Louvrex, for Cypripedium vexillarium; Peeters, for C. œnanthum; Comte de Bousies, for Vanda Sanderiana; Massange de Louvrex, for Cypripedium expansum; Linden, for Oncidium crispum miniatum; O'Brien, of Harrow, London, for dried specimens of Disas, &c.; E. Vervaet, for Cypripedium Harrisianum superbum; G. Miteau, for Miltonia Moreliana. Second Class Certificates to Messrs. Linden, for Oncidium varicosum; Peeters, for Cypripedium expansum; Moens, for Lælia Perrinii; Peeters, for Cypripedium regale. Second Class Certificate of Culture to M. Moens for Oncidium phymatochilum.

GARDENERS' ORPHAN FUND.

The *soirée* organised by the Chiswick Gardeners' Mutual Improvement Association at the Vestry Hall, Turnham Green, in aid of the Gardeners' Orphan Fund, was conducted to a successful issue on the 17th inst. There was a large attendance of the public, and amongst other supporters of the Fund present were Mr. G. Deal, chairman of the committee, and Mr. Barron, honorary secretary. The chair was occupied by Mr. A. Dean, of Bedfont, who had been mainly instrumental in organising the entertainment, which was mostly of a vocal character. The vestibule and the hall itself were tastefully decorated by Mr. May, gardener to the Marquis of Bute, Mr. J. Roberts, gardener to the Messrs. Rothschild, Gunnersbury Park; Mr. J. Hudson, gardener to H. J. Atkinson, Esq., Gunnersbury House, and by Messrs. W. Fromow & Sons, Sutton Court Nursery, Chiswick. During the interval between the first and second half of the programme, Mr. G. Deal, the chairman of the Fund, made a short speech, in which he explained the objects of the Fund and the manner in which it had been established. He congratulated the organising committee of the *soirée* upon the success attending their efforts, and remarked that it was estimated that the profits would amount to £7 or £8, which would maintain a child for six months. He also thanked the members of the committee of the Chiswick Gardeners' Mutual Improvement Association for the help they had rendered to the good cause.

GARDENING MISCELLANY.

The Early Frosts.

I SEND you a copy of part of my weather chart giving the readings of the minimum thermometer here during the first half of the month. This shows at a glance the phenomenal character of the present autumn. The actual temperatures were probably some 2° or 3° lower on each night, as my instrument is placed in a somewhat sheltered position, and, therefore, never registers the extreme minimum. No wonder then that everything is destroyed—even the Walnuts, which are black and shrivelled, as if charred. All Chrysanthemums are more or less injured, but Boule d'Or, Grandiflorum and Comte de Germiny are hopelessly gone—indeed, it is questionable whether the stools are sufficiently alive to throw up cuttings. Your correspondents who refer to those who were "caught napping" quite forget that September 30th was Sunday, consequently, though the clear sky and sharp northerly winds gave warning of an impending frost during the night, yet it was impossible to get the plants housed that day, and by next morning they were gone.—*B. D. Knox, Caversham, Reading, October 16th.*

Mascarenhasia Curnowiana.

WE have a plant here under this name, the foliage and habit of which somewhat resemble a Rhynchospermum, except that the colour of the flowers is a very bright pink, the centre of each petal being distinctly marked with a line of very deep pink. It flowers in a small condition, but appears to be a slow-growing subject. It is, I believe, a native of the Mascarene Islands. Could you or any of your readers give any information respecting it? What temperature should it be grown in, and what are its essential requirements?—*W. G.* [A temperature such as that which suits stove plants generally will meet the requirements of this subject. The night temperature in winter should not be allowed to fall below 55° or 60°, rising to 65° or 70° in summer, with a rise of 10° during the day. A compost of fibrous peat, with a small quantity of good loam, and plenty of silver-sand to keep it open, will accord with the needs of the plant. An abundance of heat and moisture, both at the roots and in the atmosphere, is necessary during summer while making its growth, and when this has been accomplished, keep it drier in order to ripen the wood before sunlight becomes feeble in autumn. It does not seem, as a rule, to flower very abundantly.—ED.]

Hardy Hybrid Gladiolus.

I SEND you a spike of Gladiolus, a seedling from a batch of M. Lemoine's hybrids I raised myself some three years ago, amongst which were many varieties all worth growing, as they are so hardy, and do not require taking up like the Gandavensis type. I do not claim any peculiar merit for this bloom, but send it in order to ascertain if any of the readers of THE GARDENING WORLD have had the same experience of blooming Gladioli the same year they are sown? My seedlings bore a great deal of seed after last year's hot weather, and I saved it at the end of October. We did not sow it till the end of April or the first week of May, when we put it on a slight hot-bed with a light over it till the first leaf was well above ground, and since then it has had no attention, except to give it water regularly. In September six or seven spikes pushed up, and would have been open about October 7th, but they were exposed for the first three nights of this month to 6° or 7° of frost, which I thought had done for them, but we managed to get a sash over them, which has brought them on, with the sunny days we have had since, and now they will all come. This variety is certainly likely to have a future before it, as it is so hardy, the colours are so distinct and varied, and it can be had to bloom from seed in six months. I was under the impression that very few bulbs could bloom from seed in our climate the same year, but should be glad to have the experience of some of your readers.—*C. B. Powell, The Old Hall, Southborough, Oct. 23rd.*—[The specimen sent us bore three fully expanded flowers and ten buds. They were very densely arranged and of good size, while the flowers were exquisitely delicate and charming. The three upper segments were of a soft salmony scarlet with white midribs, while the three lower segments were white with purple lines in the throat of the flower, and salmony scarlet at the tips. The size of the flowers was wonderful, considering that they had been produced by a seedling only six months old, and they will no doubt be larger next year.—ED.]

Anthracite Coal.

YOUR correspondent, "W. B. G." (p. 120), remarks that the use of this coal for horticultural purposes is deservedly extending, and that it is more cleanly and economical than coke. I concur with him as to its excellence and cleanliness, but on the point of economy I am disposed to differ. We have also used it, and for maintaining a regular temperature found it unsurpassable, being a lasting and slow burning coal, and requiring a good draught to keep it going. I seldom called the services of the damper into requisition, except that on stormy nights when a gale was blowing I pushed it half home. Anthracite is certainly excellent fuel, and a good fire put on at 10 p.m., with a shovelful of damp ashes in front, will be found nice and bright, and the temperature much higher next morning at six o'clock, than if coke had been used. But on comparing previous accounts we found that during the period we used this coal, our expenses were higher than they would have been had our fuel been supplied from the gas works. I could name an instance in which Anthracite was exclusively used all last winter, during which the severe frost necessitated sharp firing, and on opening the furnace door one morning the attendant was astonished to find fire and grate-bars all run into a clinker, and lying in the ash-pit.—*J. Peebles.* [This sort of contretemps will happen with ordinary coal and coke, and is not specially confined to Anthracite.—ED.]

Cornwall Escapes the Late Frosts.

HAVING read in THE GARDENING WORLD about the severe frosts experienced in different parts of the country, I cannot help remarking how different it is with us. Everything still looks beautiful. Double, single, and Cactus Dahlias are in full flower, and generally last till about the middle of November. All tender things are still blooming, such as Heliotrope, Verbenas, Zinnias, &c. I gathered Strawberries on the 14th of October, and there are more coming on. Chrysanthemums have not been injured in any way, and we are still having fine weather.—*Constant Reader, Falmouth, October 16th.*

Rhododendron, Yellow Perfection.

IMPROVEMENTS continue to be made amongst hybrid greenhouse Rhododendrons. In this case the flowers are of a uniform light yellow, with the exception of the anthers, which are deeper coloured. The tube is funnel-shaped and of moderate length, with a wide spreading five-lobed limb. The foliage is also good. Specimens were exhibited at the Drill Hall, Westminster, on Tuesday last, by Messrs. J. Veitch & Sons, and received a First Class Certificate from the Floral Committee.

Ampelopsis tricuspidata (Veitchii).

I SHOULD like to corroborate the remarks of some writers in your columns who have lately called attention to this beautiful climber. I may, perhaps, be allowed to say that from the first time I met with it, away in Dorset, growing on an old stump of a tree in juxtaposition with Clematis Jackmanni, it has always been a favourite with me. The largest plant I ever met with is to be seen in front of Dr. Hare's residence, Perry Square, Limerick. This is planted in the area in good soil, and it covers the width of the house until it reaches the ground floor, from whence, as space permits, it spreads on either side, its leading shoots ramifying freely over the neighbouring houses, and at present cover about half-way across and more than half-way up a five-story house. Not only is the subject of this note effective as a climber, but at this season of the year its leaves are most useful for the decoration of the dinner-table, especially when laid on the cloth with other foliage and Ferns.—*E. Dumper, Limerick.*

Restio subverticillatus.

IN one of the houses in the Edinburgh Botanical Garden is a huge specimen of this finely branched and gracefully drooping plant. It is a native of the Cape, and closely resembles some of the members of the Sedge family or the Grasses, and although the flowers are small, brown, and collected in by no means conspicuous spikes, the drooping spray of the branches is very graceful. The plant measures about 8 ft. high, and is about the same in width.

Colchicum maximum.

WE recently saw some grand clumps of a Colchicum under the above name in the Botanic Gardens, Edinburgh. Mr. Lindsay, the curator, takes it to be merely a variety of C. speciosum, which is itself the largest of all the Colchicums. He finds that the flowers are greatly improved by being lifted and transferred to the reserve garden every few years, where they can be liberally treated in the matter of soil, feeding and space to develop its large leaves. The flowers are of huge proportions for a member of this genus, and make themselves conspicuous by their broad, oval, blunt, not pointed segments, which are of a warm rosy purple colour. Other forms of C. speciosns are notable for their deep crimson-purple flowers with a white throat. The species is a native of the Cancasus, and flowers during the months of September and October in this conntry.

Polygonum vacciniæfolium.

OF all the hardy species of Polygonum that grace the garden in autumn, none are neater or more charming for out-door work than this trailing, small-leaved, and dwarf species. The trailing stems are admirably adapted for rockwork, and where the rocky ledges are moist or partly covered with soil, roots are thrown ont, and thus the plant, feeling its way as it were, forms dense patches of deep green, from whence arise the short upright stems bearing dense spikes of rosy flowers. It was in fine condition a short time ago on the rockery in the Royal Botanic Gardens, Edinburgh.

Permanent Planting of Daffodils.

THE beds in my grass garden have been very gay during the last month. I find that by planting the material for this effect in conjunction with the ordinary spring-flowering Daffodils we get two crops of bloom within a year from the same bit of flower ground without injury to the bulbs, and this in spring and autumn. There are four large beds at present a mass of "golden earth stars," beneath which are planted four distinct varieties of Daffodils—viz., Golden Spur, Ard-Righ, Emperor, and Horsefieldii; then we have two beds of Colchicum speciosum, beneath which are Narcissus bicolor Alfred Parsons, and selected forms of N. nobilis; then a large bed of Trumpet maximus in conjunction with white Colchicums. The latter have been very beautiful, and are just over; but the Ivy-leaved Cyclamen, and Sternbergia angustifolia (known as Parkinson's Winter Daffodil), are most beautiful. I am working up a stock of the rare double white Colchicum in conjunction with a collection of Mr. Maw's autumnal Crocus, when I expect to excel my present efforts. In lifting the bulbs in July, the most ignorant person can easily select the Sternbergia bulbs from the huge ones of the bicolor Daffodils, and both in conjunction suffer no injury. The Grass garden is in the form of a crescent, backed by a Yew hedge 7 ft. in height. There is a long border 6 ft. wide running the entire length, and now planted with Christmas Roses in huge clumps, the edging of which, 1 ft. in width, is crammed with Glory of the Snow (over 7,500 bulbs), and in the spaces between the Hellebores I purpose planting Hyacinthus candicans. The beds in the grass are large and of all shapes, at intervals consisting of small ovals, in which are planted sweet-scented Pæonies, Princess of Wales, Florentine, P. flavescens, P. atropurpurea, and Flag Iris. The edges of these beds are composed of Elwes' Snowdrop, Hepatica angulosa, and coloured Apennine Anemones. Some of them contain good specimens of Golden Florence Court Yews, and variegated Silver and Golden Queen Hollies. Helleborus maximus, or H. altifolius, is now in bloom, and the Riverston variety and St. Brigid will be equally so next month. H. major and H. caucasicus will be in flower about Christmas, and H. vernalis, with Ard-Righ Daffodil, in February. My Hellebores and Megaseas in tubs will make a grand display this winter.—*W. Baylor Hartland, Temple Hill, Cork.*

Euterpe edulis in Fruit.

THE Cabbage Palm proper is E. oleracea; but judging from the name, the species under notice is utilised for the same purpose. There is a fine specimen of it at present in the Royal Botanic Gardens, Edinburgh, with a tall stem, and bearing amongst the leaves large panicles of flowers. They are by no means of a showy character, but lower down and older than them are panicles of fruit like large bunches of black Grapes. In Brazil, its native country, the trunk attains from 40 ft. to 100 ft. in height. The leaves belong to the feather-leaf type, and are deeply divided into lanceolate segments. The stems, although tall, are not particularly stout.

Lathyrus latifolius albus.

WHEN climbing up to a trellis this Everlasting Pea makes a pretty object in any garden, more particularly when not kept too tightly tied in. I saw it in this position at Lota the other day, and as the gardener, Mr. J. O'Dwyer, rightly says, it is not only a good plant for the embellishment of the garden, but is a very useful subject for furnishing cut flowers.—*E. Dumper, Limerick.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

In view of the approaching winter it will be well now to take a look through the plants in the Orchid houses to see that none of them are too near the glass. For those suspended from the roof 1 ft. from the glass is a safe limit, but at the sides where the heat from the hot-water pipes gets free passage at the backs of the side staging, a less distance will do. Small-growing Orchids as a rule like to be near the glass of the roof, and especially so in winter; it will be well therefore to now accommodate as many of them as possible in that way, observing that none of them be placed nearer than 10 ins. or 1 ft. to the glass. Weak unhealthy pieces in pots should be placed on rafts or in small baskets to re-establish, as they can when so grown be much more conveniently brought up to the light than when in pots.—*James O'Brien.*

Cattleya, Lamberhurst Hybrid.

Although not particularly showy, this is an extremely interesting hybrid produced between C. intermedia and C. citrina. The short pseudobulbs are fusiform, and those bearing flowers project horizontally from the pot in which they are grown. The sepals and petals are blush-coloured, and of a fleshy or wax-like consistency. The three-lobed lip has a long, narrow, pale-coloured tube, and a light purple lamina. Two flowers were borne on a drooping spike on a plant exhibited on Tuesday last, at the Drill Hall, Westminster, by Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham. The flowers possess the agreeable fragrance of C. citrina, but not so strongly. A First Class Certificate was awarded the plant by the Floral Committee.

Phaius callosus.

This new species may rightly be called beautiful, as the specific name implies; and it is one of the most distinct. The leaves are from 2 ft. to 3 ft. long, elliptic, plicate, and from 6 ins. to 8 ins. broad in the middle, and of a light shade of green. They arch over in such a way as to leave the flower scape (which is about 18 ins. long) free and conspicuous. The sepals are oblong, the petals spathulate oblong, all spreading at right angles, and of a rich chestnut-brown on the inner face. The lip is tubular, and pure white with the exception of two small faintly brown blotches, one on each side of the throat; the lamina is comparatively small, and the spur short, stout, decurved, and white, but becoming pale yellow as the flower expands. The scape is many-flowered, and the habit is precisely similar to that of P. grandifolius or P. bicolor; but the contrast between the lip and the other parts of the flower is very striking. It was sent from the Botanic Gardens, Java, to Kew, where it is now flowering.

Epidendrum polybulbon.

This grows in Blue Mountain Valley, at an altitude of about 2,000 ft., and is called by the negroes "Snow-drop Flower," probably on account of the comparatively large white labellums which its pretty short-stalked flowers bear. A compact mass of it is very handsome, as it is so floriferous. I have seen it doing equally well on the ground and on the limbs of Mango and Cedar trees, but always in a moist district. It is an Orchid which would well repay the cultivator's skill, and so would the best varieties of that variable plant, Epidendrum fragrans, some of which are really large and handsome, as well as delightfully fragrant.—*W. G., Kingston, Jamaica.*

Oncidium Mantinii.

The sepals of this Orchid are of a deep chocolate-brown, while the petals are broader, bifid, and marbled with yellow at the margin. The lip is the largest organ, and is yellow, richly spotted or blotched all over with deep chocolate-brown. It is believed to be a natural hybrid between O. Forbesi and O. Marshallianum. Plants were exhibited at the Drill Hall, Westminster, on Tuesday last by Messrs. J. Veitch & Sons, Chelsea, and by Mr. E. Crook, gardener to G. H. Baxter, Esq., Hutton Park, Brentwood, and in both cases were certificated by the Floral Committee of the Royal Horticultural Society.

Cattleya Harrisi.

Being the result of a hybrid between C. Mendelii and C. Leopoldi, this plant exhibits intermediate characters between these two. The sepals are rose, the petals darker and much broader; the three-lobed lip has a white tube, and the terminal lobe is deeply bifid, transversely broadest, and recalling that of C. Leopoldi. It received a First Class Certificate from the Floral Committee of the Royal Horticultural Society on Tuesday last; and was exhibited by Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham.

THE GARDENERS' CALENDAR.

THE STOVE.

Hedychiums.—Where these have been grown in a moderately high temperature, or purposely kept back in the early part of the season, they will still be affording a considerable quantity of bloom. If these are not required for cut-flower purposes, the flower-spikes—at least, of H. Gardnerianum—should not be cut, but the best of them allowed to ripen their fruit, which is of a showy and ornamental character after the seed-pods have become mature and burst. The seeds are black, densely packed, and covered with a brilliant scarlet lacerated aril, rendering them not only highly ornamental, but most interesting. Other ornamental and highly fragrant species are H. coronarium, with pure white flowers, and H. flavescens, with pale yellow flowers in long spikes. Feeding is not necessary after this date; but in the absence of a tank in which to allow the pots just to dip into water, they should be stood in pans of it until flowering is over. After that, with the exception above mentioned, water should be gradually withheld to induce the plants to go to rest.

Dracænas, Crotons, and Pandanus.—To enable these to retain their high colouration throughout the winter, they must now receive a maximum of light by placing them in the most favourable positions near the glass, and they must not be crowded if it can be avoided. Cleanliness with these subjects—as, indeed, with all other occupants of the stove—is a most important matter. Thrip and bug are their inveterate enemies, and should find no quarter. Carefully sponge both surfaces of the leaves with soft soap, Gishurst Compound, or Fir Tree Oil and water, removing all bugs that may be detected in the axils and sheathing bases of the leaves by means of a blunt-pointed piece of wood.

Ferns.—No shading should now be required if the plants have been properly exposed to light during the growing season—that is, should they not have been unduly shaded. Stove Ferns will not now require a warmer temperature than 55° at night, with a rise during the day, especially in bright open weather. The atmosphere of the house should be kept much drier, to a degree corresponding to the reduction of the temperature. Thrips and other insect pests will be likely to put in their appearance, owing to the drier condition of the atmosphere; but the diligent and careful cultivator will make the most of wet or frosty days, when work out of doors cannot be conveniently carried on, to examine his plants carefully. Ferns with fronds of a leathery texture can readily be sponged if not finely divided and liable to damage, but other kinds will require to be dipped in tobacco water or Fir Tree Oil diluted to such an extent as not to injure the more delicate kinds. Much less moisture in the cases containing Filmy Ferns is most desirable, owing to the damage they suffer in a moisture-laden and stagnant atmosphere upon the reduction of the temperature during the winter months.

THE GREENHOUSE.

Pelargoniums.—Shift on young stuff as the pots become crowded with roots. By prompt attention in this way very useful plants for the decoration of the conservatory in spring and early summer can be obtained. Old plants to flower in May should now receive their final shift, so that the pots may be well filled with roots. Feeding may then be resorted to; but in the meantime watering operations should be carefully conducted, inasmuch as the plants must not suffer from want, nor should the soil be sodden till it becomes sour, and therefore injurious to root action.

Ventilation.—In the crowded state of the greenhouse at this season, more than usual attention should be given to ventilation to prevent damping. The least possible quantity of water necessary should be given, and that in the moruings, so that all superfluous moisture may be dried up before the ventilators are closed. Should the weather be foggy it will be necessary to light fires in order to create a good circulation of air in the house. This is most necessary should fog gain admittance to the house.

THE FORCING HOUSES.

Peach Houses.—Prepare the early house or houses, as the case may be for early forcing, cut away as much of the old wood as can be dispensed with, and wash the branches if need be with a brush, using Gishurst Compound dissolved in water, or a mixture of 4 ozs. of soft-soap, and two handfuls of sulphur to a gallon of warm water. Wash the glass and woodwork of the houses, and whitewash the walls with lime, to which a quantity of sulphur has been added.

THE KITCHEN GARDEN.

Asparagus.—Cut down the old stems and mulch the beds with a good coating of farmyard manure. Keep a few of the best-fruited stems for seed. The berries can be rubbed down and washed or otherwise cleaned during wet weather.

Beet.—Lift Beet-root very carefully, so as to avoid damaging it, either by bruising or breaking. It is better to twist off the leaves than cut them, as there is much less risk of their bleeding. Store in moderately-dry sand in a cool place out of the reach of frost.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*October 23rd.*

The meeting on Tuesday was the poorest that has been seen since they have been held in the Drill Hall. The absence of hardy plants, and the occurrence of cold, foggy weather no doubt accounted for this, many exhibitors being afraid to expose their plants to the cold. There were a few Orchids, but the largest exhibits consisted of October-flowering Chrysanthemums and fruit.

Mr. William Holmes, Hackney, exhibited two baskets of Chrysanthemum plants, and some stands of cut blooms. Amongst the former were Feu de Bengale, reddish brown, for which a vote of thanks was given; Macbeth, bright yellow; O. J. Quintus, lilac; M. Chrétien, reddish purple; Martinay, lilac-pink; and Lincoln's Inn, all of which were Japanese. There were cut flowers of Sunflower, Nelson, M. Charles Souchet, Sabiul, and O. J. Quintus. Certificated varieties are described on another column. Cut blooms were also shown by Mr. George Stevens, St. John's Nursery, Putney, including Wagstaff, white; Edwin Molyneux, brilliant crimson and nankeen-yellow reverse, both Japanese. Mr. R. Owen, Maidenhead, exhibited cut flowers of Comte Horace de Choiseul, Miss Burgess, Magicienne, Thomas Stevens, pink; Lincoln's Inn; Madame Charles Souchet, purple; Mons. Charles Souchet, crimson; and Bocacce, a semi-double red. All were Japanese varieties, and some were certificated. Blooms of Japanese kinds were also shown by Messrs. J. R. Pearson & Sons, Chilwell, Notts, including Othello, bronzy orange; Charles Demas; Charlotte de Montcabrier, pink; and Madame Louise Leroy, white, with the petals slightly crested. Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham, exhibited two hybrid Cattleyas, which were certificated. A vote of thanks was awarded to Messrs. Seeger & Tropp, East Dulwich, for Cypripedium Seegerianum, a hybrid between C. Spicerianum and C. Harrisianum. Odontoglossum Insleayi splendens and Oncidium Mantinii were shown by Mr. E. Crook, gardener to G. H. Baxter, Esq., Hutton Park, Brentwood, and the latter by Messrs. James Veitch & Sons, Chelsea. The latter also exhibited some fine hybrid greenhouse Rhododendrons, including Brunette, salmony yellow; and Yellow Perfection, clear light yellow, the latter being certificated. An Anemone Chrysanthemum named Gladys Spaulding, and a Japanese rosy lilac variety were also shown by the same firm, as well as Alocasia Chantrieri, with rich dark green leaves, banded with silvery veins. Mr. H. W. Wright, gardener to J. A. Whittard, Esq., exhibited Adiantum Wrightii, with large, finely-divided fronds. A small spray of Lapageria rosea alba bearing twenty flowers, densely crowded together, was shown by Mr. H. Jackson, gardener to S. A. Ralli, Esq. The white flowers were slightly tinted with blush. A vote of thanks was awarded G. F. Wilson, Esq., F.R.S., Weybridge and Wisley, and who exhibited Primula capitata and P. c. alba, a pure white variety. He had also flowers of Colchicum autumnale flore pleno, and C. a. album plenum.

At a meeting of the Fruit Committee Mr. J. Crook, Farnborough Grange, Hants, exhibited a collection of hardy fruit, including Reine Claude de Bavay and Coe's Golden Drop Plums. Pitmaston Duchess, Duchesse d'Angouleme, Louise Bonne of Jersey, Doyenné du Comice and Marie Louise Pears were excellent samples of their kind; while Maréchal de la Cœur, Beurré Clairgeau, and Beurré Diel were also good. He also showed good specimens of Barker's Seedling, Alfriston, Blenheim Orange, Cox's Pomona, and Ribston Pippin Apples. Damsons were shown by Mr. Smith, The Gardens, Mentmore, Leighton

Buzzard, including Farleigh or Crittenden, Shropshire, Worcestershire and Prune Damson. All are black except the latter, which is purple, the largest in size and ripens very late. A dish of very finely coloured specimens of Duchess Favourite Apple was shown by Captain Terry, Shrubland, Hersham, Walton-on-Thames. Two seedling black Grapes were shown by Mr. Smythe, Basing Park, Alton. Messrs. J. Carter & Co., High Holborn, London, exhibited a large basket of the tubers of the recently introduced vegetable, Stachys tuberifera; the tubers are not particularly large this season, but very plentifully produced. From the Royal Gardens, Kew, came a fruit of the Snakes Gourd (Trichosanthes anguina), about 2½ ft. in length; also ripe fruit and a branch with green fruit of the Tree Tomato (Cyphomandra betacea). Three dishes of beautiful samples of Market Favourite Potato were shown by Mr. W. Ellington, West Row Gardens, Mildenhall, Suffolk. Mr. A. Selby, Radclyffe-on-Trent, Notts, showed dishes of Reading Giant, Sutton's Abundance, and Satisfaction, all white kidney Potatos of great size.

Birmingham Gardeners' Mutual Improvement Association.

At a largely attended meeting of this society, held at the Midland Institute on Tuesday evening, October 16th, Mr. W. B. Latham, curator of the Botanical Gardens, Edgbaston, occupying the chair, Mr. G. Barnes, Orchid grower to C. Winn, Esq., The Uplands, Selly Oak, read a very interesting paper on the cultivation of the Odontoglossum and Miltonia. In building a house for the purpose of growing these lovely flowers, he specially recommended the choice of a south aspect, with plenty of top and bottom ventilation, and lights that could be removed in the summer months. Abundance of piping was another essential point to be observed, so that the temperature could be maintained in severe weather without creating that dry choking atmosphere, so often the result of over-heated pipes. A light shading should be applied, keeping a moist atmosphere in the summer months, and by no means a dry one in the winter, but in watering care should be taken not to wet the young growths, likewise to give a little air at all times, even in the severest weather.

Potting operations he recommended to be done at the end of the summer, just as the plants were commencing to grow, August and the beginning of September being the most suitable time, but to avoid doing it on hot dry days, rather choosing dull moist weather. This would obviate that drying of the roots, which so often proved injurious to this class of plants. Sphagnum cut about 2 ins. long, and good sandy peat in equal proportions, was the best material for the purpose. The pots should be two-thirds filled with crocks, the plants potted firmly, and the young growths avoided when watering. These were important essentials to success. But in all things in connection with the cultivation of the Odontoglot, a little variation was necessary, according to the varieties to be dealt with, an intimate knowledge of which could be best obtained by close observation on the part of the cultivator. A brief discussion followed the observations of the speaker, the remarks made being mainly in support of Mr. Barnes's system of cultivation.

On this occasion Messrs. Sutton & Sons, Reading, exhibited a very fine collection of their seedling Potatos, these being remarkable for their size, shape, and smoothness, and the majority of them were said to be disease-resisting. The most notable amongst those that have already been sent out were Ringleader, as the best early; Sutton's Seedling, as the best second; and Abundance, as the best late variety. A newer variety called Satisfaction, is likewise one of great promise. The seedling varieties not yet in commerce were very fine indeed, and showed what can be done by the careful study and observation of the various crosses.—*J. H.*

National Chrysanthemum.

A meeting of the Floral Committee of this society was held at the Royal Aquarium, Westminster, on Wednesday, when more flowers were exhibited than on the last occasion. Two baskets of plants and a stand of cut blooms were exhibited by Mr. William Holmes, Frampton Park Nurseries, Hackney, and two of them were certificated. Mr. Robert Owen, Maidenhead, exhibited two stands of cut blooms of Japanese varieties, amongst which William Holmes, crimson; Magicienne, bronzy orange; Miss Burgess, pink; Isidore Féral, rose; Thomas Stevens, pink, reflexed; Lincoln's Inn, crimson, William Cobbett, pink, and white reverse; and Comte Horace de Choiseul, white, were conspicuous. Several of them were awarded votes of thanks, and others certificated.

Mr. Doughty, Angley Park, Cranbrook, exhibited blooms of Violet Tomlin, which was certificated, and Mary Tomlin, a dark sport from Mdlle. Paul Dutour, the latter being commended. A large white Japanese crested variety, named Florence Piercy, was shown by Mr. Geo. Stevens, Putney, and received a vote of thanks. An incurved white variety, named Mrs. W. P. Woodcock, was exhibited by Mr. Woodcock, secretary of the Sheffield Chrysanthemum Society, and was commended for its earliness. A quilled yellow Japanese variety was shown by Mr. Briscoe Ironside, Foots Cray, Kent, and received a vote of thanks. Blooms of H. A. Lane, Gladys Spaulding, and The Moor were shown by Messrs. J. Veitch & Sons, Chelsea. A plant of Sam Henshaw, a sport from Comte de Germiny, was shown by Mr. W. Piercy, West Road, Forest Hill, and was commended as an early variety. The certificated varieties will be described in our next.

Obituary.

We regret to record the death, on the 19th inst., of Mr. William Henry Crawford, of Lakelands, near Cork, aged seventy-six years. The deceased gentleman was for many years an enthusiastic cultivator of Orchids, and at the time of his death possessed an extensive and valuable collection. He will be greatly missed in Cork, for he was a rich man and gave largely of his wealth to philanthropic works, countless acts of beneficence being recorded to his honour.

QUESTIONS AND ANSWERS.

Transplanting Passion Flower.—*A. C. L.:* We would not advise you to lift your Passion Flower at this season unless it is imperative. A robust plant, if carefully lifted, might outlive the winter, and start away into growth again in spring, but the chances are that it would die if the winter proves severe. If not too large you might put it in a box, tub, or pot, and winter it in a greenhouse, or somewhere out of the reach of frost. A little warmth would be beneficial, and cause the roots to make fresh growth, and so stimulate the plant to repair the damage caused by lifting.

Bulbs to Pot or Plant Out.—*W. K. Glover:* Sternbergia lutea, Camassia esculenta, Ornithogalum pyramidale, Narcissus Sibthorpii, Scilla nutans pallida, Allium odorum and Erythronium Dens-Canis alba should be planted in the open ground at once; in fact Sternbergia lutea should soon be in flower and is evergreen. It is impatient of disturbance, and flowers best when fully established. Scilla campanulata, Tulipa sylvestris, Scilla bifolia, S. b. alba and Milla, may also be planted out or potted up at your option; they are perfectly hardy, but are often flowered in pots and are highly ornamental. The first-mentioned group are ornamental border plants, but the foliage of most of them is too gross to recommend them for pot culture generally.

Greenhouse or Frame.—*Tree Carnations:* We should advise you to keep your Carnations in the greenhouse. If the latter is kept at a temperature of 50° at night, the plants will flower if they are strong enough. It is not necessary, however, on account of the Carnations to keep the house so warm, unless you wish to keep up a display of flowers in it at this season. Should the pots containing your plants be small, a slightly larger shift will be required in spring, giving good soil. Keep the plants near the glass in summer, ventilate freely, and do not neglect the plants with water. No other treatment will be required by Pride of Penshurst. Stake the plants neatly when they require it.

Judges and Committeemen.—*F. J.:* As a general rule some committeemen are always present when the judges are at work, to assist them in finding the entries in the various classes, and in recording the awards, but they should never help to make them, unless specially asked to do so in exceptional cases, and if not so employed should not accompany the judges. Of course if a committeeman is an exhibitor also, he should retire while the awards are being made.

Apple Trees Losing Health.—*G. G.:* They have exhausted the soil in which they are growing of some chemical constituent which they require to keep them in robust health. Give them a liberal dressing of good farm-yard manure and lime, well incorporated with the soil; and also mulch with manure. On the weakest branches of the espaliers you might put on a graft of the same variety but taken from a young healthy tree. Many a veteran has been restored to health by this simple plan.

Names of Plants.—*R. C. Kingston:* The Orchid with the pseudobulb attached was a Bulbophyllum, but we have not recognised the species. The spike without leaves was that of Angræcum pertusum. *A. L. Anderson:* 1, Pancratium speciosum; 2, Browallia elata; 3, Kennedya Maryattæ: 4, Fuchsia macrostemma var.; 5, Fuchsia corymbiflora. *H. C.:* 1, Aster Novi-Belgi densus; 2, Aster Novæ Angliæ rosea; 3, Phygelius capensis; 4, Linaria marocana; 5, Solanum marginatum; 6, Tacsonia Van Volxemii. *Alex. Henry:* 1, Viburnum opulus; 2, Cotoneaster Simonsii; 3, Cotoneaster microphylla; 4, Sequoia sempervirens, the Redwood of California.

Names of Fruits.—*T. C. W.:* Marie Louise and Winter Nelis. *Jas. Dugan:* A Quoining, but which one we have been unable at present to determine. Will try again before next number. *J. W.* and others next week.

Books.—*Ignoramus:* Cook's *Manual of Botanical Terms*, published by W. H. Allen & Co., 2s. 6d. *C. Leeson:* For botanical terms get the book above named, and for botanical names either Paxton's *Botanical Dictionary* (Bradbury, Agnew & Co.), or the last edition of Johnson's *Gardeners' Dictionary* (G. Bell & Sons). Both are well within the prices you name. *A. Plumbley:* 1, *The Rose Garden*, by William Paul, or Rivers' *Rose Amateur's Guide*; 2, *Select Ferns*, by B. S. Williams; 3, Druery's *Choice British Ferns*; 4, Thomson's *Handy Book of the Flower Garden*; 5, Dr. Masters' *Botany for Beginners*; 6, Grigor's *Arboriculture*, a much cheaper work than Brown's *Forester*; 7, *Chrysanthemums and their Culture*, by Edwin Molyneux. 1s. *North Lincoln:* The *Epitome of Gardening* is published by A. & C. Black, Edinburgh; *O. P.*, Grigor's *Arboriculture*.

Communications Received.—W. B. H.—C. R.—W. C.—J. C. & Co.—J. L. & Sons.—J. W.—R. D.—J. S.—J. T.—T. H. T. P. (The error is much regretted, though it had appeared before, and passed unchallenged).—W. B. H.—G. F.—W. P. R.—J. F.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending October 20th was 30·12 in.; the lowest reading was 29·82 in. at the beginning of the week, and the highest 30·23 in. at the end of the week. The mean temperature of the air was 43·5°, and 7·5° below the average in the corresponding weeks of the twenty years ending 1868. The mean was considerably below the average on each day of the week, the coldest days being Sunday and Monday. The direction of the wind was variable, and the horizontal movement of the air averaged 6·3 miles per hour, which was 4·5 miles below the average in the corresponding weeks of sixteen years. No rain was measured during the week. The duration of registered bright sunshine in the week was 24·5 hours, against 35·2 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

October 22nd.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report the market for Clovers continues very firm. Alsyke is much dearer and very scarce. Perennial Rye Grasses are dearer. There is no change in Italian Rye Grasses; Tares unchanged. Linseed is much dearer; other Bird Seeds unchanged. More money is asked for fine samples of Blue Peas.

COVENT GARDEN MARKET.

October 24th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½-sieve	2 0	4 6	Pine-apples, St. Michaels, each	2 0	7 0
Cobs ....per 100 lbs.	75 0		Pine-apples, Eng., lb.	1 6	2 0
Grapes .....per lb.	0 8	2 6	Plums, ½-sieve	2 6	4 0
Melons	1 0	2 0	Peaches.....per doz	2 0	8 0

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 6		Lettuces ..per dozen	2 0	3 0
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	0 9	1 3
Cabbages .... per doz.	1 6		Onions, per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	3 0	4 0	Radishes, per dozen	1 6	
Celery, per bundle	2 0		Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 0	
Herbs, per bunch	0 2	0 4	Turnips, per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys. 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Ferns, in var., per doz.	4 0	18 0
Asters .....per doz.	5 0	10 0	Foliage Plants, various, each	2 0	10 0
Chrysanthemums, per dozen	4 0	9 0	Ficus elastica each	1 6	7 0
— large plants ..each	2 0	5 0	Fuchsia, per doz.	3 0	6 0
Cockscomb, per dozen			Hydrangea, per doz.	9 0	18 0
Coleus .....per doz.	2 0	4 0	Liliums, var., doz.	18 0	30 0
Cyclamen ..per doz,	12 0	18 0	Marguerites per doz.	6 0	12 0
Cyperus, ..per dozen	4 0	12 0	Mignonette ..per doz.	3 0	6 0
Dracæna term., doz.	30 0	60 0	Palms in variety, each	2 6	21 0
— viridis, per dozen	12 0	24 0	Pelargoniums, scarlet, per dozen	2 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Solanums....per doz.	9 0	15 0

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Asters, doz. bunches	6 0	9 0	Lilium longiflorum, 12 blooms	5 0	9 0
— (French), 1 bunch	1 6	2 6	Marguerites, 12 bun.	3 0	6 0
Azaleas ....12 sprays	1 0	2 0	Mignonette, 12 bun.	2 0	4 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 spys.	1 0	1 6
Camellias, 12 blooms	3 0	4 6	— scarlet, 12 sprays	0 4	0 9
Carnations, 12 blooms	1 0	2 0	Primula, double, bun.	0 9	1 0
Chrysanthemums annual, 12 bunches	2 0	4 0	Pyrethrums, 12 bun.	2 0	4 0
Chrysanthemums, 12 blooms	1 0	6 0	Roses, Tea, per dozen	0 6	1 6
— 12 bunches	6 0	12 0	— Red .....per doz.	0 6	1 0
Cornflower, 12 bunch.			— Safrano ..per doz.	1 0	1 6
Cyclamen..12 blooms	0 6	1 0	Stephanotis, 12 sprays	4 0	6 0
Eucharis, per dozen	3 0	6 0	Tuberoses, per dozen.	0 6	1 0
Gardenias, 12 blooms.	1 6	4 0	Violets ..12 bunches	1 0	1 6
Gladiolus, 12 sprays	3 0	6 0	— Parme, French, 12 bunches	3 6	5 0
Heliotropes, 12 sprays	0 6	1 0	— dark French, bun.	1 6	2 6
Lapageria, 12 blooms	2 0	4 0			

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Next Week's Engagements.

MONDAY, Nov. 5th.—Surrey Chrysanthemum Show at Peckham (2 days). Bulb Sales at Stevens', and Protheroe & Morris's Rooms.

TUESDAY, Nov. 6th.—Isle of Sheppey, and Southampton Chrysanthemum Shows (2 days).

WEDNESDAY, Nov. 7th.—National Chrysanthemum Show at the Westminster Aquarium (2 days). Chrysanthemum Shows at Tooting and Bath (2 days), and Portsmouth (3 days). Bulb Sale at Stevens' Rooms.

THURSDAY, Nov. 8th.—Dawlish Chrysanthemum Show. Bulb Sale at Protheroe & Morris's Rooms.

FRIDAY, Nov. 9th.—Chrysanthemum Shows at Crystal Palace (2 days), Leicester (2 days), Acton, and Hitchin.

SATURDAY, Nov. 10th.—Derby Chrysanthemum Show. Bulb Sales at Protheroe & Morris's, and Stevens' Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.
SATURDAY, NOVEMBER 3, 1888.

CURRENT TOPICS.

THE FRUITERERS COMPANY.—Lord Mayor De Keyser has given us a surprise. He informed his guests the other evening when entertaining the Fruiterers Company at the Mansion House, that the company spent £1,000 per annum in prizes and other means of promoting the development of the fruit trade. If this amount had not been given in the report in words, we should have imagined that a mistake of a cypher had been made, as it must have presented to the soberest of the partakers of the Lord Mayor's hospitality a difficult arithmetical problem to ascertain how £1,000 a year could be spent out of an annual (corporate) income of only £200.

But puzzling as is this little sum in arithmetic, far more difficult is it to understand how this £1,000 is by the Fruiterers Company applied. The statement is of such an incomprehensible nature that we crave further enlightenment from those who know all about it. The most we have learnt of the Fruiterers Company so far, has been to the effect that it comprises persons having no connection whatever with fruit production, and it is very doubtful if many, or any of them in fact, are concerned with fruit trading. But we do know that a considerable sum is annually fooled away in presents to the Lord Mayor, who in return invites them to dine with him—the gift of fruit always proving a capital sprat with which to catch the Lord Mayor's mackerel.

We shall be very glad to learn in what other direction the company assists in the development of fruit culture in this country. It is worthy of remark, that amongst the guests at this Mansion House banquet to the Fruiterers, so called, there does not appear to have been any one person who is associated with British fruit culture, or engaged in helping in its development in a practical way.

Future Conferences.—With the suggestion that has been made that the recent Conference at Chiswick should be succeeded by others held from time to time, and to include various diverse horticultural topics, we heartily agree. Really a floral one might be held annually, and also one of a fruit nature, to include vegetables and other things allied to fruits. Exhibitions too much in the past have been mere plant or flower shows, or promenades, with but little practical good resulting. Conferences, however, such as that which marked the Apple and Pear show, are feasts of intelligence, and exponents of practice. They indicate the development of higher objects and results than have ordinarily in the past grown out of exhibitions.

Very likely it will be found that one day is ample to devote to a spring or summer conference, and two days in the autumn. Then it is important that the aims should not be of a desultory or haphazard nature, but that the objects in each case should be clearly defined beforehand, and those only invited to give papers who could deal with the subjects to be discussed with authority. It would, indeed, be well that the desired aim of the respective papers to be read should be, to some extent, indicated, so that one may follow the other as part of a whole, and the discussion taken in the concrete at the last.

There is little to find fault with in relation to the papers read at the recent Conference, but occasionally there were breaks in the connecting links which seemed incongruous, and some little travelling over the same ground. In quitting the subject now, however, we must first acknowledge the good service done by the executive committee; secondly, in the very efficient, intelligent, and kindly help rendered by the Rev. W. Wilks, the Society's secretary, and last, but not least, the splendid exertions of Mr. Barron and his staff in rendering the Conference such a complete success.

The Potato Crop and Present Prices.—It seems very difficult to understand that with a crop of Potatos sadly diminished by disease, and in many localities to the extent of one-third, yet that the market price just now should be absurdly low; fairly good Magnum Bonums—the chief Potato stock in the kingdom—fetching only some 2*s.* per bushel, or about 80*s.* per ton. The crop of Magnums, although affected by the disease only to a trifling extent, is yet a moderate one, not even half an average crop; for the reason that the foliage was destroyed long before the tubers had attained full dimensions. The average yield of even a good Magnum crop in the south is about one bushel to the rod of fair medium tubers. In good Potato seasons the yield is often three bushels per rod of ground. The chief reason given for the low market price is that the quality of Potatos is so bad this year. That is undoubtedly the fact; indeed, it is doubtful whether in any year since the disease first visited us, the tubers have ever been so lacking in table quality as this year. Allied to so much rain, and the fierce development of the Peronospora, was the almost entire absence of sun-heat, and without that Potatos cannot be produced fit for table. Doubtless also there has been great anxiety on the part of growers to force their Potatos on the market lest the Continental orders should come in and make matters worse.

But it is not at all certain that the foreigners have any quantity of sound tubers to send us; in fact, our chief dependence for Potatos later on must be on the north and Scotland, where it is reputed the crops are sound and good; but on that head we should be pleased to have fuller information. Should this anticipation not be verified, it does seem obvious that we shall have to suffer something of a Potato famine towards the end of the winter.

The Gardeners' Orphan Fund.—The capital result to the Orphan Fund of a donation of £10, as presenting the profits arising from the recent soiree held at Chiswick, serves in a very practical fashion to show how the Fund may be helped in a truly valuable way during the winter months. Let some twenty or thirty other horticultural centres but follow the Chiswick example, and a splendid addition to the finances of the Fund is thus made, and the maintenance of ten or fifteen orphans assured. Were every horticultural city in the kingdom which has any considerable population in its area to arrange a soiree, and secure similar financial results to those which accrued at Chiswick, some £500 annually might be added to the Orphan Fund income.

The Chiswick soiree is the first of its kind, but the real initiative is due to Mr. Wildsmith, who, if he did not organise an entertainment in his rural and thinly populated neighbourhood, did get a lecture delivered on behalf of the Fund. The soiree is, however, likely to prove the most attractive, because not only more varied in character, presenting, if properly conducted, admirable opportunity for social intercourse, but also may be aided by many in various ways. The individual expense is trifling, the aggregate product may prove a substantial one. The Chiswick soiree was promoted by young men, and there are plenty of young men in gardens throughout the kingdom who could, with the consent of their head gardener, promote successful gatherings in their respective localities. Still it would seem as if the most efficient aid would come from horticultural societies, because these have at their disposal both organisation and influence, and we have no doubt but that at some suitable time during the winter, members generally would be only too pleased to render in such direction to the Orphan Fund the heartiest assistance.

The Weather.—Amongst the vicissitudes of climate to which Chrysanthemum exhibitors are heir, few present more difficulties than do the sudden interruption of the ordinary low autumn temperature by several days of summer warmth. The lateness of the season this year, allied to the troubles incidental to the early October frosts, have given growers for exhibition not a little anxiety, as the shows have been fixed almost a day or two earlier than later; and they have been compelled to drive their plants somewhat. In such case the sudden influx of external warmth has no doubt proved rather helpful than otherwise; but in some preceding seasons warm weather at the end of October has been fateful to many all too precocious flowers.

Outside, the influence of the recent warmth has been of exceeding value, apart from the rich hues of colour lent to the falling foliage—colour so welcome to all lovers of the beautiful in nature. The wood made by trees of every description during the preceding sunless summer has been wonderfully hardened and ripened; fruit-buds have plumped up finely, and in every respect good results to all kinds of vegetation have followed. Without doubt we may look forward to the winter now with greater complacency, and to the succeeding spring and summer in the cheerful hope of proving them to be both beautiful and fruitful seasons.

The Luton Horticultural Society's fifth annual show of Chrysanthemums, fruits, roots, and vegetables will be held on Wednesday and Thursday, November 28th and 29th.

House and Table Decoration and the Plants most Suitable therefor is the subject of a paper to be read this (Saturday) evening at the "Legs of Man" Hotel, Fishergate, Preston, by Mr. John Williams, gardener at The Priory, Penwortham.

The Preston and Fulwood Horticultural Society's eleventh spring show is announced to be held on March 20th and 21st next.

Carnations, Picotees and Pinks.—Being desirous of promoting the cultivation of these beautiful hardy florists' flowers, and having more plants than he can successfully cultivate, Mr. William Wardill, 25, Park Street West, Luton, has decided to offer a portion of his stock for sale, the proceeds of which will be handed over to the Luton Horticultural Society to provide prizes for these flowers.

Valuable Orchids: A Rare Cypripedium.—On Friday, the 26th ult., a small plant, with three leaves, of Cypripedium Marshallianum, was sold at Messrs. Protheroe & Morris's rooms for 150 guineas, and purchased for a gentleman resident in America. The plant is the result of a cross between C. venustum and C. concolor. A small plant of C. leucorrhodum was sold at the same time for 40 guineas.

The Weather in South Africa.—Our correspondent, "W. T.," writing from Graham's Town, says:—I see that after a very wet season sharp frosts have set in early, and I think it singular that there should be similar weather on our side of the globe at about the same time. We have had some fine rains here this spring (our spring), such as we have not had for fully twenty years; there were 6 ins. of rain in four days. I am now speaking of the Eastern province. In the West at Cape Town, I hear that in the four winter months they had an aggregate of 6 ft. of rainfall. We have had another sharp frost that has played mischief with the gardens. It has taken the most of the Apricots; all the other fruits, fortunately, were not in bloom.

Preventing Birds from Attacking Fruit.—"R. D." writes:—"A San Francisco paper states that a sure way of preventing the ravages of birds on the fruit crops is to keep them well supplied with water to drink. I am inclined to think there was no lack of water for birds during the past summer, and though in addition I provided them with drink, they played sad havoc with the finest of my Jargonelle Pears, and this, too, when abundant showers were falling. I have heard gardeners complain during the fruit season that the birds had proved destructive to the fruit crops. What has been the general results as to observations in this matter? When I was at Messrs. J. Cheal & Son's nursery at Crawley, not long since, I found they had to net many of their small bush trees on the Paradise as the birds were attacking the fruit, and, as in my own case, the finest—that required for exhibition purposes. At that season of the year there was no lack of rain and moisture for the birds."

Gardeners' Orphan Fund.—At the monthly meeting of the committee, held on the 27th ult., it was announced that the sum of £38 19*s.* 8*d.* had been received since the previous meeting, this sum including £7 12*s.* sent in by Mr. Wildsmith, of Heckfield, and £10 the proceeds of the recent soiree at Chiswick. It was also announced that Mr. Owen Thomas, of Chatsworth, is organising a concert, with floral decorations, to be given in aid of the fund, at Chesterfield, on November 14th. Mr. Bishop, The Grove Gardens, Teddington, was appointed local secretary for that district. Mr. Barron stated, with reference to the appointment of guardians for the children elected to the benefits of the fund at the late annual meeting, that in most cases the mother had very properly accepted the duties, and in the others, one grandmother, and the rest aunts had undertaken to look after the children. The child selected by the committee for the receipt of Mr. Sherwood's bounty is Kate Harriet Brooks, aged four years, the daughter of a Devonshire gardener, who died in February last, leaving a widow and ten children totally unprovided for.

The Centenary of the Introduction of the Chrysanthemum.—Mr. W. Holmes, honorary secretary of the National Chrysanthemum Society, in a letter published in *The Standard* of the 30th ult., suggests that, inasmuch as the Chrysanthemum was imported into Europe in 1789, next year would be a very fitting opportunity for celebrating the centenary of its introduction. This

might be done by holding a gigantic festival, at which most, if not all, of the varieties indicated in the recently published catalogue should be exhibited, and, perhaps, even some of the quaint customs observed at the oft-recurring Chrysanthemum fêtes in Japan might be introduced. We have had our exhibitions, and successful ones too, of various kinds—our Healtheries, Fisheries, and so on; why should not one be organised for and devoted to horticulture, with the Chrysanthemum as one of the special features for the three or four last months of the year? It is a plant that, more than any other, has gained immense favour with our people, has adapted itself to our climate and conditions, and gives intense pleasure and interesting intellectual recreation to a vast number of both cultivators and admirers.

National Chrysanthemum Society.—A well attended meeting of the general committee of this society was held at Anderton's Hotel, on Monday last, when the chair was occupied by the president, Mr. Sanderson. The secretary, Mr. W. Holmes, reported that numerous applications were being made for the National Chrysanthemum Society's catalogue. The Eastbourne Chrysanthemum Society was admitted as an affiliated society, and several new members were elected. Mr. Holmes also reported that entries were coming in for the Challenge Trophy, and expressed a wish that those connected with affiliated societies would do their best to make this class one of the chief attractions of the exhibition. Messrs. G. Gordon, C. Harman Payne and Lewis Castle were presented with the Silver Medals which were awarded them at the last meeting in recognition of their work in preparing the 1888 catalogue, and both Mr. Gordon and Mr. C. H. Payne in a few well-chosen remarks expressed their thanks and at the same time their willingness to do all in their power to further the interests of the society. The members and friends of the society who propose attending the Provincial Show at Sheffield, on the 16th and 17th November, have arranged to leave St. Pancras for Sheffield on the 15th November, by the 5.40 train. The annual dinner of the society has been fixed to take place at Anderton's Hotel, Fleet Street, on Thursday, the 13th December next.

FRUIT CONFERENCES.

It is generally admitted that a vast deal of information has been obtained, and that a great stimulus has been given to the subject of fruit farming by the recent conference and exhibition of hardy fruits at Chiswick, together with the able papers read during the week; but while admitting that an amount of good may be done by these national conferences (I think the recent one at Chiswick well deserved the title), it occurs to me that a still greater amount of information might be circulated, while the interest in the subject might be both widened and deepened by the various horticultural societies holding similar conferences in their own districts throughout the United Kingdom. Such a conference as this was held at Harpenden last year, the immediate object of the Harpenden Horticultural Society being to discover as far as possible the varieties of Apples and Pears that succeeded best in the society's district.

The gardeners in the neighbourhood brought in collections, one gentleman in particular, viz., Mr. Norman, Hatfield House, Herts, staging a thoroughly representative collection, which from a ten years' experience he could confidently recommend as being likely to succeed in the district. Now this is exactly the information that is required. Any person interested in fruit growing may go to an exhibition of hardy fruits, and perhaps make a selection of a number of varieties which he thinks will pay to grow, but it is not always possible to find out if all the varieties will succeed in his own particular district; or he may go into one of our great fruit tree nurseries, and see some varieties exceedingly prolific, but it does not always follow that the same variety is going to give him the same returns in a different part of the country.

As a case in point I may mention what occurred at Chiswick on the 17th ult. Mr. Bunyard, in an excellent paper on the Apple, mentioned a variety named Councillor, and if I remember rightly, described it as a good market Apple for Kent. In the discussion which followed Mr. Pearson took exception to the variety named, and in giving his experience of the Apple, unhesitatingly condemned it. Now, from this I should gather that if a collection of marketable Apples were got together by any horticultural society in the neighbourhood of Maidstone we should probably find Councillor largely represented, while we should look in vain for it in any collection of market varieties exhibited in the vicinity of Chilwell. It is therefore to gain such information as this that I make the suggestion to the various horticultural societies in the kingdom to hold such conferences as will materially forward the good work so ably commenced at Chiswick and the Crystal Palace.

I find on referring back to the committee's report of the Harpenden Congress that about 180 dishes of Apples and Pears were entered for competition, and these were supplemented by collections from the principal gardens in the neighbourhood and two fine collections from the Messrs. Cheal, and Lane. I also notice that the principal and finest Apples shown were Blenheim Orange, Mère de Ménage, Hoary Morning, King of the Pippins, Hollandbury, Prince Albert, Hanwell Souring, Beauty of Hants, Winter Quoining, and Cox's Orange Pippin.—*Thomas Nutting, The Gardens, Childwickbury, St. Albans.*

THE POMEGRANATE.

Those who have walked through the streets of London during the past week or two will have noticed the barrows of the costermongers laden with Pomegranates, and very fine ones too, which were being offered at 1*d.* each. They must be grown in great quantities, and shipped and sold very cheaply to be retailed at this low price in the streets of London, so many miles away from the parts where they are grown. The Pomegranates we see in the London streets, no doubt come from Spain and Portugal. On both shores of the Mediterranean the plant grows wild, but it is more or less cultivated in all countries where the climate is sufficiently favourable to bring its fruit to maturity. But what an ancient fruit the Pomegranate is! There is a tradition that the fruit of the Tree of Life presented by Eve to Adam was the Pomegranate. It is also the opinion of some, that Paris adjudged a Pomegranate to Venus, and not an Apple, and that nearly always where the latter fruit is mentioned in legends or popular customs relating to marriage, the Pomegranate is meant.

The Pomegranate in point of antiquity reaches almost as far back as the Almond. It comes to the front in Scripture as one of those delightful orientals which at all points touch the earliest recorded life of civilised man. "The places of the aboriginal growth of this fruit appears to be north-west India, and the countries south and south-west of the Caspian, away to the borders of the Persian Gulf and the Indian Ocean. It became established in south-eastern Europe at a very early period, and was conveyed to the coasts of Northern Africa by the Phœnicians eight or nine centuries before the beginning of the Christian Era. It was from Carthage, probably, that the Romans received it, their name for the fruit having been Malum puniceum" (Leo. H. Grindon). It is now to be found in all sub-tropical countries in both hemispheres, and whenever it occurs, when in flower and fruit, it is one of the most striking ornaments of the soil. It was introduced to this country about 350 years ago. It is rather tender, and thrives best when planted against a wall in a full southern exposure, in which position it produces its beautiful scarlet flowers freely, and in some very favourable positions its fruit, which, however, never fully ripens in this climate, except under glass. Its leaves, just before and while expanding, have a lovely deep scarlet tinge. It ripens its fruit at Cleveden Court, Somerset, where there is a plant 60 ft. high, leaning against a broad old-fashioned chimney, from which it gains the advantage of some artificial heat.

Many curious legends are current bearing upon the number of seeds found in a fruit, and the blood-like juice it exudes. The sanguineous juice and innumerable seeds of the Pomegranate are considered a happy augury of fecundity and abundance. The scriptural references to it are numerous. The Jews employed the fruit in their religious ceremonials. The capitals of the pillars of the Temple of Jerusalem were covered with carved Pomegranates. On the hem of Aaron's sacred robe were embroidered in blue, in purple, and in scarlet, Pomegranates alternating with golden bells.

The Pomegranate was the emblem of Catherine of Arragon, and in one of the masques held in honour of her marriage with our Henry VIII., a bank of Roses and Pomegranates typified the union of England and Spain. Her daughter, Queen Mary, took the Pomegranate and white and red Roses.

The Pomegranate is well worthy of being cultivated for its flowers, and they are produced at the extremities of its young and leafy shoots. Individually they consist of a deep scarlet calycine tube or ovary case 1 in. in length, with, at the summit, usually five great fleshy lobes, between which there are seated as many petals of the most brilliant crimson-rose colour, a crowd of crimson stamens projecting from the centre. Mr. Grindon tells us that in the time of the patriarchs the Hebrew ladies employed the opening buds of the Pomegranate as eardrops. To dream of Pomegranates is a fortunate augury, foretelling good fortune and success. To the lover such a dream implies a faithful and accomplished sweetheart, and to the married an increase of riches and children, and great success in trade.—*R. D.*

NOTES ON FRUITS.

A Frost-Proof Peach.

We have a variety of Peach here that I think will be well worth sending to England. Our first spring month is August, and, as a rule, the Peaches are only now in full blossom, but this one comes into bloom in May and June, and has now fruits on it as large as Walnuts; and what is most strange is that no frost seems to affect it. The frost this year that has killed the native plants has not affected it in the least, and that as standard trees also. From this variety ripe fruits have already been gathered, and the other kinds are only now coming into flower.—*W. T., Graham's Town, S. Africa.*

The Hessle Pear.

After all, this old sort still maintains a good character. Mr. Wright was not wrong in bestowing honourable mention upon it. As seen in Lincolnshire, true, it may lack the size, colour and flavour required in sorts for cultivation in private gardens; but what of that when the object is to cater for the million, and as Pears are generally eaten uncooked, I consider it quite large enough for market purposes. We must remember that one-half of the Pears grown are eaten in the streets of our large towns, and take the place of many a glass of beer. I well recollect, nearly thirty years ago, having to annually strip seven trees of this sort, on which the fruits hung like ropes of Onions, and so weighed down the branches that we had to prop them up; and from those trees generally more money was made than from any other seven in the garden. They were never allowed to ripen on the trees, but were stored in heaps of several bushels together in a light airy house, and left to mellow, which brought out both the colour and flavour to a remarkable degree, much better than when left to ripen on the trees. Were I going to plant in a northern county this sort would not be despised.—*B. L.*

THE LITTLE "NATIONALS."

There is a good deal in a name, but even a high-sounding appellation can hardly be made the means of making something very small in its way into a matter of national importance. I observe you report the proceedings of the recent annual meetings of the National Auricula and National Carnation and Picotee Societies, at which gatherings some half-dozen persons only seem to have been present, and I must say that the very moderate attendance hardly gives to them a national aspect. But the chief object of my writing is to refer to the strange proposal of those bodies to hold their future annual displays at the Crystal Palace, and the chief matter calling for comment is the fact that whereas some of these "National" people, and not the least important among them, have been loud in their protestations of friendship for the Royal Horticultural Society, and how much they had been unlike some other bodies in sticking to the old ship, yet now—and under the patronage of three members of the R. H. S. council and of two or three other gentlemen who have in strong terms denounced all other bodies not linked with the old society—do these little "Nationals" propose to leave the R. H. S. utterly in the lurch, to turn their backs like rats upon the apparently sinking ship and betake themselves to the huge establishment at Sydenham. Delightful gratitude! Beautiful exhibition of support! Charming consistency! Is Chiswick further from London or more inaccessible than is the Crystal Palace, and is the fine vinery there less fitted to be the show place of the Auricula and the Carnation than is the Crystal Palace?—*Leo.*

Disperis Fanninlæ.—I am sure this pretty terrestrial Orchid only needs to be known to be appreciated by gardeners. It has slender leafy stems of white flowers, the upturned galeas of which are curiously inflated. The perianth has a few purple dots, and the lateral sepals are saccate. If grown in a light material, such as decayed peat or leaf-soil, and put in a shady situation in a cold house or frame, it would be very easily induced to thrive and bloom well. It is figured in *Thesaurus Capensis*, plate 171.—*R. A., Natal.*

GARDENING NOTES FROM IRELAND.

FARM GARDENING.

IN your issue of the 13th ult. there appears some extracts from a letter of Mr. W. H. Hall, J.P., of Six Mile Bottom, Cambridgeshire, on "Farm Gardening in Ireland." I really thought this subject was dead and buried long since, but it appears there are still people amongst us who have time and leisure enough to "keep hammering away," under the impression that they alone will be able to resuscitate the laid ghost. Admitting all Mr. Hall's contentions as to climatic conditions, and the capability of the soil in Ireland to produce the numerous fruits and vegetables he enumerates, all his arguments come to nothing when the question of profit has to be considered. Under present conditions there are no profits for Irish growers of fruit and vegetables in their own or in English and Scotch markets. Even if the skill and enterprise which he says the Irish farmer does not possess, were present, I should like to know how he is likely to succeed when pitted against those who have the "skill and enterprise," and a market almost at their own doors? Is not the skilled and unskilled foreigner beating the "skilled and enterprising" English farmers in their own markets? and in the face of this, Irish farmers are invited to start orchards all over the country! Well, I need not quote the old adage of "once burned, &c.," but Irish farmers have good cause to remember the fate of the orchards that at one time dotted the face of the whole country, but which, in the rage for the consolidation of farms, were ruthlessly swept out of the possession of the tenants, and became the happy scratching grounds of bovines. I should like to know what grounds Mr. Hall has for saying that there need not now be any fear that confiscation of his improvements will follow the "skill and enterprise" of the Irish farmer. Why, every day he goes into the land courts his improvements are being confiscated, and his future rent is actually based on the improvements effected by himself and his ancestors. But in this respect how can the Irish tenant expect to be better off than his English brothers? Mr. Hall would do well to see that there is no confiscation of tenants' improvements in England before he busies himself about Ireland.

CHRYSANTHEMUMS.

WHILE we have heard a great deal about the destruction dealt out in many places to pot Chrysanthemums by the couple of frosty nights we had at the beginning of October, it comes upon one rather as a surprise to meet with beds of them showing a most extraordinary profusion of flowers. Let your readers just imagine a circular bed, 7 yards through, and with the whole space covered with bloom, and they may have some idea of the effect such a mass of flowers will produce at this season of the year. This splendid bed is to be seen at present in the People's Gardens, Phœnix Park. It is not the only one, however, as there is another equally good, but not so large. The beds contain three varieties, the middle being filled with one having its flowers made up of a white centre and blush-tipped edges; round this centre there is a broad belt of Jardin des Plantes, and the edge of the bed is composed of a very broad band of Madame Desgrange. Besides these beds there are numerous groups of Madame Desgrange planted in the borders, all in splendid bloom, showing neither in flowers nor foliage the least trace of injury from frost. This is also the case in the St. Stephen's Green Park, where I found four varieties looking remarkably attractive. These were Madame Desgrange, La Vierge, a very beautiful white; George Wermig, a good yellow, and a variety of a brick-red colour. A bed centred with single Dahlias, still in moderate bloom, and having a broad belt of white Chrysanthemum La Vierge, looked very well.

OTHER PLANTS STILL IN FLOWER.

IT is remarkable how lightly the frost touched some plants in both the above-named places, as I found the borders still looking gay with clumps of Sweet Pea, Œnothera, Clarkia, Eschscholtzia, pink and scarlet Phlox, Golden Rod, Mignonette, several varieties of Aster, or Michaelmas Daisy, &c. On a piece of rockwork in Phœnix Park Nicotiana affinis was fresh-looking and flowering, also yellow Calceolaria, Alyssum, Aubrietia, Veronica, Valeriana, &c. In two large beds numerous Gladioli were showing more or less bloom, as was also Anemone japonica alba. There are numerous well-grown specimens of green and variegated Hollies looking very beautiful just now, with their wealth of red berries; and standard Cotoneasters, where well placed, are even more brilliant in effect than the Hollies.

WEATHER INFLUENCE.

IT is a matter of general remark how beneficial has been the influence of the late dry warm weather on all growing crops. Roots of all sorts appear to have made up for time lost during summer, and Mangolds, Carrots, Turnips, Parsnips, &c., that it was thought would not be equal to ordinary years, now give indication of more than average crops. Mr. Conway, of the Rathbone Union, a report of whose management appeared a short time ago in THE GARDENING WORLD, says his root crops are making quite as much progress in growth now as they did a month ago, and he reports that some long red Mangolds, which he lifted last week for inspection, weighed 19 lbs., and White Belgian Carrots 4¼ lbs. This is very encouraging, and should the present warm state of the weather last a few weeks longer, we may hope that the vegetable supply will keep abundant, and that fruits now outstanding, as well as all kinds of roots, will have time to be fully matured.

PASSIFLORA CŒRULEA IN FLOWER.

IT is considerably out of the usual course to find a plant of this in flower at the present time, yet I saw a fine one of it lately, 24 ft. by 6 ft., showing quite a lot of flowers. The position was a well sheltered one, which would perhaps account for it having escaped any injury from the late frost.

THE INDUCEMENT TO GROW FRUIT FOR MARKET IN IRELAND.

THE following case, as given by a gentleman living in co. Wexford, will show the folly of attempting to grow fruit with a view to profit, for, as will be seen, the gentleman in question not only failed in gaining anything by his little transaction, but was actually a loser. Last week he despatched to a well-known fruit factor, for sale in the Dublin market, a parcel containing, as well as I remember, about fifteen dozen of picked Pears. For the carriage of these he paid 1*s.* 6*d.*, and the factor's note after the sale was to the effect that the lot was sold for 1*s.* 4*d.*, out of which 2*d.* commission fees had to be deducted. It is reasonable to suppose that after such experience the gentleman, if he happen to have Pears again, will eat them, or if this be not practicable, he will pursue the less costly plan of distributing them among his friends or neighbours.

THE FORTHCOMING CHRYSANTHEMUM AND FRUIT SHOW IN DUBLIN.

IN both these departments a good exhibition is anticipated, and it is said that Chrysanthemums will be finer, generally, than any seen at previous shows. The competition in hardy fruits will be very keen and very good, as there will be more entries, and the fruit of a better class than those staged for the past few years.—*W. D.*

HEPATICAS.

I EMPLOY the common name by which this charming early spring-flowering plant is known. The proper designation is Anemone Hepatica. The varieties grouped under this heading represent the smallest comprehended in the genus; but small though they are, they are very effective, and have a great decorative value. Hepatica appears to be an adopted Greek word—the adjective of Hepar, the liver, and it is applied to a plant with three-lobed leaves used in the affections of that organ. The Hepatica is remarkable for its low tufted growth, and the number of blossoms a well-established plant will put forth. It roots deeply, throwing down straight into the soil a number of tough wire-like roots that reach a great depth, and when it becomes thoroughly established in suitable soil, clumps will grow into a large size. There are a good number of varieties, some throwing flowers to all appearance similar, but when they are closely examined, it will be found that they vary in small particulars, though enough to constitute a distinct variety. I find, in the case of single white Hepaticas, small differences, such as some being of better form than others. Some have small flowers, others larger, and the stamens differ in colour likewise, and so, while a number of plants of the single white might appear to the casual observer to be the same, to the observant mind that scans the blossoms more closely, small but decided differences will manifest themselves. I have no doubt but that these differences will run through all the single forms, as seedlings can be obtained from all of them.

Three or four years ago, I placed out under a west wall a plant each of all the varieties I could gather together. They appeared to feel the dry summer of 1887 keenly, and I had to mulch and water to keep them from being roasted up. But they bloomed finely on the whole when the spring came, and the moist cool summer of 1888 being favourable to the well-being of the plant, I am anticipating a fine bloom next spring. In planting I dug out a hole fully 1 ft. in depth, and in it I placed a mixture of good yellow loam, decomposed manure, leaf-soil, and sand; the plants were placed in this compost, the soil pressed firmly about them, and they are now well established. If Hepaticas are planted in the open they should be treated to a fit and good soil, and then there is some hope of answering the expectations of the planter.

I have been somewhat disappointed in not getting seedlings from the plants. They, and especially the single blue and the single white, appear to mature their seed pods; and I always take the precaution of top-dressing with some finely sifted soil, so that if any ripened seeds fall upon it they may have a chance to germinate. Up to this time I have not seen any results. Perhaps the seeds require to lie some time in the soil before they germinate.

Of all the varieties I have, the double blue is perhaps the weakest grown. It is a variety impatient of disturbance, and therefore it needs to be planted and let alone. But then it is scarce somewhat, and this fact makes it necessary that when a plant has made a few crowns it should be divided to afford increase. It is a variety that must be well grown to see it to advantage; the flowers are freely produced, but unless the plant is strong and doing well they are wanting in colour. Some of the single red varieties are very pretty indeed, and amazingly cheerful in spring. The double red makes one of the best border plants; it is very free, and in suitable soil soon grows into a large clump. This and the single blue, which is equally good in the open border, are the commonest. There are several shades of single blue, and all are very pretty.

Singular to state, there is no double white form. Whether it ever existed or not I cannot say, but I do not know a contemporary horticulturist who has seen it. It would be interesting to know how the double forms of the Hepatica originated. They date back so far that it is doubtful if anything like reliable information can be obtained concerning them and their supposed origin. That the Hepaticas represent a charming class of hardy spring-flowering plants there can be no doubt, and they deserve to find a place in every garden where they are likely to establish themselves and do well.—*R. D.*

CHRYSANTHEMUM NOTES.

THE NATIONAL CHRYSANTHEMUM SOCIETY.

I trust there will be a good competition for the Challenge Trophy, offered to the Chrysanthemum and Horticultural Societies, on the occasion of the great show at the Royal Aquarium, on November 7th and 8th. The idea is a novel and good one, and it provides a very interesting feature at the representative exhibition of Chrysanthemums held in the United Kingdom. I may state that what is required, is forty-eight blooms of Chrysanthemums, to consist of twenty-four incurved, in not less than eighteen varieties, and twenty-four Japanese, distinct. Now, as any number of exhibitors, members of any one society, can combine to contribute such a stand, it appears to me that an excellent competition ought to result. Mr. Holmes has recently issued a circular to affiliated and other societies, calling attention to the competition; and as some secretaries might be in doubt as to the best course to pursue, I may, perhaps, be allowed to set forth the course of procedure of my own society. As soon as Mr. Holmes's circular came to hand, I convened a meeting of Chrysanthemum growers in the district, and laid the scheme before them. After some consideration a resolution was passed, that it was advisable to enter for competition; and a committee of five growers was appointed to visit the exhibitors of Chrysanthemums, to select the flowers and make the necessary arrangements for providing and staging the same, I being instructed to make the entry. This seems to me to be a business-like way of going to work, and I think it is better to leave the matter in the hands of the exhibitors rather than in those of the secretary of the society.—*R. Dean.*

CHRYSANTHEMUM, FLORENCE PERCY.

I find that in referring to this variety last week, I inadvertently stated that it had received a First Class Certificate; this is incorrect, although it has been before the Floral Committee of the N. C. S.; but the

blooms presented to the committee were not good specimens of this excellent Chrysanthemum. While on the subject of errors, I am reminded of some notes on Chrysanthemums which appeared a few weeks ago in a country newspaper I received from one of my correspondents, in which the writer stated that care should be taken not to spill water about the conservatory for the next *ten* months; it is to be hoped we are not to have ten months winter, the temperature has already been below the average for fifteen months. October was an improvement and a good friend in every way, as after a very chilly introduction the month was beaming with sunny smiles all through.—*Practical.*

HOMEFIELD, EALING.

It is rather early to compare the collection here with that of last year, with regard to the size and fineness of the bloom, but the flower heads are plentiful and bid fair to equal those of former seasons, and, notwithstanding the wet summer, the plants are not taller than usual. Amongst incurved varieties, Empress of India, Queen of England, George Glenny, Mrs. Geo. Rundle, and Jeanne d'Arc are already in fine condition. The greater number of the Japanese kinds are normally earlier than the incurved varieties, and certain kinds take the lead. Elaine, Madlle. Lacroix, with long drooping florets; Moonlight, creamy white; and Lady Selborne are very distinct and good white sorts; the latter being a sport from James Salter, it exhibits the same twisting and interlocking of the florets when fully expanded, and adds greatly to the beauty of the variety. Bertier Rendatler is another very early Japanese sort that varies considerably in the colour of its bronzy orange and yellow flowers, and passes under the name of Curiosity with some growers. Comte de Germiny is always an interesting flower, notwithstanding its being so common. Maiden's Blush, deep blush; Margot, Rose-chamois, Source d'Or, brilliant orange-scarlet; and Japonais, bronzy yellow, tipped with gold, are all recurved or drooping Japanese kinds, each very charming in its way, and early. Amongst large hybrid Anemone varieties, Sœur Dorothée Souillé is also fine.

NEW VARIETIES CERTIFICATED.

AT the meeting of the Floral Committee of the National Chrysanthemum Society, held on October 24th, the undermentioned new varieties received First Class Certificates. We omitted them from our report last week, owing to the pressure on our space.

SUNFLOWER.—For a description of this new Japanese variety, see our last issue (p. 131). Exhibited by Mr. William Holmes, Frampton Park Nurseries, Hackney.

NELSON.—This is a new Japanese Anemone, with large rosy red flower-heads. The florets of the ray are very numerous, and the tubular florets of the disk are often mixed with the flat ones of the ray where the two kinds meet. Exhibited by Mr. William Holmes.

STANSTEAD SURPRISE.—This new Japanese kind is a seedling of last year. The flower-heads are of enormous breadth, with very long reddish purple florets, which are of medium width, and spreading or drooping. Exhibited by Messrs. John Laing & Sons, Forest Hill.

H. SHOESMITH.—Two plants of this new incurved variety were shown. It is a deep bronze sport from the yellow Mr. Bunn, and like that sort, it grows vigorously and flowers freely. The flower-heads are about the size of those of the type. Exhibited by Messrs. Davis & Jones, Camberwell.

MAGICIENNE.—For description of this new Japanese variety, see p. 131 of our last issue. Exhibited by Mr. Robert Owen, Maidenhead.

VIOLET TOMLIN.—Being a sport from the incurved Princess of Wales, this variety presents all the characters of the latter except in colour. It is of a deep silvery rose with pale tips, and inclined to purple, especially when expanding, and is several shades darker than the type, even when fully expanded. Exhibited by Mr. Doughty, Angley Park, Cranbrook.

TOWER HOUSE, CHISWICK.

The Chrysanthemums at Tower House are grown for conservatory and other decorative purposes, consequently a fair quantity of moderate-sized blooms is more the object than a few of large proportions. Prominent amongst those in bloom is Comte de Germiny, which is notable not only for its earliness, but for its dwarf stature. Mons. Freeman is also particularly early, bears large, pale rosy violet flower-heads, and does not exceed 2½ ft. to 3 ft. in height. A new Chrysanthemum of great promise for decorative purposes is Elsie, a creamy white variety that produces a great quantity of neatly-formed flowers. Amy Furze is another new Japanese kind, with close flower-heads of moderate size and recurved florets. It is evidently allied to Maiden's Blush, and differs chiefly in being more or less densely striped or suffused with lilac-purple instead of blush. Ralph Brocklebank, a bright yellow sport from Meg Merrilies, bears much larger flower-heads, with long, spreading, rather loosely-arranged florets, which are much appreciated by many growers on that account. Mrs. G. Rundle (incurved), Elaine and Madlle. Lacroix are early-flowering white varieties that hold their own. As here grown, Curiosity and Bertier Rendatler seem distinct. The former has brownish orange flower-heads, while the centre of the head of the latter is yellow; but what is more singular is that one plant of Bertier Rendatler produces branched heads only, similar to those of the Hen-and-Chicken Daisy. The primary head is bronzy orange, with a yellow centre, and from the bracts at its base other and smaller flowers are given off that are wholly yellow. The stalks of these secondary flower-heads being very short, they form a series of yellow rosettes round the base of the parent head, increasing its depth considerably.

CERTIFICATED APPLES AND PEARS.

THE following is a list of the varieties of Apples and Pears, exhibited at the recent Chiswick Conference, which were awarded Certificates of Merit. The plan pursued by the conference committee, was not to award prizes to the collections staged in their order of merit, but to carefully go through each collection and award Certificates of Merit to those samples which were of exceptional excellence according to their respective kinds. The figures given after each variety represents the number of samples which were certificated.

APPLES.

Adam's Pearmain (2)
Alexander (2)
Alfriston
Alma Pippin
Annie Elizabeth (2)
Baumann's Red Reinette (2)
Beauty of Kent (2)
Bismarck (2)
Blenheim Pippin (3)
Bramley's Seedling (5)
Cellini (2)
Cockle's Pippin (3)
Court Pendû Plat
Cox's Orange Pippin (8)
Cox's Pomona (5)
Domino (2)
Duchess of Oldenburgh (2)
Ecklinville Seedling (3)
Egremont Russet (2)
Fearns' Pippin
Frogmore Prolific
Gascoigne's Seedling
Gascoigne's Scarlet
Golden Noble (4)
Golden Spire
Gospatric (2)
Gravenstein (2)
Grenadier (3)
Herefordshire Beaufin
Hormead's Pearmain (2)
Kerry Pippin
King Harry
King of Tompkins County
King of the Pippins
Lady Henniker (3)
Lady Sudeley (2)
Landsberger Reinette
Lane's Prince Albert (2)
Loddington House (2)
Lord Derby (2)
Lord Grosvenor (2)
Lord Suffield (6)
Mabbot's Pearmain
Mannington Pearmain
Melon Apple
Mère de Ménage
Mother (2)
Mrs. Barron (2)
New Hawthornden (2)
New Northern Greening (2)
Niton House
Northern Dumpling
Northern Greening (improved)
Okera or Akera (3)
Peasgood's Nonsuch (5)
Potts' Seedling (5)
Reinette de Canada
Ribston Pippin (5)
Rosemary Russet
Scarlet Nonpareil
Scarlet Pearmain
Schoolmaster (2)
Seaton House
Small's Admirable
Stirling Castle (6)
Stone's
Striped Beefing
The Queen (4)

APPLES.

The Sandringham
Tibbett's Incomparable
Tibbett's Pearmain (2)
Tower of Glamis
Tyler's Kernel (3)
Warner's King (10)
Wellington (4)
Winter Hawthornden
Worcester Pearmain (5)
Yellow Ingestrie

PEARS.

Autumn Bergamot
Baronne de Mello (2)
Bergamotte Esperen (2)
Beurré d'Amanlis (9)
Beurré d'Anjou
Beurré d'Aremberg
Beurré Bachelier (8)
Beurré Baltet Père (2)
Beurré Bosc (5)
Beurré Clairgeau
Beurré Diel (5)
Beurré Hardy (5)
Beurré Rance
Beurré Sterckmans (2)
Beurré Superfin (3)
Catillac (3)
Clapp's Favourite
Comte de Lamy (2)
Doyenné d'Alençon
Doyenné Boussoch (7)
Doyenné du Comice (7)
Durondeau
Dr. Jules Guyot
Duchesse d'Angoulême (2)
Easter Beurré
Emile d'Heyst
Fondante d'Automne (4)
Gansel's Bergamot (3)
General Todleben
Glou Morçeau (3)
Gratioli of Jersey
Grosse Calebasse
Hessle
Josephine de Malines
King Edward
Knight's Monarch (2)
Louise Bonne of Jersey (13)
Madame Thérèse
Maréchal de Cour (3)
Marie Benoist
Marie Louise (5)
Marie Louise d'Uccle
Nouvelle Fulvie (3)
Passe Colmar
Pitmaston Duchess (7)
President d'Osmondville
Seckle (2)
Souveuir du Congrès, cl. 8 and 9
Thompson's
Triomphe de Vienne
Uvedale's St Germain (4)
Van Mons. Leon Leclero
Verulam
Vineuse
Williams' Bon Chrêtien (2)
Winter Nelis.

VALLOTA PURPUREA.

THIS brilliantly-flowered subject—known also as the Scarborough Lily—may easily mislead the uninitiated as to the real colour of its blossoms. From the name it might naturally be expected to produce purple flowers, whereas they are bright scarlet. Coccinea would naturally suggest itself as a more appropriate title; but, as Shakespeare said, "What's in a name?" It makes a fine exhibition plant, and is very useful when grown in small pots for indoor furnishing. It also makes a fine subject in a cut state for decorations, particularly for shooting parties and harvest festivals, though it does not last so long in water as might be expected.

Plants that have done flowering will now require less water than when in active growth, but they should in no case be subjected to that severe drying-off process which generally means that they are stored under stages, and the pots laid on their sides, not receiving a drop of water for months. The foliage should remain intact as long as it will, and to secure this keep the plants during the winter in a light position in a cool house.

It is well not to disturb Vallotas too frequently by re-potting, though when the pots get too full by the accumulation of small bulbs the plants should be shaken out in the spring, and be re-potted according to the size of the bulbs in a mixture of fibrous loam, dried cow dung rubbed through a sieve, and plenty of coarse sharp sand to keep the soil open, giving them good drainage. After potting, a vinery or Peach house at work will be a suitable temperature to give them a start in, and care should be taken not to over-water them. Established plants required to bloom late, after having been wintered in a cool house, should be stood out-doors in a sheltered position at the end of May, standing the pots on boards or slates to prevent the ingress of worms; keep a look-out for snails, which are very apt to attack the scapes when pushing up in autumn.

We have a large plant so treated that produced twenty-two spikes, fifteen of which were cut a few days ago for decoration, seven being still on the plant, with several blooms still to open.—*George Potts, Junr., Northiam, Oct. 29th.*

NOTES FROM SCOTLAND.

Apples, Pears, and Plums.—Cultivators are frequently induced to under-rate certain garden products because they are not of the highest quality, and certainly it is right to discard an inferior kind when a superior variety can easily be found to give as good bulk with equal certainty. This is common enough among both fruits and vegetables. It so happens, however, that such Apples as Stirling Castle, Cellini, King of Pippins, and others invariably bear crops, more or less, every season, while some of the best kinds produce light crops, and in such seasons as the present the fruit is almost worthless for any purpose. In northern parts especially, when they should be fit to gather, they are sour, hard, green, and not half their usual size. The same may be said of Pears. On standard trees, the old Hessle, among local varieties, is well to the front because of its hardiness; but many kinds, even of the common class, are not worth the labour of gathering, as they can never ripen.

On walls they are little better, and where Moorfowl's Egg—a kind seldom seen, and one which has a distinct and pleasant flavour—is grown with others of that class, a fair supply of fruit may be had till the end of the year is past. Some of the kinds so fine and useful last year cannot be recognised this season, never having developed either into size, form, or colour. Plums are somewhat better, and although they may not get into quality suitable for dessert, they are fit for culinary purposes, and as such they are always acceptable. Besides, they can be manipulated into most useful articles when green and hard, and we have seen extraordinary transformations by a skilful French cook. We note the sensible remarks of your Irish correspondent regarding the Victoria Plum, and if not equal to a Jefferson or a Kirke's, they should be cultivated in every northern garden. While they are most serviceable in many parts when treated as standards, they can be grown to a large size, fine dark appearance, and really fair dessert fruit when the advantages of wall space can be afforded them. We never failed in having good crops on walls, and this year large fruits of a purple colour have been gathered—the assistance of the warmth of a late vinery ripened them—with Jefferson really good, and other kinds not disposable even for dessert. Now that the planting season has arrived, and trees have to be purchased, we would urge cultivators to plant a large percentage of kinds which are known to be thoroughly hardy, and will bear and ripen fruit at most seasons.—*Caledonian.*

FLORICULTURE.

The Florists' Laced Pink.

By James Thurstan.

As promised in my article which appeared in the issue of this journal for September 1st, I have now the pleasure of giving my views as to "the properties constituting a really good exhibition Pink," and in doing so I will, for the purpose of supporting these views, annex the opinions expressed by noted growers from forty-five to ninety-six years ago, and which, when carefully compared, will be found to agree, as near as possible, with the rules I laid down four years ago for the guidance of judges, *vide The Gardeners' Magazine* of March 1st, 1884.

I have been considering whether I could make my ideas more comprehensive to the amateur now than those rules are capable of doing; but finding that I cannot, I here repeat them.

The points of merit, when Pinks are being judged, to be based upon the following rules:—

1.—Substance of petals, and purity of white.

2.—Petals to be as near rose-edged as possible—that is, not to have serrated edges.

3.—Size and shape of petals.

4.—Brightness in colour and refinement of lacing—that is, the less the colour runs or juts into the white the better, leaving the lacing to resemble, as near as possible, a solid line round the petals, or what is better known as the "wire-edge" lacing.

5.—Shape and size of flower when dressed for exhibition, which should be well filled with petals without any appearance of confusion; and no flower should contain less than twenty petals.

The maximum points in judging should be three for substance and purity, four for evenness of petals, three for size and shape of the petals, five for brightness and regularity of the lacing, and five for the shape and size of the flower.

It will thus be seen that my views, on the whole, are the pith of those expressed by the growers of the past, and that the "Pink of perfection" should resemble as much as possible a fine double white Camellia, both as to smoothness on the edges of the petals, purity of the white, substance and shape of petals, and the imbrication of the latter, with a refined lacing, either heavy or light, of any colour or shade, but the more brilliant the hue the better.

The petals of some Pinks lie flat in the flower, others have a tendency to "cup" or become concave, while others are convex; the blooms of the latter when fully expanded approach the half of a globe. Some petals have a white edge outside of the lacing, others have the lacing quite up to the edge; but these differences arise naturally, and, in my mind, should in no way cause the grower or judge any difficulty. One grower may prefer, according to his taste, a flat flower to one cupped, or to one approaching a half globe, and the taste of another may be the reverse, and so with regard to the "white edge."

What a marked variation of opinion there is in this respect between "R. M." of 1847 and the writer of 1843 (quoted hereafter)! The latter insists that the shape of half a ball (globe) is the Pink nearest perfection, whilst the former says the flower must be perfectly flat. Again, the 1843 writer claims the white edge outside the lacing as indispensable, but "R. M." of 1847 condemns it.

In conclusion, a Pink dressed for exhibition measuring from 2½ ins. to 3 ins. in diameter, and containing from twenty to forty petals of the shape and style of lacing of guard petal Fig. 1, each tier of petals decreasing in size up to the centre or crown of the flower, and showing a clear "half-moon" of a good pure white ground, with the substance of a Camellia petal, and the colour and refinement of lacing as described in Rule 4, either heavily or lightly laced, is what I consider constitutes a really good "Florists' Laced Pink."

Fig. 2 represents the serrated petal of the past, with the lacing and colour of the eye or throat jutting or running into the white, and the white running into the lacing, and is termed a "strap," "spoon," or "spade" shaped petal, and a flower containing such shaped petals as these cannot be properly dressed, as the unnecessary width of the bottom part of the petals comes in contact with each other inside the pod or calyx during the process of arranging the petals, and thus causes great difficulty in placing them so that they may present the best appearance in the flowers intended for exhibition.

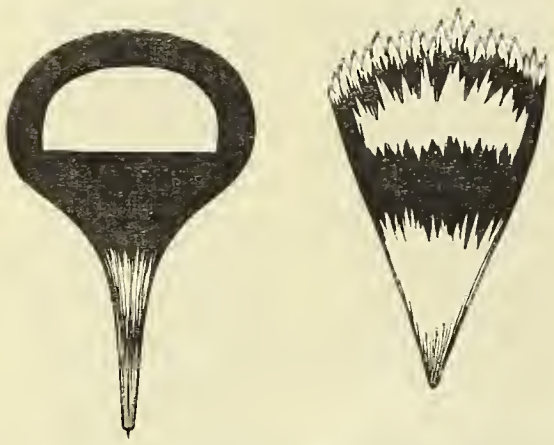
There has been much said at different times about a "burst pod." I would, of course, prefer a flower with a perfect pod, but a burst one should not disqualify the flower for exhibition!

I hope that some old Pink growers, who may read this article, will favour the subscribers to this journal with their opinions as to how far they agree with me in regard to this very interesting and practical subject.

The following are the quotations from old Pink critics previously referred to:—

Maddock of 1792 speaks of the properties of a fine double Pink thus: "The petals should be large, broad and substantial, and have very fine fringed or serrated edges, free from large coarse deep notches or indentures; in short, they approach nearest to perfection when the fringe on the edges is so fine as scarcely to be discernible, but it would be considered a very desirable object to obtain them perfectly rose-leaved, that is, without any fringe at all."

The *Gardener and Practical Florist* of 1843 contains an article on the properties of a "Florists' Pink," and says: "The petals should be thick, broad, and smooth on the edges, without notch or serration; they should be regularly disposed (meaning placed or imbricated), and each row should be smaller than that immediately under it. The ground colour should be pure white, and the colour, whatever it may be, from rose colour to dark red, or from lilac to dark purple, approaching black, and a narrow, plain, even lacing or stripe of the colour should appear inside the 'white edge,' which should be just the same width outside the lacing as the lacing itself is. The side view of a bloom should appear like half a ball. Some have averred that such a shape has never been attained, but this does not alter the case; we are not content with less than half a ball, because it is the richest, the most effective, and is the only proper standard of perfection!"



1. 2.

1, Pink guard petal, with perfect lacing. 2, The serrated petal of the past.

In *The Midland Florist* of 1847, "R. M." writes upon the subject, and says: "I want the size of the London flowers, the smooth-edge lacing, &c. I want to see them with a petal something like a Camellia, smooth on the edge, with some substance in it, and which I have no doubt may and will be obtained by strict attention being paid to collecting seed from sorts which have good properties, particularly a good petal." Then he suggests the following code of rules for judging the Pink: "The flowers to be perfectly flat, except a crown formed with a few inner petals; the colour to be well defined; the white to be clear and distinct; the lacing and eye or centre to correspond in colour; the lacing to be well laid on to the edge of the petal—not to show a white fringe outside the lacing; the petals to imbricate each other neatly, and showing the lacing distinct, and no flower to contain less than twelve petals."

In this same volume "H. S. M." writes and says: "I want the size of the London flowers, with the smooth edges and perfect lacing; but I want to see them without the confused mass of small 'strap'-shaped petals in the middle of the flowers, and with the petals well imbricating each other, with a few perfectly-shaped ones in the centre to form a crown."

Again, in this volume, follows the remarks of the late Samuel Morton, alias "Professor Morton, the artist," of Birmingham, and there was no man who can possibly possess a better idea of what a really good Carnation, Picotee, or Pink should be than he did, and there are old growers now living who would probably say no man could ever excel "Sam Morton" in preparing and dressing a stand of Carnations, Picotees, or Pinks for exhibition.

He says: "The reason why, in the midland counties, and especially in Birmingham, the London-bred Pinks are not liked, is that they are too full and too moppy, and the confused mass of petals cannot be dressed and arranged so as to imbricate the petals from the outer circle to the crown. It is not that a full flower is not admired in preference to an empty one—*i.e.*, one with only a few tiers of petals in it. We think that five petals only should make a circle. A flower of this make, with six tiers of petals in it, each row decreasing in size up to the crown, with clean smooth edges, free from notch or serrature, and a dark bold lacing, would be more like the standard by which Pinks are judged here."—*Finsbury House, Richmond Road, Cardiff.*

Carnation Germania.

I am glad that Mr. Fry has given me an opportunity for correcting an obvious blunder. What I should have written was *old* not *dead* wood. What I meant to convey was this, that after removing the rooted layers and potting them, I turned the old plants out of their blooming pots, shook a good deal of the soil from the roots, trimmed them, and then re-potted in smaller pots: with the result that the old wood is breaking forth freely into growth, and I anticipate these plants, even if they do not give me flower during the coming summer, will yet furnish me with a good deal of stock. A plant of Will Threlfall is breaking into growth in the same way. As a matter of course, no one would think of getting exhibition flowers from such plants; they would prefer to grow on strong-rooted layers. I hear general complaints that layers are rooting indifferently this year, and especially so as late-layered plants. Early layering is, no doubt, a good practice.—*R. D.*

AUTUMN TINTS IN KENT.

At a moderate distance from the great metropolis, and just beyond the contaminating influence of a smoke-laden atmosphere, the autumn tints in most of our ordinary ornamental and forest trees are far richer and varied in colour, while they are also seen to better advantage against the blue sky above and the green fields and pastures beneath them. At High Elms, Kent, the residence of Sir John Lubbock, Bart., M.P., the park and plantations are rich in valuable exotic trees; but the most common British kinds are also exceedingly attractive and interesting.

Great spreading Beeches of a rich chestnut-brown occupy every point of vantage all over the park, while the ponderous Elms in their green and rich yellow garbs occupy the lower levels. The glaucous green hue of the Scotch Pine, with its red stem, contrasts beautifully with the white-stemmed Birch close at hand; whilst the drooping branches of the latter give grace to it at any season. The sombre green of Pinus austriaca is beautifully relieved by the yellow foliage of the Sycamore, and to a greater extent by the warm clear yellow of the Norway Maple.

In the immediate vicinity of the mansion itself the variety is as much increased by the natural forms of the trees themselves as by the colours, and the Firs, Cedars, Spruces, Sequoias, Junipers, and Holm Oak being evergreen, they retain their tints as well as their warm sheltering appearance during winter. The spreading branches and long drooping glaucous leaves of the Himalayan Pinus excelsa is widely distinct from P. austriaca, P. Laricio, or the strikingly columnar-habited Cembran Pine (P. cembra), a native of Switzerland and Siberia, admirably adapted for exposed situations, and to prevent the accumulations of snow on the branches, which are densely covered with foliage to the ground. How strikingly different is the umbrella-like arrangement of the leaves in tufts at the apex of the branches of the Californian P. Coulteri.

More pyramidal in habit are Sequoia gigantea with a glaucous hue; S. sempervirens with its dark foliage and spongy red bark; and Cedrus atlantica with glaucous leaves. The latter, however, fades in interest when compared with the silvery sheen of C. a. glauca, which is almost as white as if covered with hoar frost. The Pinsapo Silver Fir (Abies pinsapo) is here represented by a perfectly pyramidal specimen, about 60 ft. high, and furnished to the ground with its dark and glaucous-tinted foliage. The fashion has changed since the Cedar was first introduced, and it would seem as if C. deodara is likely to take the place of the lordly Cedars of Lebanon, and that the latter, with their huge spreading or horizontal branches, are likely to be the last of their race when the aged giants succumb to the effects of time.

Amongst deciduous trees, besides those mentioned are the English and Turkey Oaks, the common and the Crimean Lime trees (Tilia vulgaris and T. petiolaris), the black and white Poplars, of which distinct glimpses

may be had, and all adding to the beauty and fading glories of the woods in autumn. On the rising ground in the distance are thriving young plantations of Larch, Scotch Fir, and other forest trees, while ever and anon glimpses might be had of hounds and horses galloping over the fields and downs, adding much to the reality and interest of autumn scenery.—*F.*

THE CORDON PEAR WALL AT WORTH PARK, CRAWLEY.

Our illustration represents the cordon Pear wall at Worth Park, Crawley, the residence of Mrs. Montefiore. This wall is 375 ft. in length, and was planted by Messrs. J. Cheal & Sons, of the Lowfield Nurseries, three years ago. The trees are all on the Quince stock, and they are planted 2 ft. apart; the aspect of the wall is about due west, and it is some 8 ft. in height. There are altogether about thirty varieties, and at the time of a recent visit many of the trees were carrying remarkably good crops of fine Pears. Among them Louise Bonne of Jersey, very fine; Beurré Diel, Williams' Bon Chrêtien, Fertility, Beurré d'Amanlis, Beurré de Capiaumont, Marie Louise d'Uccle, Beurré Alexander Lucas, Beurré Rance, Beurré Hardy, Clapp's Favourite, Cœleste Mignot, Chaumontel d'Eté, Brockworth Park, Calebasse, Duchesso de Chambord, Souvenir du Congrès, Triomphe de Jodoigne, Madame Treyve, and Rivers' Princess. The trees have now, in most cases, reached the top of the wall, and they are generally in good bearing condition. Here and there could be seen a variety that had made a vigorous growth, a tendency that can be easily corrected by a resort to judicious root pruning.

The Cordon Pear Wall at Worth Park.

Messrs. Cheal & Sons, who make a great specialty of cordon Pears, recommend that in no case should the trees be planted more than 2 ft. apart. This, they say, is a very important point, and some people having planted their trees farther apart than this have been disappointed, as the greater freedom permitted caused the putting forth of strong side growths, the wall being covered with a redundant growth, instead of bristling with fruiting spurs. The training of such trees must be in accordance with the height and position of the wall. If the height be sufficient, say 12 ft. or 20 ft., the cordons may be trained upright; if lower it is better to train them obliquely, as is the case at Worth Park, to an angle say of 40° to 50°, or even to a greater slope if the wall is low. This gives an extra length to the tree, which is a decided advantage; the position also tends to check the wood growth and promote fruitfulness. When the cordons are planted the leader of each should be tied out to its full length, and not cut back.

As a matter of course the wall is wired, the wires being about 3 inches or so from the wall. Mr. Glen, the gardener at Worth Park, takes a great interest in his wall of cordons, and under his able management large crops of fine fruit will no doubt result.

Pancratium fragrans.—The best results and the greatest number of flowers on a spike are obtained from bulbs that are grown singly under good cultural treatment. Offsets that are too small to flower may be inserted two or three together to be grown on. Full-sized bulbs are too large to be profitably grown in the same pot.

CANKER IN FRUIT TREES.*

I have been requested by Mr. Barron to contribute a paper for discussion at this meeting, and as the results of some experiments recently made by me appear to indicate that there may be a remedy for that worst of all diseases affecting fruit trees—canker, which is described in the *Herefordshire Pomona* as "the terror of all orchardists and the bane of most orchards"—I thought it right to comply with the request. As my own experience scarcely extends beyond my garden, and numerous duties have prevented me from devoting even there that close and continued observation which is necessary for the proper study of such a subject, I should have hesitated to intrude my crude notions in antagonism to the authorities if their views had been clear and definite; but as these are very vague, both as to the cause and the cure of the disease, I venture to state my own.

Perhaps the most convenient method of dealing with the subject in detail is to analyse, paragraph by paragraph, all that is stated relating to canker by some recent and recognised authority; that splendid work, the *Herefordshire Pomona*, is possibly the best for the purpose, as it may be assumed to contain a summary of the most recent knowledge of all that relates to the orchard.

Not Due to Direct Injury.

The first paragraph of the passage in that work relating to canker states that "it is always due to direct injury." In a controversy a clear and definite issue is most satisfactory, therefore with all submission I venture to assert that it is never due to such cause. That canker may appear in parts which have been injured is no proof that the injury caused the canker, although the injury may determine the particular spot where the disease makes itself visible. A well-nourished and consequently healthy tree may be injured to any extent without development of canker, while an ill-nourished tree, or, to avoid begging the question, a tree infected with the disease, will develop in all parts the external signs without the slightest injury or abrasion of any kind, and very frequently on parts where, from their well-protected position, such as the angles of the branches with the main stem, it is almost impossible that injury could take place.

The coincidence of canker and an injured part is no more proof of the former having been caused by the injury than that a hole in a building through which the flames of a conflagration are first visible is the cause of the fire. The second paragraph states that

"Weakness is at the Bottom of the Canker."

This weakness cannot be want of apparent vigour of growth, for I have frequently observed trees attacked which for a number of years have made the strongest growth, yet the disease has appeared before any external signs of weakness were visible; the very vigour of the growth in some cases appearing to hasten the attack in a soil containing too limited a supply of the necessary food, as that supply is sooner exhausted, and the time arrives when the large tree can no longer find within reach of its roots sufficient for its maintenance. It may be that only one element of food is failing; but every element is indispensable for perfect growth of the whole tree, and that failure would fully account for arrest of growth in parts, weakness, and consequent disease. The third paragraph is,

"The Tree is Old."

This may be expressed in other words—the tree has for a long time been growing in the same soil. It is not difficult to realise that in the course of many years a tree may exhaust the most fertile soil. Many seem to overlook the necessity of restoring to the soil what is taken away year after year by large crops of fruit. However rich the soil may have been originally, each crop takes away a definite quantity of the food required by the tree, until in time insufficient remains; then the tree fails, not through age, but through inanition. The same gardeners who leave their fruit trees unfed, would think it most unreasonable to expect them to grow their crops of vegetables without manure. The fourth paragraph is,

"Or the Variety is very Old or very Delicate."

This raises the much-vexed question whether a seminal plant has a finite life, or one which can be prolonged indefinitely by propagation. Experience seems to prove that individual life has a limit, though there is evidence that many seminal plants have a very prolonged existence; however, the limits of this paper do not allow the present discussion of the question. It may be sufficient to say that observation does not lead me to believe that the age or delicacy of a variety renders it more liable to canker when the soil contains what it requires. The fifth paragraph suggests

"That the Soil is not Sufficiently Drained."

Canker, according to my observation, occurs equally on well-drained as on ill-drained soils; it is not a question of condition of roots. My own garden formerly contained several trees rapidly succumbing to canker, which, when grafted with other varieties, at once put on healthy growth, made fine heads, and have since for many years been perfectly free from the disease. Each variety requires its own appropriate food; Strawberries afford a very good illustration of this. I have, among my friends, the reputation of growing this fruit to perfection, yet I had the greatest difficulty in finding varieties which would do fairly in my soil, and after trial of many more than a hundred, have so far only discovered about half-a-dozen which are moderately successful. British Queen refused to fruit; Dr. Hogg bore fairly as an annual, but did not survive to the second season—in fact all the Queen race and many other kinds only do more or less ill. Such being the case, it is not unreasonable to believe that some

* Condensed from a paper read by Edmund Tonks, Esq., B.C.L., Knowle, Warwickshire, at the Chiswick Conference.

varieties of fruit trees find in some soils what they require, while others do not, and in consequence become subject to canker.

POOR SOIL AND WEAK WOOD.

The sixth paragraph is, "or it (the soil) may be poor." I quite agree with this, as I believe a deficiency in the soil of the necessary food of the tree is the cause of canker. Seventhly, "The wood may be weak, and is not well ripened, when a sudden frost, especially after rain, ruptures the vessels, and this forms the chief cause of canker." Unripe wood, which is, however, often the result of imperfect nutrition, is productive of much mischief of a temporary nature; but as canker attacks well-matured wood, I cannot believe it to be in any case its cause, although when its real cause is at work it may appear on such wood. In the eighth paragraph the author repeats himself. "Any direct injury, however, to the bark of a tree is from friction of one branch upon another, the pressure of a clothes' line tied from tree to tree, or injury from a ladder in fruit gathering, may all cause it, even in healthy trees." This calls for no further reply than that given to the first paragraph.

Finally, the author states that "Canker commences with an enlargement of the vessels of the bark, more apparent, by the way, in Apple than in Pear trees, and continues to increase until in the course of a year or two the alburnam dies, the bark cracks, rises in large scales and falls off, leaving the trunk dead, and ready to break off with the first wind if not before removed. The canker shows itself quickly, and if the cause be sought for it will often admit of a remedy. The most usually effective is a good supply of nourishment to the trees affected, together with the removal of the parts injured." I confess that the preliminary symptoms described as the enlargement of the vessels of the bark have escaped my observation; but there appears to be some contradiction in the statement, as while the first symptoms of the disease are described as extending over a year or two, further on it is stated that canker shows itself quickly. However, although I differ so much from the writer of the article in the *Pomona* as to the causes of canker, we are agreed on

THE REMEDY—"A GOOD SUPPLY OF NOURISHMENT TO THE TREES."

In 1886 my attention was especially directed to plant food, having been requested to write a paper on that subject for the Birmingham Gardeners' Association. In the same year, having noticed that a number of Apple trees in my collection had become unsightly through canker, I marked about a dozen of them for destruction; but while studying the subject of plant food, which involved the consideration of the analysis of various plants, I was very much struck with those of the fruit and wood of the Apple in Wolff's *Aschen Analysen*, the great authority on plant analysis. I found that the fruit contained an exceptionally large proportion of soda and the wood of lime. This at once suggested the idea that my soil might not contain sufficient of one or both of these elements to supply the wants of the Apple tree; therefore, I resolved, instead of destroying the marked trees, to give them and all my Apple trees a good dressing of a complete artificial manure which contained full proportions of soda and lime. In the following season, 1887, which was exceptionally hot and dry, either through the drought, the manure, or some other cause, not a spot of active canker could be found; all the edges of the old wounds on the marked and other trees almost as badly affected, had put out granulations and healed over, and the trees, many of which had previously ceased to extend, made healthy and vigorous growth. Last winter the trees were again dressed with the same manure; this season they have been exposed to the most unfavourable conditions; the soil to a great depth was almost dust-dry when they were making their first growth, while an army of caterpillars ruined what foliage was made. Then followed the most continuous cold weather and rain experienced for many years. Notwithstanding conditions so conducive to the extension of disease, there is at the present time still no appearance of active canker. The trees have been carefully inspected by some experienced pomologists, who, doubtless, will confirm my statement. Short as is the time during which the trees have been submitted to the treatment, I can only conclude that the arrest of the disease is due to the supply of elements of food required by the trees, of which a sufficient quantity was not previously contained in the soil.

ARTIFICIAL MANURES.

It remains to say that the manures necessary to restore a tree to health vary as the soils; although the ashes of the wood of the Apple tree contains 71 per cent. of lime—an exceptionally large quantity—it would not be necessary to supply this element on a lime formation; nor would soda be required in a soil near the sea, although on other geological formations or situations a deficiency of one or both may be the cause of canker. Like conditions apply to the other elements.

Various soils require such manures as will supply their various deficiencies; but as it is most difficult to ascertain even by analysis what may be the deficiencies of a soil, the practical way of dealing with the subject is to study the analysis of the ashes of the plant in question, and to use a manure which is composed of these elements.

The following formula, which may be varied as circumstances require, is suitable for the Apple tree:—

Superphosphate of Lime	12 parts.
Nitrate of Potash	10 ,,
Chloride of Soda	4 ,,
Sulphate of Magnesia	2 ,,
Sulphate of Iron	1 ,,
Sulphate of Lime	8 ,,

This may be used at the rate of a ¼-lb. to the square yard over the whole extent of soil within reach of the roots; it need not be dug in. One effect of the manure may be relied on, if it does not cure canker it will, at any rate, most certainly benefit the trees.

THE AMATEURS' GARDEN.

PROTECTING CHRISTMAS ROSES.

It is a ruinous practice to lift Christmas Roses for the mere sake of forcing, or having them indoors at a time when hardy flowers are scarce. Of course, if they grow very freely, and are abundant, the risk of losing a few of them annually is a matter of small importance; but, as a rule, they grow so slowly in the dry warm atmosphere of the southern counties that cultivators can ill afford to lose them. In heavy clay soils they do not make vigorous growth, although, as a rule, they flower fairly well if the soil be rich. In order to avoid disturbing the roots, frames or hand-lights, as may be most convenient, should now be placed over the plants to protect the flowers from the action of winds, dashing rain, and other atmospheric influences that may be likely to damage them. The plants themselves are perfectly hardy, and where growth has been vigorous, the leaves grow so strongly as to form a complete canopy over the blooms, protecting them from snow and rain. In the absence of these, however, hand-lights or frames are necessary to preserve the purity of the blooms, otherwise they get spotted, and become pinkish or red at the tips of the sepals. They ultimately become green, whether protected or not, but not till after the lapse of many weeks.

LILIUMS.

Now is the time to re-pot such bulbs as have flowered in the summer and are now perfectly at rest, or nearly so. At all events, an effort should be made to have the bulbs re-potted before growth commences afresh. Lilium candidum throws up its bottom or radical leaves in autumn, and they keep fresh all the winter. If grown in pots, the bulbs should therefore have been re-potted about August or September, although some may even manage to do it after those months by careful handling. L. longiflorum and L. l. Harrisii commence growth early, and potting should no longer be delayed, unless the bulbs have been taken out of the soil and are now stored in a dry condition. The numerous varieties of the Golden Rayed Lily of Japan (L. auratum) and of L. speciosum, better known in gardens as L. lancifolium, should also be potted now, together with any other less common species which the grower may fancy. A compost of good fibrous loam, leaf-soil and peat in equal parts, to which a good quantity of silver-sand has been added, will answer the purpose admirably. Be particularly careful in draining the pots, as stagnant moisture is very injurious. Silver-sand placed round the bulbs will assist greatly in keeping them sound. After potting plunge in ashes in a cold frame till they commence to grow, when they may be urged on in heat if necessary.

CAMELLIAS AND ORANGES.

Even in the best regulated establishments these are liable to scale, mealy-bug, and other pests, which by their excrements render the plants extremely dirty, unsightly, and ultimately unhealthy. Now, before the buds get so large as to be easily broken off in the operation of cleaning, the latter must be accomplished without delay. Remove the plants to be cleaned to a shed or other place of shelter to avoid saturating the atmosphere, paths, and stages of the greenhouse at this dull period of the year. Sponge the leaves on both surfaces if they are dirty with water, to which an appreciable quantity of Gishurst Compound or Fir Tree Oil has been added. Soft soap alone is very effectual. After this has been done lay the plants on their sides if not too large, otherwise the pots or tubs should lean against some support to prevent breaking of the branches; then syringe the plants thoroughly with clean water to remove the loosened vermin and the insecticides, and after the foliage gets dry, replace the plants in the greenhouse.

CHRYSANTHEMUMS.

Those who desire to try their hand at the training of specimen plants, either in the bush or standard form, must commence at once by taking cuttings and growing them on for next year. Insert strong specimens in good but sandy loam, and place them in a cold frame to root.

PREPARING FOR FRUIT TREE PLANTING.

Those intending to plant fruit trees should now prepare the ground without further delay. Whether old garden soil or not, it should be well prepared before planting is attempted. Borders for pyramids, bushes, cordons, or wall trees, and breaks or squares for pyramids and standards, should all be trenched to the depth of 2 ft. or more, loosening up the subsoil beneath it, but by no means bringing the latter to the surface. It is not requisite or desirable that the roots should go down to the depth indicated, but by this means more efficient drainage is ensured. Do not plant on low-lying land near rivers if it can be avoided, as the trees are liable to suffer from spring frosts, and the blossom frequently gets destroyed.

If the soil is tolerably good and holding, no manure need be given, but when necessary on account of the thin sandy or gravelly nature of the soil, then let farmyard manure be incorporated with the surface-soil. More may also be given, and applied as a mulching after the trees have been planted. The object should be to retain the trees as much as possible near the surface, where the soil is always best and where feeding can be applied, and where they may be benefited by the warmth of the sun, and enjoy the advantages of a thoroughly aërated soil. Bring in fresh soil from old pastures if obtainable and apply a quantity of lime.

THE GARSTON ORCHIDS.

SINCE the Liverpool Horticultural Company made Orchids the main feature at Garston, continued improvement has taken place in this extensive establishment, which, notwithstanding the wholesale nature of the trade both in importing and sending out, is in every branch well kept, and highly creditable to its manager, Mr. John Cowan. Among the Orchids, the Mexican things, cool house, and intermediate Brazilian subjects form the principal feature—and among them some wonderful batches of the very finest species appear.

LÆLIA ANCEPS VARIETIES.

Here, for example, we find a whole houseful of white varieties of Lælia anceps, both of the long-bulbed type, which comprises L. anceps Sanderiana and L. a. Schroderiana (or, as it has been more recently but erroneously called, L. a. Stella), and the short-bulbed, of which the peerless white L. a. alba, of Mr. Wm. Bull, is the type, and of which strain the Liverpool Horticultural Company has been the only importer in quantity. Of this short-bulbed strain it is alleged and proved by evidence that it flowers much quicker after importing than the long-bulbed. If the Company could but retain the whole until they flowered, what a sight it would be! but such are the exigences of a brisk trade, that probably not one hundred pieces will be kept to flower at home. In the coloured L. anceps, too, this Company has scored with the L. a. Morada, which it has been generally conceded gives the richest-coloured and largest flowers, together with the most floriferous habit of any Lælia anceps. L. autumnalis and L. albida, too, are in quantity, and in fine masses, and the pretty L. furfuracea is also in stock.

THE ODONTOGLOSSUMS

Are fine, and some rare yellow-ground hybrids have flowered amongst O. crispum; and the pretty O. Cervantesii, of which there is a large quantity of the plain-lipped and the "decorum" type, has been still further enriched by a fine importation of the rose-tinted O. C. Morada (signifying dark-coloured), also imported here for the first time. A good importation of O. bictonense, too, appears, as well as large stocks of O. nebulosum and O. citrosmum. In some long neat span houses are a fine lot of O. Rossii majus sending up spikes or in flower; a good lot of the orange-scarlet Epidendrum vitelliuum majus, and the beautiful Oncidium tigrinum, Cattleya citrina, over 1,000 scarlet Sophronitis, many in bloom; a grand lot of the large

crimson Pinguicula caudata, usually associated with Orchids; and a fine stock of the neat white Mystacidium filieorne.

THE WARM HOUSES

Have a good lot of the favourite Cypripedium, among which the noble C. Curtisii is represented by some good plants recently imported, and most of the others are in stock; C. Spicerianum and the varieties of C. insigne are fine, they and many others being in flower as well as Scuticaria Hadwenii; a grand mass of Maxillaria grandiflora over 3 ft. through; a huge mass of Saccolabium giganteum has thirty-two stems; the pretty Ionopsis utricularioides is a little floral gem, and Miltonia candida, and various other things of unusual interest are to be found.

THE CATTLEYA HOUSES.

These consist of a whole house devoted to Cattleya Mendelii of a very promising stamp, and another contains fine specimens of Lælia purpurata, many of them very richly coloured, while on the other hand some of the distinct L. p. Russelliana, the perfection of light varieties, are or have been in bloom. Lælia elegans also gives some noteworthy examples, and the various species of large-flowered Cattleyas are well sheathed for flower, the noted importation of C. Eldorado of the Company, which gave so many fine whites, still having some in bloom. In other intermediate houses some exceptionally good varieties of C. intermedia are in flower, also some graeeful Oncidium ornithorhynchum and Epidendrum variegatum. The Dendrobes are cultivated in large quantities so far as the showy species are concerned, hence we find some hundreds of the true D. Brymerianum in great vigour; an equally large lot of D. thyrsiflorum, D. Bensoniæ and D. luteolum; a still greater quantity of D. Wardianum and the richly tinted D. crassinode Barberianum, the less beautiful but still good species being in proportionate quantity. Foremost among the

RECENT IMPORTATIONS

We must mention the pretty and free-flowering Schomburgkia Thomsoniana, the unique specimen of which caused so much attraction when exhibited by Mr. W. J. Thomson, of Ghylbank, St. Helen's, at the great Liverpool show of the Royal Horticultural Society. It is the neatest and most floriferous of the Schomburgkias, and the Company has been lucky enough to get a few over in good order. Next comes a healthy lot of the curious white Ornithocephalus grandiflorus; a large lot of the grand Oncidium undulatum, with white-brown and violet flowers of the O. macranthum elass. A little lot of the neat Oncidium Limminghii, too, are just in; also a large lot of Cattleya labiata Warnerii, one piece of which is carrying a triple sheath that beats the double one formerly so much spoken of. Vanda lamellata Boxallii is also recently imported, and now safe, while Lælia grandis, L. xanthina and L. harpophylla are just over in grand order, as well as others equally important, such as grand pieces of Oncidium sarcodes. The six and a half acres of the Garston Nursery are mostly covered with glass structures chiefly filled with Orchids, although some are devoted to Ferns, Palms, stove and greenhouse plants, as well as the culture of Maréchal Neil and other Roses in pots, also Vines in pots, for which the establishment has gained a very wide reputation.

THE EUCHARIS MITE.

IN your issue for October 20th (p. 120), Mr. Beckett endorses the opinion of Messrs. Dickson, given in a previous issue. I should like to be allowed to still further endorse the views set forth by the above gentlemen. I have not the slightest doubt that the real cause of the mite making its appearance is injudicious treatment. I remember an instance in which a number of pots of Eucharis were subjected to a considerably lower temperature than what they had been growing in, with the idea of resting them. In a short time, however, it was very plain that something was wrong with them. A careful examination showed that many of the roots were in a decaying state, and completely covered with little mites visible to the naked eye. The bulbs which were most affected were consigned to the furnace, and the others washed and repotted. A few that did not appear to be so badly infested with the mites were not disturbed, but the whole lot were replaced in the stove, with the result that they completely recovered their lost vigour; and although they are still "rested" for a short time after making their growth, the rest is given them in the same temperature in which they have been growing, and simply consists in not giving them quite so much water as they receive whilst active. I recently had an opportunity of inspecting those in Mr. Beckett's charge, and a more robust healthy-looking lot of plants it would be impossible to find. Growing in a house in which Bananas are successfully cultivated, and partly shaded by the foliage of the latter, with a fine Stephanotis trained along the front of the house, they seem to revel in the position and treatment they receive.—*Thomas Nutting, The Gardens, Childwickbury, St. Albans.*

IN reference to Mr. W. J. Murphy's communication of October 6th, I would not go so far as to say that there is no such thing as the Eucharis mite; indeed, I had evidence of its existence at one of the monthly meetings of the Preston and Fulwood Horticultural Society, not a year ago, when bulbs swarming with the mite were exhibited by more than one of the members, and the plants under my care had been pronounced seriously affected. Nevertheless I then ventured to raise the question before the members whether the presence of the insect was not the effect and not the cause of the plants' unhealthy condition, and whether they were not the carrion crows of vegetation, having no more to do with the death of the plants or the decayed vegetable matter, such as dead roots, than the carrion crow had to do with the death of the carcases it fed upon. I was impressed at that meeting with the preponderance of opinion favourable to that view, and if I may judge from the silence with which Mr. Murphy's communication has been received, there are not many who believe in the wholesale depredations of the mite.

I attributed the bad state of our plants to too much water from heavy syringing of overhead creepers, accompanied with a low temperature, and I have no doubt the ill condition of others may be traced to them or to one or more of the causes enumerated by Mr. Beckett in your issue of October 20th. Our plants were moved into the Pine stove, and the soil in the pots containing the almost leafless bulbs was allowed to get as dry as that of Caladium bulbs when at rest. After a few weeks they began to push young leaves, when water was applied, and the surface soil moved and replaced with fresh sandy loam and a sprinkling of wood-ashes. A few were plunged in leaves, giving a bottom heat of 80°; others stood on the kerbstone of the wall of the pit alongside the path. Both did well, and in less than a year had leaves on them over 18 ins. long. During the past season I left a few plants standing on the kerb exposed to the sun without any apparent injury, and they only differed from the others in a moist shady atmosphere in being not quite so green in the older leaves.

Many people have of late undertaken to grow these plants without any previous experience of their culture, or, indeed, any other tropical plant, and others have attempted their culture in unsuitable structures, such as houses with open staging or those with defective heating power. Consequently, the plants have gone wrong, and the roots have decayed where leaf-exciting conditions failed, and other insects, if not the mites (which I suppose do not eat the roots), find there a convenient feeding ground. Having had to raise my stock from a couple of pots given to me, I have not been overdone with flowering bulbs, and have often wished I had a few of the thousands of fine bulbs which have in more than one place been consigned to the flames or the rubbish heap when supposed to be affected with the mite.—*W. P. R.*

GARDENING MISCELLANY.

Larva of a Moth on Grapes.

SPECIMENS of the larva of a small moth named Lobesia reliquana, together with some of the injured Grapes, have been sent us by Mr. William Keen, The Gardens, Bowden Hall, near Gloucester. The insect is also named Endemis botrana by some German authors, and is the Eupœcilia permixtana of *Stephen's Illustrations*, fig. 1137. Mr. Keen says he first detected it two years ago doing damage to a few bunches only; but this year nearly every bunch in his late house is affected. The grubs commenced their depredations about the stoning time of the Grapes, eating the stalks of the berries, in many cases causing them to drop. Later on they got between the berries, tying them together in twos or threes, by weaving a small, white, very tough web. On this the grubs take up their standpoint, and commence to puncture the berries, sucking the juice. They never seem to penetrate any distance; but the berries are spoiled notwithstanding. The specimens sent us were very much damaged and rotting, while mould also grows upon the berries where the skin has been punctured or broken. The juice internally also becomes discoloured. Capturing the grubs when they make their appearance seems to be the only remedy. When disturbed the grub drops down by a fine web; therefore we should advise two persons to set to work, one holding a box or tray while the other dislodges the grubs with a feather, so as to avoid injury to the Grapes. Be careful that none of the grubs escape, as they are very lively, and soon crawl away. The person holding the tray should keep killing the grubs as fast as they fall down. If permitted to escape they will soon find a hiding-place, and become transformed into the pupa or chrysalis state, in which they will rest till next summer, when they will re-commence operations. This is at least the fourth instance coming under our notice of Grapes being affected in this way, and the moth is evidently making considerable headway. The four cases we mention, including that under notice, are from widely distant localities in England. Grape growers would therefore do well to exterminate the insect when it makes its appearance in vineries.

Hippeastrum, Autumn Beauty.

THIS is better known under the old name of Amaryllis, and many gardeners will no doubt recognise one of the parents when we mention Hippeastrum reticulatum, with the pearly white stripe down the centre of the leaf. The other parent of Autumn Beauty was a scarlet seedling of the H. Leopoldii type. The variety under notice always flowers during autumn and winter. The flowers have a moderately long tube, with a widely spreading limb, and are of a charming rosy colour, reticulated in the wide throat and base of the segments with rosy scarlet on a white ground. The scape reaches a height of 12 ins. or 15 ins., bearing four flowers, which although very much smaller than the spring-flowering giants are nevertheless capable of improvement, and are both exceedingly pretty and most acceptable at this season of the year. Not the least of its recommendations is the dwarf character of the flower stalk. We noticed it flowering freely in the nursery of Messrs. J. Veitch & Sons, Chelsea.

Bignonia venusta.

ALTHOUGH sometimes grown in a high temperature there can be little doubt that an intermediate house is more suitable to the well-being of this plant than a stove, although a native of Brazil. A large plant in one of the sections of the wing of the large conservatory at Syon House runs along the whole length of the house under the ridge of the roof, and gives off masses of shoots that pass along under each rafter. The main stems pass down one end of the house and beneath the staging, where a brick-built case encloses a good body of soil in which the Bignonia is planted. Six months ago the plant was in bad condition, and quite leafless. Mr. Wythes, the gardener, resolved to do something for it, and after cutting back the top considerably, root-pruned it, and gave it some fresh material. After this it grew away vigorously, until now it covers the space above-mentioned, and every part of it is loaded with flower buds, which at no distant date will make a fine display. The flowers are orange-crimson, long, tubular, and very effective during the late autumn and winter months.

Rhodochiton volubile.

FOR the rafters of a greenhouse or conservatory this Mexican climber is most admirably adapted. If trained to wires under the rafters, the main shoots give off long, slender, pendent growths that in due time become laden with a profusion of showy flowers. The corolla itself is small, tubular or club-shaped, and dark purple, almost black, while the bell-shaped or widely-expanded calyx is rosy red, and constitutes by far the most ornamental part of the flower. It also gives rise to the generic name, which signifies "red cloak." The plant commences to develop its flowers early in the summer, and as the shoots extend fresh blooms continue to be given off at their axils. Even now a large plant in a cool division of the conservatory at Syon House, Middlesex, seems in full bloom. After the corolla withers up the showy calyx remains in a fresh condition for many weeks. When they become shabby the plan may be pruned back and considerably reduced in size. It will give most satisfaction if planted out.

Scabiosa caucasica.

THIS is a first-class perennial for the herbaceous border, and should have a place in every garden where cut flowers are in demand, the large pale blue flowers being extremely useful, and lasting well in water. This autumn the plants have flowered well, notwithstanding the severe frosts at the commencement of October, and now, the last week in the month, they are still

flowering. Amongst a batch of seedlings we have an Albino variety, the flowers quite as large as the type, but not a good clear white. We find seedlings grown in pots for a few months the best for establishing in the borders, plants of this description making better specimens than divided ones, as the roots of the latter do not take kindly to our heavy loam; seedling plants on the other hand form good stout roots and soon make capital flowering plants. Another late species is S. succisa, the Devil's-bit Scabious of this country, a plant not uncommon in Middlesex pastures; the flowers are blue-purple with reddish anthers, and no spreading ray florets like the Caucasian species. A few plants of it are not out of place in the flower border, and well repay for what little room they take up, while the colour is a welcome one in the early autumn when yellows predominate. S. succisa forms a very short root-stock, and can therefore be safely transplanted from a pasture, if care be taken to preserve as many fibres as possible. In this neighbourhood I have occasionally found white varieties.—*J. W. O., Pinner.*

Begonia Frœbelii.

Although the flowers of this species are small compared with the fine hybrids that have been obtained from other species, yet it seems to be finding its way into cultivation. A pale-leaved form of it has been flowering for some time at Tower House, Chiswick. Both leaves and flower stems spring directly from the root, and the whole plant therefore remains very dwarf, rendering it highly desirable that improved forms with larger flowers should be obtained. Until recently nothing had been acquired in this direction; but now that seedlings have been obtained, as a result of hybridising the species with one of the summer-flowering types, we may look forward to more satisfactory results. Although it is classed amongst the tuberous Begonias, the tuber in this case is but poorly developed, suggesting a rather distant affinity with the other and more common kinds, and explaining the difficulty that has hitherto been experienced in obtaining a cross. Besides the dwarf habit of this Begonia, the rich scarlet colour of the flowers and the fact of their being produced in autumn and winter, are qualities that should not be overlooked in striving to obtain new kinds.

Bambusa arundinacea gigantea.

No one who has seen the giant Bamboo at Syon House can ever forget its noble proportions, as it towers up to the height of 50 ft. or 60 ft. Two of the finest or stoutest stems have just been completed, making a growth of 50 ft. in three months. When in full growth it made 12 ins. in twenty-four hours, exhibiting a rate seldom or never equalled by other exotic plants in this country, except, perhaps, in the case of some leaves. There are nineteen of these giant stems and four small ones in the conservatory, and the oldest one was made in 1877. It becomes necessary to cut down some of them occasionally, otherwise the number would have been far greater, and many of them much older than they are. At one time a large Phœnix in the centre occupied part of the dome of the conservatory; but now the latter is completely monopolised with the giant Grass under notice, and some of the stems must be sacrificed before long. We have evidence of the continued vigour of the plant, inasmuch as the young stems still break their way through the glass at the top. These stems are naked the first season, and develop leafy branches during the second and succeeding years.

Monstera deliciosa.

A plant of this trained against the stem of Corypha australis in the conservatory at Syon House has attained very striking dimensions, and what is more important it bears an increasing number of fruits year after year, and matures them. The Palm against which it reclines is planted out, and had at one time a bold spreading head which had to be cut down owing to the want of space. This in itself gave the Monstera a much better chance, and it now bears some thirty fruits besides some flowers fully expanded when we saw them the other day. The flowers themselves resemble a large shell, open on one side, and showing the great fleshy spadix which ultimately becomes the edible part of the fruit. Externally the spathe is pale yellow, and much brighter internally; but cannot be described as particularly showy. The spadix is covered with square pips, which constitute the true fruits, but these drop away more or less when they attain maturity, leaving a cylindrical pale-coloured spadix, which is the edible part, and has a delicious Pine Apple flavour.

Celosia pyramidalis for Cut Flowers.

If allowed to assume its natural habit this plant develops a strong central stem, with weakly lateral branches, especially if in any way drawn by overshading. Well-grown plants, however, even of this type are useful for conservatory decoration; but a large amount of cut flowers can be obtained by removing the central stem and each succeeding one as it becomes fit for the cut-flower basket. This is carried out by Mr. Taylor, at High Elms, Kent, and by so doing the lateral branches are much more strongly developed, while the plants continue in robust vigour for a much longer time than if allowed to expend their energies in the production of seeds. Great variety of the richest hues are also obtained by the use of the differently coloured forms, such as C. p. coccinea, C. p. aurea, and others of this species now in cultivation.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

It is now time to see that the many Orchids which most growers wisely keep cool until winter—among which may be cited Odontoglossum vexillarium, O. Roezlii, O. Phalænopsis, Bolleas, Pescatoreas, Huntleyas, Chimæroid Masdevallias, M. tovarensis and a few others, or, indeed, any of the plants which have been kept cool until now, but which are known to be in danger in the cold house when kept down to the lowest limit—are now returned to other and warmer quarters until the winter has passed. More of the above-mentioned plants, however, as well as Orchids generally, are killed or injured by being kept in too high a temperature than there are by the most venturesome cold treatment; nevertheless, it is better to be on the safe side.

All the above-mentioned subjects, and those usually associated with them, are best and safest during winter in a rather moist and low intermediate-house temperature, an even temperature rather than a high one being what they require to keep them in health, for they actually become more sickly and irreclaimable in too hot and close a house than they do in one too cool. Odontoglossum Roezlii and the Masdevallias of the Chimæra section are liable to be much troubled with yellow thrips in winter; but if, in the early part of it, they and other things liable to be similarly affected are persistently sponged over with weak tobacco-water or some safe insecticide, the pest may easily be kept in check, if not stamped out.

The Temperatures for the Month of November should be:—Warm or East Indian house, 65° to 70° by day, 60° at night. Cattleya or intermediate house, 60° to 65° by day, 55° at night. Odontoglossum or cool house, 55° to 60° by day, 50° at night. Degrees Fahrenheit. As much sunlight as possible should be let in on the plants, the ventilation being regulated according to the brightness of the sun's rays and consequent effect on the temperature inside the houses.—*James O'Brien.*

Cypripedium Spicerianum magnificum.

The ordinary form of this is one of the prettiest and most popular of autumn and winter-flowering Cypripediums, but the above-named variety excels it by a long way, by reason of the richer colours that pervade the petals and lip. The upper sepal is white, with the usual purple band along the centre; but the petals are greenish yellow, and so densely dotted with brown as to give them that prevailing colour. These organs are greatly improved by the characteristic undulations of the upper edge. The most marked feature of the whole flower, however, is the labellum, which, instead of being a dirty brown, is of a rich dark shining brown, almost black. The violet and white staminode in the centre of the flower catches the eye of the spectator above all things, by the contrast it offers to the other curious associations of colour in the flower.—*F.*

The true form of this, with very large and well-formed flowers, whose dorsal sepals have a broad purple band, and are richly suffused with purple, bears several flowers in Mr. Reginald Young's collection, where also among many other good Cypripediums a fine specimen of the beautiful C. barbatum pulcherrimum, whose delicate flowers in tint exactly resemble C. callosum, but are of the true C. barbatum form, is in great beauty.

Vanda Sanderiana.

As I am not able to send you a photograph of a fine specimen of Vanda Sanderiana, which we now have with five beautiful spikes of bloom, all open at the same time, I have enclosed one spike bearing ten flowers. I think few people have any idea of what this noble Orchid is like, unless they have had an opportunity of seeing it in flower. But its price puts it beyond the reach of many growers as yet.—*C. Exell, The Gardens, Misarden Park, Cirencester.* [The spike arrived in perfect condition, and we cannot but admit that the plant itself must present a noble and telling appearance. We can hardly either be too eulogistic of the spike sent us, and which alone or without the aid of the other four would do credit to any grower. The lower flowers, and, indeed, the greater number of them measured close upon 4 ins. across the petals, and 5 ins. across the sepals, dimensions taken from the tip of the dorsal one to the tip of the lateral ones. The sepals are by far the broadest organs of the flower, and the lateral ones the most gorgeously or richly coloured. They are broadly oval, and very blunt, deep yellow, traversed longitudinally with strong reddish purple nerves, which seem to support the singular and beautiful reticulations of the same colour, so characteristic of this Vanda. With the exception of their bases the petals and the dorsal sepal are of a soft pink colour. The small three-lobed jointed lip is brown, and has three longitudinal ridges along the centre. The whole of the flowers taken together presented a massive and grand appearance.—Ed.]

A Phenomenal Cattleya gigas.

A fine plant of an extraordinary variety of this species now bears eleven flowers in the neat little collection of Reginald Young, Esq., at Fringilla, Linnet Lane, Sefton Park, Liverpool. When it flowered last a bloom of it was sent to us that measured 9¾ ins., but those now on the plant come just under those dimensions. In colour it is good, yet nothing extraordinary; but in size it is remarkable, and what is more, constant, for its great proportions have been noted for some years. An immense plant of Maxillaria venusta is also a remarkable feature here.

Stanhopea Wardii venusta.

The typical form of S. Wardii is a boldly-spotted flower, bearing some resemblance to S. tigrina, inasmuch as the ground-colour is golden yellow, and the markings plentiful and striking. Taken altogether, it is a very variable species, and although others of its congeners are by no means constant, yet so numerous and distinct are several of the forms of S. Wardii that some of them have received distinct specific names, including that under notice, which has been named S. venusta. The sepals, petals, and lip are of a uniform golden yellow, with the exception of the pouch of the hypochil, which is darker, or even orange-coloured, but without the black spots characteristic of the type or of S. W. aurea. A large plant in a basket has been flowering continuously for a month past at Homefield, Ealing, the residence of C. Daw, Esq. Four spikes have been produced in succession, bearing each five to ten, and in the aggregate thirty flowers. On some of the spikes, however, the sepals and petals are faintly spotted. Mr. J. Baird, the gardener, manages the Stanhopeas very well, some having flowered recently, while others are now showing for bloom.

Cattleya Bowringiana.

We learn from Captain Maxwell, Terregles, Dumfries, that he has this handsome autumn-flowering and comparatively new Orchid in flower, with sixteen blooms on a spike. This is the largest number we have yet heard of.

THE GARDENERS' CALENDAR.

THE GREENHOUSE.

Plants in Flower.—Several species of Salvia will now be gay, including S. splendens and its variety S. s. Bruanti, S. angustifolia and its dark variety S. a. Pitcheri, S. involucrata, S. i. Betheli and others. The early summer-flowering and Pompon Chrysanthemums are still gay, while many of the larger kinds are ready to add to the display. Many new kinds for flowering during last month are now being put into commerce, and will soon be brought to the front. Erica hyemalis, E. gracilis, E. Lambertiana, E. caffra, and other less common kinds are now plentiful. Richardia africana (R. æthiopica) is rapidly coming on, and of Cyclamens and Chinese Primulas there is no lack where growers have exercised a little forethought.

Solomon's Seal, Lily of the Valley, &c.—To enable these to start properly when required for forcing later on, no time should now be lost in having them potted up, so that the soil may get settled about them and roots formed, or at least in active progress. The

same might be said of Dielytra spectabilis, Astilbe (Spiræa) japonica, and other roots now resting. Stand them under cover in some cool place, and see that they do not become dust dry. When required for forcing, they will give more satisfaction than if they had been potted up and put into the forcing pit immediately.

Azaleas.—Now that fresh growth has been made since last year, it will be necessary to re-tie all pyramidally and other trained specimens. For exhibition this is necessary, as well as when used for conservatory and other decorative purposes. One advantage to be gained by the operation will be the smaller space occupied by the plants—a matter of serious consideration at this time of the year, when houses are crowded. Equalise the shoots in such a manner that the blooms, when expanded, will be as evenly distributed as possible. This work can be done on wet days.

THE FRUIT HOUSES.

Vineries.—The earliest house should now be closed preparatory to forcing. A temperature of from 45° to 50° will be sufficient at night, and should there be a quantity of fermenting material in the house, this temperature may be maintained without the use of fire-heat. If the weather, however, be cold and frosty, it will be necessary to resort to artificial heat. Little syringing of the rods will be required if there is fermenting material in the house, but in its absence the use of the syringe will have to be resorted to. The Muscat house should be kept at a temperature of from 50° to 55°, just sufficient to maintain the atmosphere in a dry condition. Do not ventilate in front when the outside atmosphere is very cold, foggy or wet, but ventilation at the top must be given on all favourable occasions. When foggy or wet it is better to keep the temperature low than to necessitate ventilation. Carefully look over all late kinds that are to be retained as long as possible, in order to remove decaying berries that would soon contaminate others and disfigure the bunches. While the leaves are falling, Hamburghs should be kept at a steady temperature of 50°, and after the rods are completely defoliated the bunches should be cut, bottled and placed in a suitable room, unless the vinery itself is specially adapted for the purpose.

THE KITCHEN GARDEN.

Fruit Trees.—The recent frosty weather has brought down the leaves of various fruit trees, making them in most cases quite bare. In the case of trees on walls, especially Peaches, Cherries and Pears, a broom may be used to assist the operation, by brushing lightly from the base towards the apex of the branches. By admitting air and light more freely the wood will get more properly ripened before the approach of winter. Pruning and nailing may be commenced directly where the leaves have dropped. Cherries are generally the most advanced. A much greater amount of wood is left on Morellos than on other kinds, the shoots being laid in at full length. In pruning, which is equivalent to thinning out the shoots where crowded, remove in the first place as much of the old wood as possible, and secondly that which has already borne fruit. Dead wood of course will have to be removed in any case. Leave the young shoots, in all cases where possible, that spring from near the base of the respective branches bearing them. The trunk and main branches when bare may be covered by running young shoots along them.

Root Pruning.—Bush or pyramidal specimens of Apple and Pear trees, that require root pruning to repress their vegetative vigour and induce fruitfulness, may be lifted without further delay. Open a trench at 2 ft. or 3 ft. from the stem, according to the size of the tree, and remove the loose surface soil with a fork, so as to preserve the fibrous young roots intact. Strong running roots that may be encountered should be severed by a clean cut, or afterwards dressed with a sharp knife. Remove all roots that go straight down, and replant the trees in fresh soil if possible.

HORTICULTURAL SOCIETIES.

Ledbury Autumn Fruit Show.

October 25th.

This was the first exhibition of the kind held in Ledbury, a pleasantly situated town in the centre of an extensive fruit-growing district, and being easy of access by rail, samples were sent from all parts, which, with the local contributions, made up such a display as is seldom seen in the provinces. The show was held in a tent some 200 ft. long and 40 ft. wide, erected in the grounds of M. Biddulph, Esq., M.P., and comprised some 2,500 dishes. The local exhibitors fought manfully against the formidable array of fruit sent by noted growers outside the county, and Herefordshire was able to hold her own. The first prize for twenty-four dessert Apples went to Kent, Messrs. G. Bunyard & Co. being the exhibitors; but in the corresponding class for culinary sorts Mr. J. Cranston beat the Maidstone firm with the same number of dessert Pears. Mr. Denning, Holme Lacey Gardens, beat Mr. Wildsmith, Heckfield, and Mr. Child, Croome Court Gardens. Mr. Child and Mr. Dawes, gardener to M. Biddulph, Esq., divided the honours for black Grapes, but Mr. Dawes was first with Muscats. A conference was held in the afternoon, at which three good papers were read.—(*From a Correspondent.*)

Manchester Botanical and Horticultural.

October 24th.

The exhibition of Apples and Pears which was opened on the above date in the Botanical Gardens, at Old Trafford, was a very fine one, notwithstanding that some leading growers who had entered failed to put in an appearance after trouble had been taken to provide the necessary accommodation for them. Mr. Findlay, like many another manager, has had his share of annoyances of this character, but in these days of cheap postage and sixpenny telegrams there is surely no excuse for such conduct, which a little consideration would easily obviate. The exhibition was held in the large Palm house, and was admirably arranged. There were many exhibitors from the southern counties, and their produce in most cases showed marked superiority over the northern grown samples.

The medals offered by the society were awarded as follows:—Gold Medal for the best collection of Apples, Mr. John Watkins, Withington, Hereford; large Silver Medal, Messrs. J. Cheal & Sons, Crawley, Sussex; small Silver Medal, Messrs. J. Cranston & Co., Hereford. Best collection of Pears:—Gold Medal, Mr. A. J. Thomas, Sittingbourne; large Silver Medal, Messrs. J. Cheal & Sons. In the open amateurs' classes, Mr. Goodacre, Elvaston, had the best twenty-four dishes of Apples; R. H. C. Neville, Esq, Wellington Hall, the best twelve dishes of dessert sorts, and the best six dishes of culinary varieties; Mr. S. Barlow, Stakehill, Castleton, the best eighteen dishes; and Mr. Lambert, Onslow Hall, Shrewsbury, the best four dessert varieties. In the Pear classes, Mr. James Butler, Sittingbourne, and Mr. Lambert, secured all the highest awards. With fruits grown within twenty miles of Manchester, Mr. A. Smith-Barry, M.P., Marbury Hall, Northwich, secured three out of seven first prizes, with finely grown samples; the others going to Mr. R. P. Gill, Woodheys Hall, Mr. McKellar, Abney Hall Gardens, Cheadle, and Mr. S. Lord, Oakleigh. The competition with Potatos, Tomatos and Celery was very good, and here Mr. Lambert again well held his own. Very large collections of Potatos were also shown by Messrs. Dickson & Robinson, Manchester, Messrs. Sutton & Sons, Reading, and Messrs. Dickson, Brown & Tait, of Manchester, the first-named firm securing the Gold Medal with some 120 varieties.

Large miscellaneous collections of Apples and Pears were also contributed by Messrs. James Veitch & Sons, Chelsea, and Messrs. Dicksons, Limited, Chester. Next to the fruit, one of the most interesting features of the show was an exceptionally fine display of cut flowers of Gladioli, Dahlias, Stocks, Chrysanthemums, &c., grown in Mr. Barlow's garden at Llandudno, and for which the exhibitor was awarded a Gold Medal.

Devonshire Pomological.—*October 25th.*

The fourth annual Apple and Pear show promoted by this society was held on the above date in the Lower Market, Exeter, and on the whole brought together a capital lot of fruit, though not equal in quality or numbers to the display of two years ago. Messrs. G. Bunyard & Co., Maidstone, with Kent-grown samples, secured the highest awards in the leading classes for Apples and Pears, as well as in several of the competitions for specially-named sorts; and among the local growers, Mr. J. M. Miller, of Barnstaple; Mr. Garland, Killerton; Mr. D. C. Powell, Powderham Castle; Mr. Blackmore, and Mr. C. G. Sclater secured a number of the best prizes.

The local nurserymen, as represented by Messrs. Veitch & Sons, Messrs. Lucombe, Pince & Co., and Messrs. Jarman & Co., of Chard, contributed fine collections of the leading varieties, and which added much to the interest of the exhibition. The President, Sir J. D. Ackland, Killerton, formally opened the show at one o'clock.

QUESTIONS AND ANSWERS.

Araucaria.—*Mrs. E.*: The shoot you send us is that of Araucaria excelsa, the Norfolk Island Pine. It is really a greenhouse subject, and would certainly perish if left fully exposed. It is so nearly hardy, however, that it might live under the shelter of a verandah facing west as you say; but much would depend upon the severity of the winter, and the amount of frost. Should the winter prove mild the chances are that your plant would be safe. If too large to be accommodated in the greenhouse, another out-house possessing a certain amount of light might be obtained for it. Failing this, we would advise you to cover it well up with mats or something similar in severe weather, removing the protection when mild so that it may get the advantage of light. Also protect the pot or tub containing the roots from frost.

Fungus on Roses.—*N. H.*: The leaves are covered with a sooty deposit, the combined result of aphides and a fungus, a species of Capnodium. The latter lives on the secretion of the aphides, the remains of which were abundant on the under side of the same leaf. You will soon get rid of both with the fall of the leaf, but if they make their appearance next year we advise you to take measures for their removal by washing or sponging the leaves The worst of them might be removed, but you cannot well defoliate the bushes. The syringe or the garden-engine might be brought to play rather forcibly on the bushes for the removal of the aphides, and in severe cases you might syringe first with tobacco-water to destroy the aphides, and afterwards keep the bushes clean by an occasional brisk syringing with clean water.

Clematis Jackmanni.—*Omega*: If you desire flowers in the early part of summer cut back your plant to buds of the main stem, or merely shorten back the shoots to a strong well-ripened bud. On the contrary, should you desire larger flowers, and a greater quantity of them, on vigorous shoots, then we advise you to cut the plant down to the ground, or nearly so, and mulch it well with stable manure. Strong vigorous shoots will be produced in spring that will ultimately give the desired result. But you must be content to wait till late in summer or even till autumn for the bloom, according to the latitude of your locality, and whether warm and sheltered, or otherwise.

Apple Trees Unfruitful.—*R. L. M.*: Judging from your description, your trees are developing too much young wood to be fruitful. Then at the autumn pruning you cut away the whole, or nearly so, of the young wood, when an equal or greater number of shoots is developed next spring. What you should do is to root-prune the trees, or what is better, lift them, if not too old, so that the long rambling roots may be severed as well as those which strike deeply into the subsoil. Make sure that the subsoil is sufficiently loosened up to prevent the retention of superfluous moisture, replace part of the soil, and after putting in a layer of fresh turfy soil, replant the tree with the roots very little below the surface of the soil. Spread them out regularly, and after covering them up and using a quantity of fresh soil, mulch with good farmyard manure. This will induce the roots to feed near the surface instead of rambling into the subsoil, and the trees will be more inclined to form fruit spurs. Stake all newly planted trees.

Names of Plants.—*J. M. P.*: 1, we do not recognise the Apple—at least, from the specimen sent; 2, Euphorbia cyparissias; 3, Sedum reflexum. *Omega*: Achillea decolorans, the Staining Milfoil, in allusion to the white being stained with yellow. *H. J.*: 1, Cotoneaster microphylla thymifolia; 2, Colletia spinosa; 3, Pinus pumilio; 4, Thuja occidentalis; 5, Viburnum opulifolium. *J. C. L.*: Lælia Perrinii; 2, Cypripedium longifolium; 3, Epidendrum Brassavolæ; 4, Miltonia Clowesii. *B. D. Knox*: The rose-coloured Orchid is Rodriguezia secunda. The Oncidium next week.

Names of Fruits.—*W. C.*: 1, Beurré Bachelier; 2, Catillac; 3, Knight's Monarch. *J. W.*: 1, New Hawthornden; 2, Dumelow's Seedling. Pears: 1, White Doyenné; 2, not recognised. *O. P.*: 6, Black Pear of Worcester; 7, Manks' Codlin; 8, not known. *J. T. B*: The labels being loose, and well shaken up, we cannot put them to the fruits as sent. The large green Apple is Hambledon Deux Ans, and the smaller yellow one, Small's Admirable. The large Pear now ripe is Beurré d'Amanlis; the long green one, Van Mons. Leon Leclerc; one of the round ones is Knight's Monarch, and the other Olivier de Serres.

Communications Received.—W. E. B.—W. W.—J. Cliff—G. F.—J. B.—W. S.—J. T.—J. W. O.

TRADE CATALOGUES RECEIVED.

W. & J. Birkenhead, Sale, Manchester.—Special Autumn List of Ferns and Selaginellas.

James Cocker & Sons, Aberdeen.—Roses, Fruit, Forest and Ornamental Trees, Herbaceous Plants, &c.

Henry Bennett, Shepperton, Middlesex. — Pedigree and Seedling Polyantha Roses.

W. Drummond & Sons, Stirling and Dublin.—Forest, Ornamental and Fruit Trees, &c.

Dicksons (Limited), Chester. — Select Roses and Hardy Florists' Flowers.

COVENT GARDEN MARKET.

October 31st.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½-sieve.....	2 0	4 6	Pine-apples, St. Michaels, each	2 0	7 0
Cobs .. per 100 lbs.	100 0		Pine-apples, Eng., lb.	1 6	2 0
Grapes .....per lb.	0 8	2 6	Plums, ½-sieve	2 6	4 0
Melons.....	1 0	2 0	Peaches.....per doz	2 0	8 0

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ..per dozen	2 0	3 0
Beet, per dozen.....	2 0	3 0	Mushrooms, p. basket	1 0	1 3
Cabbages .... per doz.	1 6		Onions, per bushel ..	7 0	9 0
Carrots ....per bunch	0 6		Parsley, per bunch ..	0 6	
Cauliflowers, English, per dozen	3 0	4 0	Radishes, per dozen..	1 6	
Celery, per bundle ..	2 0		Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 0	1 3
Herbs, per bunch....	0 2	0 4	Turnips, per bun.....	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys. 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.
Aralia Sieholdi, doz.	6 0	18 0
Arum Lilies..per doz.	9 0	18 0
Asters .....per doz.	5 0	10 0
Chrysanthemums, per dozeu	4 0	9 0
— large plants ..each	2 0	5 0
Cockscomb, per dozen		
Coleus .....per doz.	2 0	4 0
Cyclamen ..per doz,	12 0	18 0
Cyperns, ..per dozen	4 0	12 0
Dracæna term., doz.	30 0	60 0
— viridis, per dozen	12 0	24 0
Evergreens, in var., per dozen	6 0	24 0
Ferns, in var., per doz.	4 0	18 0
Foliage Plants, various, each	2 0	10 0
Ficus elastica each..	1 6	7 0
Fuchsia, per doz.	3 0	6 0
Hydrangea, per doz.	9 0	18 0
Liliums, var., doz.	18 0	30 0
Marguerites per doz.	6 0	12 0
Mignonette ..per doz.	3 0	6 0
Palms in variety, each	2 6	21 0
Pelargoniums, scarlet, per dozen	2 0	6 0
Roman Hyacinths, per doz.	9 0	12 0
Solanums....per doz.	9 0	15 0

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.
Asters, doz. bunches	6 0	9 0
— (French), 1 bunch	1 6	2 6
Azaleas ....12 sprays	1 0	2 0
Bouvardias, per bun.	0 6	1 0
Camellias, 12 blooms	3 0	4 6
Carnations, 12 blooms	1 0	2 0
Chrysanthemums, 12 blooms	1 0	4 0
— 12 bunches	6 0	12 0
Cornflower, 12 bunch.		
Cyclamen..12 blooms	0 6	1 0
Eucharis, per dozen..	3 0	6 0
Gardenias, 12 blooms.	1 6	4 0
Gladiolus, 12 sprays .	3 0	6 0
Heliotropes, 12 sprays	0 6	1 0
Lapageria, 12 blooms	2 0	4 0
Lilium longiflorum, 12 blooms	5 0	9 0
Marguerites, 12 bun.	3 0	6 0
Mignonette, 12 bun.	2 0	4 0
Paper White Narciss, 12 sprays	0 9	1 0
Pelargoniums, 12 spys.	1 0	1 6
— scarlet, 12 sprays..	0 4	0 9
Primula, double, hun.	0 9	1 0
Pyrethrums, 12 bun..	2 0	4 0
Roman Hyacinths, 12 sprays	1 0	1 6
Roses, Tea, per dozen	0 6	1 6
— Red .....per doz.	0 6	1 0
— Saffrano ..per doz.	1 0	1 6
Stephanotis, 12 sprays	4 0	6 0
Tuberoses, per dozen.	0 6	1 0
Violets ..12 bunches	1 0	1 6
— Parme, French, 12 hunches	3 6	5 0
— dark French, buu.	1 6	2 6

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THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending October 27th was 30·05 in. ; the highest reading was 30·28 in. on Monday morning, and the lowest 29·80 in. on Thursday afternoon. The mean temperature of the air was 49·2°, and 0·2° below the average in the corresponding weeks of the twenty years ending 1868. The mean was considerably below the average on each of the first four days of the week, whereas a large excess prevailed on Thursday, Friday and Saturday. The general direction of the wind was S. W., and the horizontal movement of the air averaged 9·1 miles per hour, which was 2·1 miles below the average in the corresponding weeks of sixteen years. No rain was measured during the week. The duration of registered bright sunshine in the week was 25·5 hours, against 23·6 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

October 29th.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a steady speculative inquiry for Alsyke and Trefoil at extreme prices. Red and White Clovers are steady. No change in values of Rye Grasses. Mustard dearer. Rape neglected. Linseed firm; other Bird Seeds unchanged. Blue Peas keep firm.

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"PRINCESS BEATRICE."

Colour a bright red, dwarf bushy habit; my exhibit of two large beds of this splendid variety at the Royal York Jubilee Exhibition were the admiration of all who saw them; nice plants, 3s. per 100; seed, 6d. per pkt.; over one acre of plants sold last spring. Alpine Auricula, choice strain, to bloom in spring, 1s. per doz. Daisy Hen and Chicken, good plants of this scarce old variety, 1s. 3d. per doz. Sweet Briars, fine plants, 4d. each. All the above free for cash with order. Trade supplied.

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100 Herbaceous & Alpine Plants for 25s.

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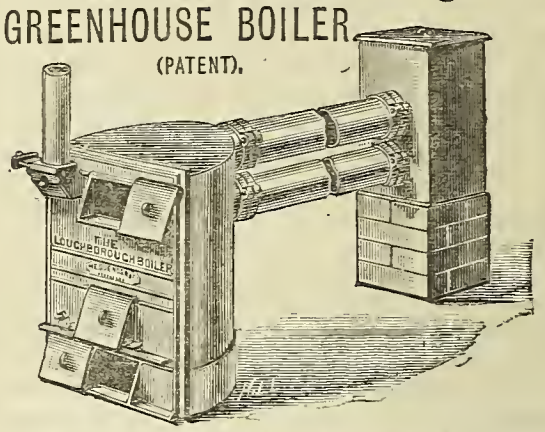
(PATENT).



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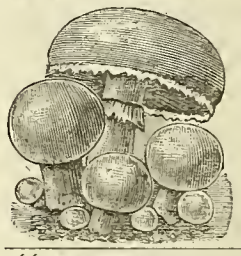

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MR. W. F. McLAINE, Ross Street, Poorak, Melbourne, Australia, Sept. 6th, 1888.

The Chrysanthemums came safe to hand, and are all breaking nicely.

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Next Week's Engagements.

MONDAY, Nov. 12th.—St. Neots Chrysanthemum Show. Bulb Sales at Protheroe & Morris's, and Stevens' Rooms.

TUESDAY, Nov. 13th.—Royal Horticultural Society: Meeting of Fruit and Floral Committees at 11 a.m. Chrysanthemum Shows at Ascot, Brighton, Winchester, Maidstone, Lambeth, Southwark, Southend, Watford, and Twyford (all 2 days).

WEDNESDAY, Nov. 14th.—Chrysanthemum Shows at Ealing, and Chelmsford (1 day); at Bromley, Faversham, Hampstead, Market Harborough, Blackheath, Dartford, Highgate, and Southgate (2 days); and York and Falmouth (3 days). Bulb Sale at Stevens' Rooms.

THURSDAY, Nov. 15th.—Chrysanthemum shows at Chiswick, Taunton, Dublin, Wimbledon, Pembroke, and Tiverton (1 day); and Hinckley, Weald of Kent, Salisbury, Barnsley, Ipswich, and Stroud (2 days). Bulb Sale at Protheroe & Morris's Rooms.

FRIDAY, Nov. 16th.—Chrysanthemum Shows at Exeter, and Wellington (Somerset); and Provincial Show of the National Chrysanthemum Society at Sheffield, and Canterbury (2 days). Orchid Sale at Protheroe & Morris's Rooms.

SATURDAY, Nov. 17th.—Bulb Sales at Protheroe & Morris's, and Stevens' Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, NOVEMBER 10, 1888.

CURRENT TOPICS.

THE COUNTY GOVERNMENT ACT.—We are now within appreciable reach of the formation of elected councils for the local government of counties, as the elections for the same must take place in about two months hence. Candidates are issuing their addresses to the county electors, and, generally, we regret to find they are of an exceedingly meagre character; and unless the electors show more interest in the proceedings than so far has been evidenced, we shall have, henceforth, in exchange for non-elected justices governing the affairs of the counties, boards of justices elected, in too many instances, without contest and without pledges on the one hand, or education of the electors on the other. All that will be unfortunate, because the value of local government must in all cases depend upon the amount of interest taken in it by those for whose benefit it is devised.

Discussions in public bodies in which the members are of one way of thinking are of little practical value, and benefits to the general public seldom come therefrom. Horticulturists who have looked for reforms, advantageous to their vocation, from the establishment of these county boards, will, we fear, be greatly disappointed with the ultimate product. The outcome, so far, bids fair to leave things pretty much as they were, only a little worse. The councils will have the collection and expenditure of a considerable number of duties and licence fees hitherto collected by the State, and these are to be applied in relief of local rates, but on the other hand all old State subsidies are withdrawn, so that the case of the ratepayers will be very little benefited, and none at all if the right class of men are not elected to seats on the new boards. They will also have charge of the many roads or highways in a county, but no saving can be effected on that head.

Really the new county boards, so far, seem to be devoid of all promise for the market gardener or farmer—the food producers of the country—and if their interests are not specially represented on the councils, it is not improbable that their last case may, ere long, be worse than their first.

A Helping Hand.—The Royal Southampton Horticultural Society may be said to have opened the Chrysanthemum ball for the season, so early as the 1st instant. We learn that it was an excellent beginning too, and full of promise for the show season, in spite of the many and trying drawbacks from which growers have of late suffered. But the show was marked by one excellent feature, which it may, however, be both well and fair to say is not exclusively confined to the Southampton exhibitors. The committee had reluctantly to inform their supporters that, on account of the considerable loss incidental to the summer show, exhibitors must be prepared for possible reductions in the amounts of the prizes. Happily, whatever may be the case in that respect, no falling off of friends was discernable, a fact most creditable to the gardeners, amateurs, and nurserymen who have exhibited so largely at Southampton in years past; indeed, these exhibitors themselves provided a handsome sum also in the form of special prizes, thus realising our ideal of a friend in need proving a friend indeed.

We can but hope that the recent very fine show proved to be a pecuniary success, although some lack of judgment seemed to be shown in fixing the first day on the same as that devoted to the local municipal elections. Perhaps the loss incidental to the summer show may induce the committee to consider how far expensive and decidedly meretricious attractions are found conducive to the expansion of horticulture. We may not forget the fact that at Ealing last year the exhibitors there provided a capital show without prospect of any prizes, but out of pure love for the society; and the recent grand Apple and Pear show at Chiswick was another instance of the fact that mere monetary considerations do not animate all gardeners, although we have still far too many who are only to be met with where there are prizes to be picked up.

Soaked.—David Copperfield, of illustrious memory, tells us that when boyishly in love with Dora Spenlove, he was so thoroughly deep in the passion that he could only fully express the intensity of its force by declaring that he was "saturated" with love. The country has within the past few days been undergoing a saturation of another kind—it has been saturated with rain. Not a thorough downpour and a flood of water, but with a persistent drizzle and a constant fall of moisture, the atmosphere itself being one vast vapour bath, saturating with water everything exposed to its influence. Somehow we look for considerable rainfalls coincident with the fall of the leaf, and if adding to nature's intense dreariness, just then, perhaps, some good is done in helping to free the trees from their fast decaying incumbrances. For the sooner the fall of the leaf is over, once it has begun, the better gardeners are pleased.

But amidst all the discomfort incidental to the rain—the slush below, and the fog above—discomforts through which Mark Tapley might have come out exceptionally strong—we have enjoyed the saturation because we knew it was needed. Rain is, at the moment, a nuisance; really it is ever a blessing, and in such case a blessing disguised as a nuisance. With a few days of comparative cessation the soil becomes fairly workable, and then planting proceeds at this time of the year not only rapidly but with assured safety. We may now have a grand planting time, and if open weather results for a few weeks the work got through in nurseries and gardens will be enormous. The thoroughly moist condition of the soil, so very different from what was found at this time last year, encourages planting everywhere, and abundant planting in proper seasons signifies the very foundation of horticultural prosperity. What is done now so largely is not for to-day, it is for years to come. A big impetus to planting now will be productive of inestimable blessings to the country a few years hence.

The Kingston Chrysanthemum Show.—But a few years ago Kingston—thanks in a measure to the support accorded to it by some enthusiastic Lancashire growers—stood at the head of all the metropolitan or suburban Chrysanthemum shows, and was the cynosure of all critical eyes. Then came the ambitious Hackney Society, which suddenly burst upon the world as a "National," and its ambition has not gone unrewarded, for it at once became the premier society of the metropolis and the kingdom. But if Kingston has to some extent had to pale its fire in presence of the National, and especially last year it seemed to be on the downward path, it has this season shown that its decadence was but temporary, for the splendid exhibition held in the Kingston Drill Hall, on Tuesday and Wednesday, was one which will be hardly excelled outside the Royal Aquarium. The classes were full, the average quality excellent, every inch of table space was crowded with exhibits—and there was a first-rate attendance of visitors. We are specially pleased that such should have been the case, both for the honour of Kingston and of its new secretary, Mr. Woodgate.

The National Chrysanthemum Show.—The growth of the National Society's exhibitions is indeed remarkable, and already suggestions are being thrown out that having regard to the comprehensiveness of the exhibits at the annual November fête, the limited description of a Chrysanthemum Society is anomalous, and that a wider appellation only will satisfy the needs of the case. The society may term itself by any greater or more ambitious appellation without dread that it will be classed amongst the "little nationals." It has a wondrously broad basis, one of the most popular sort now; it will become broader every year because it is one which invites the support of all classes, as it prefers a wide constituency, with a low rate of subscription to a select body of members as few as select. If the society should begin to feel now that it may seek to become the National Horticultural Society of the United Kingdom it will find plenty of supporters, for with popular support all things are possible where the executive leads with capacity and judgment.

Illness of Mr. E. S. Dodwell.—We regret to hear that Mr. Dodwell has again been seriously ill. The latest reports from Oxford were that he was somewhat better, but is ordered absolute rest by his medical attendant.

Gardening Engagement.—Mr. R. C. Fraser, late with Messrs. Fred. Horsman & Co., Colchester, as gardener to R. B. White, Esq., Ardarroch, Garelochead, N.B.

Finchley Chrysanthemum Society.—The annual exhibition of this society will be held at Woodside Hall, North Finchley, on Tuesday and Wednesday, November 20th and 21st.

Royal Horticultural Society of Aberdeen.—At a recent meeting of the acting directors of this society Mr. James Murray Garden, Advocate, Aberdeen, was appointed chairman, and Mr. Alexander Robson (of Messrs. Wm. Smith & Son) vice-chairman. It was unanimously agreed that an illuminated address be presented to Councillor Lyon, late chairman of the society, thanking him for the warm interest he has taken in the welfare of the society, and expressing the hope that he may soon be restored to health and strength again.

A Gardeners' Mutual Improvement Society for the Ealing District.—On Saturday evening last, a meeting of gardeners and others interested in gardening took place in the Girls School-room, Ealing Dean, when some proceedings of a previous meeting were confirmed, and a Gardeners' Society was formed, to take in Ealing, Acton, Hanwell, and Chiswick. A goodly number of members were enrolled, and a promising start was made. The honorary secretary is Mr. E. Chadwick, The Gardens, Hanger Hill House, Ealing.

The Entertainment by the Derbyshire Gardeners on Behalf of the Gardeners' Orphan Fund, which is to take place at Chesterfield, on November 14th, is being taken up with great spirit by the gardeners of the district, and already promises to be a great success. Mr. Owen Thomas, writing from Chatsworth Gardens on the 30th ult., states, "We shall leave no stone unturned in our efforts to make the entertainment a success. We hope to make one feature of our programme an entertaining and attractive one by decorating the hall almost exclusively with autumn foliage and berries." Well done, Derbyshire gardeners!

Dahlias in November.—On Tuesday last we received from Messrs. Dobbie & Co., florists of Rothesay, Scotland, a large box of Dahlia blooms, in the most beautiful condition—being fine in size, bright and clean in colour, well varied as to sorts, and the foliage perfectly fresh and good. The specimens sent of such fine show sorts as Mrs. Gladstone, Queen of the Belgians, E. Britton and W. H. Williams would not have disgraced the front row of some of the stands at the National Dahlia Show, yet here we are in November, and they are still fresh and good. The blooms of Pompons, Cactus and single varieties were also very bright and gay, Cochineal and Mrs. Hawkins being especially fine. The Messrs. Dobbie write:—"We hasten to send you the flowers, as we do not know at what moment frost may come now." Happy men to have escaped its blighting influences so long!

Fruit and Vegetable Culture in Ireland.—Our Dublin correspondent writes:—It appears after all that fruit and vegetable culture on the south coast of Ireland is to be practically tested, and if so it will not be very long before we learn if it can be done with a profit. It is understood that Mr. W. H. Hall, who wrote lately on the subject, has been making arrangements with persons residing in the neighbourhood of Bantry, Kinsale, &c., to carry out some experiments for him, and at his expense. As to the early growth of certain fruits and vegetables there can be no doubt; the difficulty will be to find a market, and to deliver them there at the usual rate of carriage, with sufficient margin to leave a profit.

The Orchid Flower Holder.—Mr. E. Mitchell, Cliff Point, Higher Broughton, Manchester, writes:—"I saw in your issue of October 15th a notice of the Orchid Flower Holder—a simple invention—which I think will prove very useful in the orchid house. It is not every man who has the courage to cut all his best spikes as soon as they are open, yet to leave them on for any length of time, in nine cases out of ten, means ruin to the plants; but if they are allowed to open perfectly on the plant, and are then cut and placed in one of Mr. Outram's little tubes and stuck in the moss, they will last almost as long as on the plant. I have seen scores of plants completely ruined through allowing large spikes of flowers to remain on too long, especially Oncidiums of the Crispum, Marshallianum, and Rogersii types. I had two large Oncidium spikes a few weeks ago, one of which I cut, leaving the other on. The plant from which the spike was cut is as fresh as ever, while in the other case the bulbs are shrivelled to half their former size."

Manchester Horticultural Improvement Society.—The first meeting of the present winter session of this society was held on the 1st inst., Mr. Bruce Findlay, the retiring president, in the chair. About sixty members were present, and among the invited guests were Mr. Leo H. Grindon and Mr. A. Outram. After tea, Mr. R. Tait, treasurer, submitted his annual statement of accounts, which showed a balance in hand of about £5. The balance was, he said, not a very large one, but they must remember that the subscription fee was only small. The president said the objects the society had in view affected the elegancies of life. He thought there was no occupation more useful or beautiful than gardening, and, therefore, they need not apologise to the public for their existence. He trusted they would work harmoniously together, and continue to do well. The honorary secretary (Mr. W. B. Upjohn) congratulated the members on the prospect of a pleasant session. Papers had been promised by Mr. Gleeson on

the Pine-Apple; Mr. R. M'Keller on Vegetables; Mr. R. Plant on the Horse-Radish; Mr. J. Booth on Modern Gardeners and Gardening; Mr. Birkenhead on the Functions of Leaves under the influence of Sunlight; Mr. R. Tait, jun., on Liliums and Cyclamens; Mr. W. Elgin on Floral Decoration Work; Mr. W. Adams. on the Mixed Border; and Mr. Samuel Barlow on Garden Gossip. The following were elected officers for the ensuing year:—President, Mr. Bruce Findlay; vice-president, Mr. A. Stansfield; treasurer, Mr. R. Tait; and honorary secretary, Mr. W. B. Upjohn. Messrs. J. Briddon, W. Elkin, G. Lunt, W. Plant, and F. Robinson were elected members of the committee.

Royal Horticultural Society.—We understand that a special meeting of the council was held on Wednesday, October 31st, when it was resolved that a cordial vote of thanks be sent to all those who were kind enough to read papers, or to exhibit fruit, or in any other way to assist in making the late Apple and Pear Conference at Chiswick a success. It was resolved that a report of the conference be forthwith prepared, with a view to its publication as a number of the Journal of the Society. The two resolutions passed at the Chiswick Conference were then read and considered, and with reference to the suggested sub-committee on Law and Parliamentary matters it was resolved, "That the Government having, at the suggestion of the council of the R. H. S. and others, expressly included Horticulture in the bill for the establishment of a Department of Agriculture, it would be unadvisable to appoint a separate Law and Parliamentary Committee, the council considering itself to be in a position to fulfil the duties of such proposed committee more advantageously than a subsidiary body." With reference to the second conference resolution, relating to the society's garden at Chiswick, the following resolution was passed, viz., "That the council of the R. H. S. fully appreciate the value of the Chiswick Garden, and are anxious to extend and develop its resources to the greatest possible extent in every direction, for the advancement of Horticulture as far as the means placed in their hands will allow." It was resolved to invite the members of the present Fruit and Floral Committees, and also the principal exhibitors, to attend a meeting in the council room on Tuesday, November 13th, at 11.30 a.m., to discuss as to the best place in which to hold the fortnightly meetings for 1889. It was further resolved to hold a general meeting of the Fellows of the society in the council room on Tuesday, November 13th, at 2 p.m., in order to submit to them the draft of new bye-laws with a view to their adoption. It was determined that at the two next meetings of the society, on November 13th and December 11th, any tender plants may be placed in the council room, where they will be free from exposure to cold. By kind permission of the Treasurer and Benchers a grand Flower Show will be held by the R. H. S. in the Inner Temple Gardens on the 30th and 31st of May, 1889. It was resolved to contribute £10 to the funds of both the Auricula and Carnation Societies if their exhibitions are held under the auspices of the R. H. S. in the year 1889.

LAWNS.

This season will long be remembered for the excessive rainfall, which—among other drawbacks to successful issues in gardening operations—caused the grass on lawns to grow rapidly, thereby entailing a great amount of labour in mowing. Some weeks were really so wet as to prevent such work being performed, and most of us know the difficulty of mowing with a machine when the grass is damp, so that the old advocates of the scythe have had the better opportunities this season.

The advice was given in a contemporary, nearly a month ago, October 13th, that mowing machines should be cleaned, oiled, and put away in a dry place. When reading the paragraph I thought the writer must have a dry lawn, composed of good turf, to be able to recommend the discontinuance of cutting at such an early date. The frosts in the early part of October certainly put a check to grass growing, but the subsequent fine and bright weather gave it a fresh impetus, greatly helped at this season by heavy dews, even if there is a total absence of rain, of which we have had another instalment this last week, so that lawns that are naturally wet and at all coarse have required mowing again.

All pleasure ground men know the advantage of a well-shaven lawn, for when the leaves are falling, which entails a lot of labour to keep a place anything like tidy, long grass, makes sweeping much harder work, and takes double the time. One practical gardener, and an excellent writer, said that he kept the machine going from March to November, and even at the latter date the mowing machine gets a good "bite" on a wet and coarse lawn, and also collects a good many leaves, though at the same time all dead wood that may have blown down must be picked up. A good machine will take up a lot of rubbish, but it is well not to hazard too much.—*George Potts, Junr., Northiam.*

FRUIT TREE TRAINING.

We give two illustrations for the pruning and training of fruit trees suitable for small gardens. The pyramid is a popular shape for Apple trees on the Paradise stock, and Pears on the Quince, and with careful pruning and occasionally lifting the trees when growing too much to wood, they may be maintained in a manageably small state for many years. A considerable number of varieties may thus be grown in the borders of gardens of limited dimensions. Amateurs could find space for a large number of trees grown in this way, and they would afford not only great variety of fruit for the table, but much profitable amusement could also be obtained by a study of those which prove most suitable for any particular locality. The finest-looking, largest, and best-quality Apples are also obtained from trees like these by pursuing good methods of culture. The two-stemmed tree represents a popular method of training Pear trees, and is known as the double upright cordon. Trees can be obtained from the nurseries already commenced in this shape, so that

amateurs would find little or no difficulty in keeping them to it. A small amount of wall space would afford accommodation for a great many varieties, and should one tree happen to die, its place can easily be supplied without any loss of wall space, such as happens when large trees die or have to be uprooted. Another system of training is the single oblique cordon, and Pears may be grown profitably on this system, and are probably as often so trained as oblique and single-stemmed cordons, as they are grown in the upright form. There is no difference in the system of pruning Pear trees, whichever of the methods is adopted; but when grown to single or even double stems, the trees should be grafted on the Quince stock.

THE "LITTLE NATIONALS."

May I be allowed to raise my humble voice in mild deprecation of the noble wrath of Mr. "Leo." He calls me unkindly a "little National." Well, I suppose I must admit that some eleven years ago my friends did choose a rather large hat for a small infant such as I was then; but, Sir, I was expected to grow to it, and I should have grown to it if I had had a fair chance, which I never had.

Sir, I was born at Westminster (under the sign of Aquarius) in the year of grace 1877, and though small, all my friends said I was a very healthy and promising child. When I was barely a year old, I was taken away from my native air, and placed with an old lady who had seen better days in the aristocratic but relaxing atmosphere of Kensington. As might be expected, I never throve there. I have not grown as I ought to have done, and unthinking people often make fun of me on account of my big hat, while there is my young cousin National Chrysanthemum, ever so much younger, who keeps growing out of his clothes every day; but *his* friends did not send *him* to Kensington.

I have nothing to say against the old lady sister Auricula and I were sent to. As I hinted already, she had been a grand dame in her time, and accustomed to tip-top society; but she had fallen on evil days, and had been in reduced circumstances for some time. She was very kind to us children, gave us many useful things, and tipped us regularly on our birthdays when, as I have since come to know, she could but ill afford it. All the same, it was a mistake our ever being sent to live with her. We ought to have stayed at Westminster, or gone to Sydenham, and who knows but that I at least might have been nearly as big as cousin Chrys by this time.

Latterly, as I dare say you know, our old lady got very sadly indeed, and saw almost no company at all, until at last we used to have to keep our birthdays—Auricula and I—all by ourselves, and there was not much fun or good either in that. Finally, our good old friend got dreadfully behind with her rent, as I am told, and was made to turn out just like an ordinary person in similar case, in spite of all her grand connections. The old story, you know—"put not your trust in Princes." But it is natural for children always to look at the gay side of things, and so you may judge my delight when I heard we were going to live at Westminster, within a stone's throw of the spot where I was born. Thither we went, and though I had been suffering dreadfully from cold as you know all through the season, I did my best to look cheerful and nice, and we had quite a large company to our little affair on the 24th of July last. I thought to myself, well here's the old lady waking up, and sister Auricula and I, instead of leading the lives of two Cinderellas, will go into society and get to be known among people after all. But whether the exertion was too much for the poor dear soul, or what, I am sure I don't know, but it seems there is some talk of her going to live altogether at her old place at Chiswick, where I am told some of her best friends say she ought to have been content to have stayed from the first. Town life never suited her, whereas Auricula and I both enjoy it (ask uncle Ben).

Well, though in my humble opinion two young children like sister Auricula and me, full of natural spirits, longing to get out into the world and play our part in it, ought never to have been forced on the good old lady in her infirm state of health, still, I hold that those were quite right who said we ought to stick by her, and try and cheer her up when she was in such trouble. Of course, if she is going to live at Chiswick altogether we cannot go there. We might as well be sent to a convent or a prison at once. What is the use of talking to us about Chiswick being a centre of horticulture? These horticulturists are much too fine people for us. It is not so very long ago that a *Journal-of-horticulture*-ist who called himself a "Border Flower" denied our right to existence at all, though he would have magnanimously granted it to us could we have turned ourselves into Potatos or Cabbages to please him! Another rude fellow, a *Garden*-er, called my sister Auricula in her lovely green dress a "monstrosity"! I should just like to have cropped his ears, and put him in the pillory for a spell for talking like that of a lady.

But Mr. "Leo" asks whether Chiswick is further from London than Sydenham. Why, sir, of course it is not. But while Chiswick may be a centre of horticulture, Sydenham is a centre of humanity, and that is the sort of centre that is most congenial both to sister Auricula and to, Sir, your humble servant, *National Carnation.*

I think "Leo" is a trifle hard on the poor "little Nationals" in your last week's issue. They can hardly be accused of ingratitude, seeing that the R. H. S. said to them last spring, "We can no longer subscribe £15 to each of your societies, but will find you a place for your exhibitions." The "little Nationals" consulted among themselves and decided not to leave the R. H. S., but to hold their exhibitions in the place found by the society, and what a place! At all times cheerless, it was almost dark at the show of the National Auricula Society last April, and difficult to distinguish grey from green edges.

With regard to "Leo's" proposal to go to Chiswick instead of the Crystal Palace, is the fine vinery a fit place in which to exhibit Auriculas at the end of April when the Vines are growing in steam and heat; and is a vinery the coolest place at the end of July in which to hold a show of cut flowers? The vinery is well adapted for fruit shows in the autumn, and Chiswick Gardens are always interesting to horticulturists, and it is a great pity that they cannot be more utilised for exhibition purposes, but will the London public go to Chiswick? Perhaps "Leo" can suggest another place, as he evidently does not like the Crystal Palace.—*Exhibitor.*

GARDENING NOTES FROM IRELAND.

HAZELBROOK, TERENURE, CO. DUBLIN.

THIS fine old place is the residence of Mrs. Daly, and there are many features about it which will be found interesting both from a horticultural and arboricultural point of view. The place shows plenty of evidence of having been liberally dealt with in both departments in the past, and nothing is left undone at the present time to preserve the old points of interest, while at the same time keeping things up to modern requirements.

FINE OLD CONIFERS.

As illustrating the former, I may instance the care taken of some fine old Conifers to be found here. When Pinus austriaca was no doubt considered a great variety, it appears to have been introduced into this place, and one of the trees standing at the present time cannot be less than between 30 ft. and 40 ft. high, and at two feet from the ground girths 6 ft. Not far from this are two Cedars of Lebanon, raised from seeds, brought many years ago from Mount Lebanon, and which are in remarkably good health ; one in particular coming away with about 6 ft. of a clean trunk and an enormous spread of branches. In the pleasure grounds immediately in front of the dwelling house, stand, to the right and left of a walk passing between them, two very handsome specimens of Cupressus, both beautifully furnished from the ground upwards. One of these is Cupressus Lawsoniana, and the other Cupressus Nutkænsis ; both stand at a height of about 30 ft., the stems having a diameter of 2 ft., and the branches a spread of 7 yards at the ground. There is also a good plant of Cupressus macrocarpa, and several others of smaller growth. It was with regret I saw a fine tree of Araucaria imbricata dead ; it stood fully 20 ft. high, had a fine spread of branches, and a stem about 4½ ft. in girth. Its death was caused by the action of a violent storm, the effect being that the bark was separated in several places along the stem, excessive gumming taking place immediately after, and no amount of plastering and pressing in the bark could save it.

EVERGREENS.

EVERGREEN shrubs are both plentiful and varied, and good specimens of some of them are not easily met with now-a-days. This applies chiefly to Arbutus, a large number of which were killed in the severe frost of 1879-80, but one of those which escaped then is now a very fine tree, and carries an immense crop of flowers. Fine plants of both male and female Aucubas are planted in well-chosen situations, the female plants showing a fine crop of berries. In another way evergreen shrubs are turned to some purpose here. This is to shade a walk which is carried round a lawn for a long distance. On both sides are planted Yew, Portugal Laurel, Laurestinus, Phillyreas, Hollies, &c. These have all been brought up and an arch formed over the walk for the whole distance, except here and there where openings have been left for the admission of light, or to afford a view of surrounding objects.

DECIDUOUS TREES.

THERE are many fine grown specimens of these through the grounds, amongst them being what is not frequently met with—some fine old healthy Tulip trees (Liriodendron tulipifera), Lime trees, Sycamores, Horse Chestnuts, Weeping Ash, and others.

THE PLEASURE GROUNDS.

THESE are all in grass, and not very extensive, but their neatness makes up considerably for their deficiency in that respect. The dividing-line between the pleasure grounds and a very handsome piece of shrubbery is a fine broad terrace walk, this again being protected by a row of massive balustrading, done in Roman cement, the colouring effect of the white line between the green foreground and the dark backing of the shrubbery being very good.

PLANT HOUSES, VINERIES, &C.

OUTSIDE the garden, and raised against the south side of its north wall, are numerous glass structures devoted to plant, Vine, and Peach growing. In one of these, a lean-to, Vines are planted, and this house will shortly receive a fine collection of Chrysanthemums. Of the latter I shall have something to say further on. Running in an opposite direction are two houses constructed on the half-span plan, and from the use made of them I think it will be worth while going into a little detail. Just now they are filled with a mixed collection of plants in pots, but their chief attraction must be the Roses, which, being planted outside, are brought in and trained along the roof. These consist of Maréchal Niel and some other varieties of Tea Roses, and many thousands of flowers are produced on them during the season. But if useful for flowers, they are also made useful for the production of fruit, and this is done by an arrangement which I have not hitherto met with. In the centre of the houses there are pits constructed, and exactly under the ridge Peach trees have been planted out in the pits and brought up on trellis-work, so that they enjoy the benefit of all the light thrown in by the back portion of the span roof, and are not in any way affected by the shade caused by the Roses on the other portion of the roof. The trees were in a perfectly healthy state, the young wood sound and well ripened, and I was assured by Mr. Price, who is a very skilful gardener, that the number and size of the fruits obtained are all that could be desired. Perhaps I should mention that a raised passage runs in front of the line of trees, by which all operations connected with their culture can be carried on without interfering in any way with plants occupying the front portions of the pits. Besides these there are three lean-to houses, two being generally made use of for early work, and another with Peach trees on the back wall, the front portion of the house being occupied with Roses and Tomatos planted out. Another useful low house is worked as a stove and propagating house, and is filled just now with numerous varieties of stove Adiantums, the roof being covered with a large plant of Stephanotis floribunda. Amongst the plant structures here is also a fernery, which, although somewhat small in dimensions, is both naturally and artistically considered a very beautiful piece of work. The form of the house is circular, and nearly all the rockwork inside consists of petrifactious brought from a long distance, all having been worked into the most natural forms of rockery, small grottos, &c. In the centre is a very neat piece of rockery, and growing on the top of it, reaching the roof, is a fine plant of Alsophila excelsa, while on the rockwork and surrounding walls are numerous varieties of Begonias, Adiantums, and various other native Ferns. Woodwardia radicans was growing here with rare luxuriance, its colour and length of fronds being very remarkable. Over the walk, and opposite each other, are two arches of rockwork, which have been put together with much skill, and when draped with Lycopodiums will look very well. A rather unusual idea in connection with ferneries has been worked out here—that is, presenting female faces at intervals through the foliage and rockwork. The pots selected for this purpose appear to have been 10-in. or 12-in. ones, and the face is worked in cement on the outside of the pots. The faces are shaped after the Grecian model, and although Mr. Price was the artist, he may well be pleased with his efforts as a modeller, for on looking at them one would think the artist "was to the manner born." Planted in the pots are dwarf Ferns and other plants, which are allowed to droop over and partially conceal the features—not an inapt representation of the present female head-dress, veil and feathers.

HABROTHAMNUS COCCINEA.

UNDER this name I found a plant growing in a well-sheltered outside border; beside it was a plant of the lemon-scented Verbena, Aloysia citriodora, and both had stood against a wall in their present situation for years. The Habrothamnus flowers every summer, and in common with the Verbena receives protection during the winter. Now, although an allied plant, Cestrum Parqui is said to be capable of living out under the treatment mentioned above, I have never met with it or any other variety of Habrothamnus outside a greenhouse.

THE KITCHEN GARDEN.

IN the garden I found a good supply of the usual winter vegetables, and a good stock of fruit trees. Among these latter, besides the wall trees, there are standard, espalier, bush and pyramid Pear and Apple trees, all of which have borne good crops this year.

CHRYSANTHEMUMS.

THESE are grown here chiefly for late flowering, all the latest blooming sorts being selected for that purpose. They are grown in the open ground, and have not yet been potted up. On some of the plants the flower buds were as large as Walnuts, and others were only just showing ; and there was not the least trace of any damage having been done by the frost that was said to have caught so many. It appears that although this late potting up is a rule here there is no difficulty experienced in getting the plants to grow along after being lifted. A couple of days shading is found sufficient to start them on again. Many of the very large plants will not be put into pots at all, but will be removed into some of the houses, and planted in the borders near the glass. From such plants as these I was told the number of cut blooms taken was very large.

THE ONION CROP IN IRELAND.

I OBSERVE a note of alarm sounded in the columns of a contemporary regarding the unripened state of the Onion crop in England, and its consequent unfit state for the production of seeds next year. This complaint, as a rule, does not affect the Onion crop in Ireland, as in almost all cases it was well matured before being gathered, and the samples one finds in the market are all that could be desired in that respect.

THE MULBERRY.

THE three most distinct and best known species of Mulberry are Chinese White (Morus alba), the Persian (M. nigra), the common Mulberry of our English gardens, and the North American (M. rubra). According to tradition, the fruit of the Mulberry was originally white, but became empurpled by human blood. It would seem that the common Mulberry came to us from Persia in 1548 ; but Mr. Leo H. Grindon thinks that its native country is uncertain, but that the original seat was south-western Asia is eminently probable. At the present day it is found apparently wild on the Caucasus, also in Persia and Asia Minor. Thence it would be conveyed westward at a very early period, but there is no exact knowledge of the time or by what means. But that it is a tree of undoubted antiquity there can be no doubt. No reference to it occurs in the Old Testament, but Biblical scholars state it is mentioned in the New, under the Greek name of "Sycamine," Luke xvii., 6. The ancient Secular Greek writers speak of it both as the Sycamine and the Maroon ; but with the Romans the word became Morus, the tree having reached Italy some time prior to, although not very long before, the Christian era.

When the common Mulberry was first introduced to England is unknown ; it is thought to have been introduced by the Romans. James I. endeavoured to render the cultivation of the tree general, in the same way that Henry IV. had laboured to introduce it into France. The first Mulberry trees of England are said to have been planted at Syon House, Brentford, the seat of the Duke of Northumberland, in 1548, and one of these, at least, was living and bearing fruit only a few years ago. A branch had fallen upon the ground and put forth roots, but the parent trunk had almost entirely decayed. Of its hardihood there can be no doubt, for Sir Thomas Browne, in 1663, quotes a letter from an Iceland clergyman, which testifies to the Mulberry being one of the few trees growing in that semi-polar region.

The Mulberry is probably the latest tree to put forth its leaves, and so it escapes the ravages of late spring frosts. It appears to be susceptible of cold, too, for it is said to drop every leaf on the night of a severe frost. Trials have been made of Mulberries trained against a south wall, and the result has been a great improvement in the quality of the fruit. I have seen in late districts of the north of England, Mulberries having the help and protection of walls, in order to get the fruit ripe enough for use.

In point of cultivation the Mulberry appears to do best in a fairly light rich soil, and in an open sunny position. Under such conditions I have seen trees grow to a good size, and produce an abundance of fruit. When fully ripe there is a very pleasant and piquant acidity, while sweet and luscious also, and compared with other edible fruits the Mulberry is remarkable for the large quantity of its sugar, being excelled in this respect only by the Fig, the Grape and the Cherry.

The Mulberry being a tree of slow growth, time is required to make a standard, the form in which it is usually planted. The best method of propagation is by means of layers. These are allowed to remain for two years, and when rooted are potted, tied to upright stakes, and in another four years or so they will make serviceable plants.

I have alluded to the tradition which sets forth that the fruits of the Mulberry, originally white, became empurpled by human blood. In referring to the introduction of the Mulberry by the Greeks, Rassin writes :—

"Hence Pyramus' and Thisbe's mingled blood
On Mulberries this purple dye bestowed.
In Babylon the tale was told to prove
The fatal error of forbidden love."

Mr. R. Folkard, in his book on *Plant Lore*, gives an outline of this tale as related by Ovid :—"Pyramus, a youth of Babylon, and his neighbour, Thisbe, became mutually enamoured, but were prevented by their

parents from marrying. They therefore agreed to meet at the tomb of Ninus under a white Mulberry tree. Thisbe reached the trysting place first, but was compelled to seek safety in a cave, owing to the arrival of a lioness, who besmeared with blood a veil which the virgin dropped in her flight. Soon afterwards Pyramus reached the spot, and finding the bloody veil, concluded that Thisbe had been torn to pieces. Overcome with grief he stabbed himself with his sword, and Thisbe shortly returning, and beholding her lover in his death throes, threw herself upon the fatal weapon. With her last breath she prayed that her ashes should be mingled with her lover's in one urn, and that the fruit of the white Mulberry tree under which the tragedy occurred should bear witness to their constancy by ever after assuming the colour of their blood." In Germany, at Iserlohn, the mothers, to deter the children from eating the Mulberries, sing to them that the Devil requires them for the purpose of blacking his boots. This fact goes to show some prejudice against or dislike of the fruit, and this is all the more curious because, according to old folk lore, to dream of Mulberries is of good import: they denote marriage, many children, and all sorts of prosperity, and they are also regarded as particularly favourable to sailors and farmers.—*R. D.*

CONCERNING PINKS.

I AM very much attached to the garden Pink. It is a very hardy, free-growing, sweet-scented, and prettily-coloured flower as a rule, although very varied indeed. It seems like heterodoxy to say so, but with all the beauty found in the double forms, I like the pretty singles immensely, and those who have not possessed a few plants of the single fimbriated or laciniated-flowered singles cannot know how much in pretty flowers they have lost. The selected best of these singles have flowers about 1½ ins. across, flat, round, deeply serrated edges, and of white or reddish tints of colour. A broad heavy belt of dark colour usually surrounds the centre or tube. The plants are easily raised from seed, and when large will furnish a wondrous profusion of flowers, well suited for bouquets or vase decoration. Because of these pretty singles and their irregular outlines, I have learned to have something of a preference for serrated-edged petals in the double forms, and, with all due respect to the opinions of so experienced a florist as Mr. Thurstan, yet think that of the pair of exceedingly dissimilar petals figured in your last, I prefer the pretty, fan-shaped, serrated petal of the past, to the more formal-shaped one of the perfect laced pink.

I am vain enough to think that my opinion will be largely shared in, not that I dislike a smooth-edged petal, but I prefer them in self flowers, such as Lord Lyon or Derby Day, both beautiful kinds, but somehow none the less very "miffy," for in many gardens in which they were once found they have proved short-lived. That we have plenty of Pinks that have good constitutions is certain, such kinds as Mrs. Sinkins, Anne Boleyn, Mrs. Dark, and many others bearing evidence. There are very many, perhaps, common Pinks which seem to have no names, and yet find special favour in diverse localities, but because raised from seed are largely reproductions of older sorts. These are very helpful in furnishing flowers in bunches in quantity for market sale or for the making up of common nosegays, and the substance of the flower or margin of petal interest the growers but slightly, provided the flowers are plentiful, and have distinctive colours.

For one grower of the Pink as a florists' flower we have, perhaps, a hundred who grow it solely as an ordinary garden flower. These, if wanting to increase stock, sometimes take the trouble to propagate by means of cuttings, or, perhaps as often, do so roughly by division. All these, however, if pinched off during the month of July, and put into sandy soil under handlights, so soon make root that a wealth of strong young plants is furnished in about three months, and if need be all the old plants may be destroyed. I put in cuttings this year in a frame looking north, and without covering, and everyone in due course made root, a fact which should encourage those who have no handlights or frames, to try their luck with some cuttings in a little wooden frame placed beneath a shady wall or tree. Even some cuttings put in under glass in pans so late as the end of August, have done very well, and made good root. Thus it is evident that Pink cuttings, even of the best kinds, may soon be induced to make root without very special care, and once rooted good plants soon follow.

Pointed indications on the part of writers that this, that, or the other convenience is specially needful for the proper performance of this or that operation is too apt to lead to the abandonment of the work by those who, if otherwise encouraged, would try and doubtless be successful with such means as they may have at their disposal. Amateur growers of Pinks may further find solace in the fact that seed is obtainable, and will reproduce many very pretty forms. I have saved seed from Anne Boleyn this year, in spite of the rain and previously bad saved seed, and sown it, as also German seed, and shall have hundreds of seedling plants to flower next year; possibly many will prove worthless, but if only two or three turn out good, ample reward will be found.

Rather an odd experience last year, was the getting of seed from the pretty rose-coloured Mule Pink, which, being a hybrid, I neither expected it to seed, nor found it to seed previously. Possibly the abundant pollen found in a near bed of single Pinks last year led to this unusual progenitiveness. What the seedling plants will produce next year in the way of flowers will naturally be interesting to note. We want in common or hardy border Pinks, deeper hues, such as Lord Lyon gives, but none too readily. A pretty rose-coloured variety has seeded and given some of darker hue; and these, again, I hope will in time seed and give still darker ones. The most free type of Pink in cultivation is the old white double, and if we could obtain a variety otherwise like it, but of a bright red or deep red hue, the product would be a veritable prize indeed to the raiser.—*Leo.*

NOTES ON VEGETABLES.

VEITCH'S MAIN-CROP ONION.

On the whole, the Onion crop seems to have been anything but satisfactory this season, and the bulbs have neither been large nor particularly firm. The variety under notice, however, has given great satisfaction at Tower House, Chiswick, where the crop was considered a good one. The bulbs are of medium size, because they had not been thinned to that extent necessary to obtain size, and when the crop was lifted the bulbs abutted closely upon one another. In shape they are somewhat ovoid and very deep, not flattened, and nearly of a straw colour. The necks are thin, and apparently the bulbs will keep well for a long time after they get thoroughly dried.—*F.*

POTATO, KING OF RUSSETS.

In my reply to "W. S." at p. 130 I omitted to state that King of Russets was obtained by crossing two seedlings of my own—Progress and Purple King—and that it takes after the former in colour, and the last-named in shape.—*James Lye, The Garden, Clyfe Hall, Market Lavington.*

SCARLET MODEL CARROT.

The deep rich red colour of this Carrot, no less than its handsome shape, should commend it for exhibition purposes. It is one of the short, or early horn types; but is more striking and attractive than many of that type in cultivation, inasmuch as the roots, popularly so called, are about 6 ins. in length, and taper gradually from a broad crown till near the tip, when they suddenly contract into a short slender tap root. We saw some of them the other day at Tower House, Chiswick, where it has given great satisfaction, both as a crop and also with regard to the clean and sound appearance of the roots.

NOTES FROM SCOTLAND.

Late-flowering Plants growing in the open, which withstood the severe frosts in the early part of October, should be specially valuable at this time of the year where cut flowers are in demand, and of these we have now in flower, quite fresh, a large number of species and varieties. The Asters, or Michaelmas Daisies, are no doubt in the front rank, and illustrate the lateness of the season in a marked degree, many of the early-flowering species being only in bloom now. I give a selection of the best hardy plants we have in flower. With many varieties of early-flowering Chrysanthemums and tall Lobelias, the borders have quite a gay appearance. The finest of the Asters are A. amellus bessarabicus, a very fine variety, purplish blue, with orange centre; A. cordifolius, pale lavender, flowers small, but produced in great abundance; A. aumosus, purple, an early-flowering species, very fine; A. formosissimus, a beautiful species, producing large rosy purple flowers very freely; A. ericoides, small white flowers with yellow centre, very elegant; A. longifolius, var. formosus, a very fine dwarf variety with rose-coloured flowers; A. lævis, lilac with yellow centre, a very distinct species; A. saluginosa, a handsome species, having been in bloom since July, flowers violet-purple, a most useful plant; A. Shortii, flowers lilac, produced in great abundance, a very elegant species; A. versicolor, white changing to rose, an early-flowering species.

Of other plants, Anemone japonica and its variety alba; Autumn Crocuses (Colchicum) in variety; Achillea Eupatorium, a fine species growing about 4 ft. high, with large heads of yellow flowers, lasting a long time in good condition; A. aurea, a pretty dwarf-growing species, having been in flower since early summer; Chrysanthemum maximum, a splendid autumn-flowering plant, useful for cutting purposes; Doronicum plantagineum excelsum, a fine variety, with flowers about 3½ ins. across, flowering more or less throughout the season; Echinops ritro, with curious heads of blue flowers and Thistle-like foliage; Geum coccineum fl. pl., a first class border plant, producing its bright red flowers in great profusion for a long time; Gypsophila paniculata, this is a very elegant and graceful plant, most useful in a cut state for arranging with other flowers. I do not think that it is generally known that the flowers of this plant can be dried as an everlasting, for as such it is specially valuable.

Of perennial Sunflowers (Helianthus) we have the small-flowered H. Buttoris, H. multiflorus fl. pl., H. m. major, and H. m. maximus, the latter a very fine bold variety, growing about 7 ft. high. Helenium autumnale, large yellow flowers, growing 5 ft. high Rudbeckia Newmanii, this is one of our best autumn-flowering plants; the flowers are bright golden yellow with a black disk, most useful for cutting purposes. Stenactis speciosa, a very useful border plant, producing its violet flowers for a long time in succession; Sedum spectabile, this, the finest of the late-flowering species, is not so highly coloured this season, no doubt owing to so much cloudy wet weather. This plant is also most useful for conservatory decoration at this time of year. By inserting the tops as cuttings just as they show the flower formation, they make nice compact heads of bloom, which have an uncommon appearance and attract much attention when in flower. The fine Tritomas have done no good with us this season, as also many other late-flowering species.—*J. C. B., Kelso.*

The Fruit Conference at Dunkeld.—In response to numerous requests for the publication in a convenient form of a report of the proceedings at the conference held at Dunkeld in August last, Mr. P. W. Fairgrieve has just issued an excellent report collated from various sources, which will enable those present and others interested in the subject of hardy fruit culture to digest at their leisure the facts and inferences brought out on that interesting occasion. In the preface Mr. Fairgrieve says: "Although the season has been very unfavourable for the cultivation of fruit, I was encouraged to hold the conference, not only from the fact that the fruit here has been successfully shown at all the larger exhibitions in the country, but also because there are here at present a large number of young trees, as well as older ones, bearing fine crops; and it is most important to growers that the trees should be seen at the various stages—and if this conference had not taken place just now this point could not have been obtained—and I have frequently heard professional visitors to the gardens express surprise at the luxuriance of the foliage both in the young and the old wall trees.

"Several correspondents have asked me to publish one or two facts regarding fruit culture. All that need be said here is that great attention ought to be paid to the judicious selection of varieties. In cold localities this is eminently important; indeed, the want of attention to this point is the chief cause of failure. Several correspondents have also inquired as to whether wire should be used on the walls, but I have never used it myself. I am often asked by letter if we have flues in our walls. We have not. I am also in receipt of many letters regarding our mode of protecting trees on walls from frost in spring, and in reply I have to say that I will be happy to arrange with the Scottish Horticultural Association for the exhibition during the winter season of a model of the apparatus which I use. I might also arrange to have it exhibited in Aberdeen and Dundee if the fruit growers in these districts desired it. The apparatus has already been exhibited in Edinburgh, but, considering the greater interest now taken in the cultivation of fruit, its exhibition again, for a time, might be useful."

FLORICULTURE.

The Carnation Trial: Gentle Jacky.

THE following is a copy of a letter addressed by me on the 9th ult. to the editor of *Gardening Illustrated*, and which he apparently declines to publish :—

"I wrote at the end of August, asking what may have been the result of the competitive trial for Carnations, as announced by you in your issue for November 5th of last year, for which I sent six plants of my peach pink self, Gentle Jacky ; and was informed in reply that 'five out of the six plants sent have been destroyed by wireworm,' and further, 'that though Gentle Jacky might appear good to a novice, it would be found, when grown with other good varieties, to be nothing unusual in colour, and paltry in size of bloom.' Since then, I have read the report of the trial, as given in *The Garden* of September 15th, p. 261, and note it is said, 'Gentle Jacky, pretty rose colour, free.' But I find nothing to show that five out of the six plants sent were destroyed by wireworm, and thus all possible equality of trial was vitiated, and as an act of simple justice I ask that you will make that fact known by the publication of this note; and permit me to protest, in the circumstances, against the conclusiveness of the trial. I protest further against the injury inflicted by entrusting the plants to the care of persons so ignorant, or so indifferent—it matters not which— that five out of six should have been killed by wireworm. Nothing is more fatal, indeed, than the attack of the wireworm, but nothing is more surely detected, and had there been due inspection, the pest would have been readily found, and its ravages stayed."

In the interests of florists and floriculture I trust you will give it the publicity of your widely-read pages, and permit me to supplement it with a brief recital of the facts which called it into existence. Last autumn I sent six of my bantling Gentle Jacky—a peach-pink self Carnation, of which I had had favourable opinions from friends of wide experience—to take part in the trial announced by *The Garden* and *Gardening Illustrated*, a report of which was promised to be made in the following August. Simultaneously with the sending of these plants to Mr. Herrington I sent two others to Mr. Dodwell.

Towards the end of August I wrote to Mr. Herrington, inquiring for the result of the trial. In reply, August 28th, I was informed that *five* out of the six plants sent had been destroyed by wireworm, and that the flower from the surviving plant needed no particular notice, as it was nothing special; and to a further letter in reply to my indignant remarks on the monstrous facts disclosed, brought me the rejoinder, "that though to a novice Gentle Jacky might appear a good flower, it has nothing to recommend it when grown with other *good* sorts ; is nothing unusual in colour, and paltry in size of bloom."

Simultaneously with thus writing to the editor of *Gardening Illustrated*, I wrote to Mr. Dodwell, asking for the result of his trial. On September 17th he replied, "Gentle Jacky is glorious. Two days before the show of the 14th it might have had premier prize. It was one of five, all of the pink-peach shade, and either worthy of a premier place in the selfs—viz., Gentle Jacky, Mrs. Alfred, Gladys, Hooper's Queen of the West, and a seedling, 1953, not yet named. After many inspections, on the 12th I gave the palm to 'Jacky.'" I wrote also to Mr. Joseph Lakin, of Temple Cowley, Oxford, who replied, August 28th, "I saw your Gentle Jacky at Mr. Dodwell's in grand form. It is a first-rate variety." Mr. Thomas Bower, raiser of John Smith, Mrs. Bower, &c. ; Mr. Schofield, raiser of Clipper, Master Nichols, Lady Holmesdale, &c., and others, all join in stating that Gentle Jacky possesses the highest merit.

But I ground myself on the letter of our "grand old master," Mr. Dodwell—a title which he has recently given to one of his last productions, the "Maestro," which is his by the universal voice of everyone conversant with the Carnation, and whose authority will far more than outweigh the supercilious self-confidence of a generation of Mr. Herringtons.

One word more, and I have done. After I had received Mr. Dodwell's letter referred to above, written in complete ignorance that I had taken part in the trial, I sent to him copies of the letters addressed to me by the editor of *Gardening Illustrated*, and a subordinate, and begged his opinion upon the fact related, that "*five* of the six plants sent had been destroyed by wireworm." In reply, Mr. Dodwell says, "The fact that five plants out of the six were destroyed by wireworm is inexcusable. It implies one of two things, either gross ignorance, or culpable inattention. There appears to have been a strange insensibility to the trust accepted in the planting on ground infested with the pest; secondly, a stranger ignorance of the habits of the creature, or culpable neglect to watch for its work. For, be it noted, in spite of the impossibility to free large masses of soil, whatever may be the carefulness of search, from the presence of one or more of these pests, their fatal work, with due attention, is so instantly apparent to the instructed eye that, almost without exception, it may be declared that the marauder will be detected in his work, and receive his merited punishment. We lose a few plants yearly from this pest, as will be the lot of all growers of Carnations, but whatever be the time of the season, or effect upon plants in the same pot, we hunt the culprit to his death."—*John Cliffe, Nisbet Hall, Fulneck, Leeds.*

The Ranunculus.

THANKS to the energy of a few of our amateur friends, there is a prospect of the resuscitation of our hardy florists' flowers. The Auricula and the Carnation and Picotee have already been rescued from the limbo of obscurity to which they were consigned when the bedding-out craze drove so many good plants from our borders. The glorious show Tulip, over whose beauty we used to go wild in our younger days, is again rising in favour ; the beautiful laced Pink is still cultivated by a few of the old enthusiasts, and I was delighted to see the properties of the flower so ably set forth by Mr. Thurstan in your last issue. Such papers as this are of the greatest value to both the young amateurs and the gardeners of the present day, for singular as it may appear, there is a dreadful amount of ignorance of such matters now prevalent. I am frequently asked what is the difference between the Carnation and the Picotee ; and what constitutes the peculiarities of the bizarre, the flake, the fancy, or the self Carnation, and this, too, by gardeners. The same question is also put as to the show and Alpine Auriculas.

Of course old florists know all this, and wonder how it is that younger ones should be so ignorant of such matters ; but we must not forget that there are fashions even in flowers, and that the inquirers have not had the opportunity of cultivating lately these unfashionable gems of the garden.

There is another of these exquisite gems of the early summer, which has been sadly neglected for a long time. What has become of the old show Ranunculus? I mean those glorious, exquisitely finished rosettes which were grown by those floricultural veterans, the late Mr. Carey Tyson, the late Mr. R. Headley, and others of their class. As I write I have before me a list of Mr. Carey Tyson's flowers, together with his little pamphlet on *The Properties and the Culture of the Ranunculus and the Anemone*, the perusal of which recalls the beautiful brilliant masses of diversified colours, amongst which I used to revel. For such a sight I fear I might look in vain at the present day.

I know that Ranunculuses may be bought in abundance, and cheaply, that are brilliant in colour and of good form—sufficiently good for the mixed border ; but as compared with the delicately-finished and exquisitely-tinted blooms seen in Mr. Carey Tyson's garden, they are not to be mentioned in the same street. We who have seen them can but barely tolerate the things of the present day, and for such a sight again I would gladly make a long pilgrimage. The question is, Are they extinct, or are there any still to be found among the old growers? If so, they would confer a boon upon the floral world by letting us know where.—*W. Wardill, Luton.*

Rose-edged Picotee, Nellie.

THIS was raised by the late Mr. George Rudd from Mrs. Bower, and it is, I think, one of the most lovely of the light rose-edged Picotees in cultivation. At the first exhibition of the Oxford Carnation and Picotee Union, in 1885, Mr. Martin Rowan, of Manor Street, Clapham, electrified the Carnation fancy by showing Nellie in delightful form ; and he grows it to perfection at Clapham—indeed, he states that it grows with him like a weed. Strange to state, other cultivators do not appear to succeed nearly so well with it. It is just possible that when first put into commerce the stock was debilitated, and that Mr. Rowan has succeeded in getting it out of an unhealthy into a robust condition. Two years ago Mr. Rowan sent me a pair of plants somewhat late in the season, but I could not do anything with them. He kindly promises to send me another pair, and I hope to succeed in growing it and blooming it next year. When produced in good form by Mr. Rowan it is always exquisitely pure, the petals stout and well formed, and the delicate beading of pale rose as perfect as can well be desired.—*R. D.*

Auriculas: The Winter Rest.

THE plants in pots are now falling away gradually to their winter rest, or as the Rev. F. D. Horner puts it, "In October the Auricula begins to gather itself together, slackening its growth, and preparing its winter dress." The exterior leaves are beginning to turn yellow, and as they become so, they need to be carefully removed. At this time of the year those who have the convenience remove their plants to a position facing south, where they winter. As a matter of course in such a position they will require more water than in one facing north ; but in either position less water will be required unless the weather should continue dry, sunny, and mild. But there should be no sudden stoppage of the water supply unless there is entire change of the weather, and frost be imminent. In the autumn and winter time the plants use up less water than earlier in the year ; and the air is generally moister and less drying. Fogs, too, are happening, and they serve to keep the leaves and surface of the soil dry ; and unless it is a cold rimy fog, with the wind in the north or east, I allow my plants to have full exposure to them—that is to say, the door and windows of the house are kept wide open. If a plant goes dry—approaching dust dry—and the plants appear to be in danger of flagging, I take the plant from the house, immerse it in a vessel of slightly chilled water if the weather be cold, let it drain well, and then return it to the house.

November and December are the months when but little water will be required—what is required is just enough water to keep the plants from flagging. But then some care is necessary that the surface soil be moist, and that below dust-dry, and as Christmas approaches, the plants will gradually become smaller and thinner in foliage ; but so long as a fairly laid filbert-like rosette of leaves remain, either white or green according to the variety, there need be no fear as to the future. There is but little change during the winter, but still some, although it is nearly imperceptible. "But still, by comparison with even summer they are at rest. Through the winter very small seedlings must be watched that they do not damp off for want of air. In their little way they follow the fashion of their elders, and have their own tiny winter habit, and fall of leaf. This infantine withered foliage need not be picked off if only it be kept dry and from mildewing, through any stagnation of air and moisture."

BIRDS AND THE FRUIT CROPS.

"R. D.," at p. 144, quotes an extract from a San Francisco paper as to a supposed means of preventing the ravages of birds during the fruit season. I say supposed, because the remedy recommended is an old one to me, and, as I have proved over and over again, is absolutely worthless. If any proof of this were wanting, the past season will assuredly afford it, as notwithstanding the constant showery weather, I do not recollect a season when we were more pestered with the birds, and more fruit destroyed by them. Gooseberries, in the first place, were a failure owing to the sparrows picking off the buds in spring. These birds are a serious nuisance, owing to our proximity to farm buildings, and a number of walls about the gardens being covered with Ivy, affords them a capital harbour.

A great deal of sentimental twaddle is often expressed in the papers about kindness to birds and animals. So far as regards the matter of birds and their preservation, I greatly abhor their indiscriminate slaughter ; but alas for sentiment! stern necessity has compelled me to adopt rigorous means of trying to keep down the sparrow, though that is no easy matter, as he is the most prolific as well as the most cunning of our feathered enemies. Currants, both red and black, were likely to be cleared off in a few days had they not been observed in time and netted. Blackbirds and thrushes were both very busy with them, and supplies failing in this quarter, the former were not long in turning their attention to the wall fruits, nothing escaping them unless under cover of a net. And then the diligence displayed in searching all round for the chance of a small hole where it could admit them!

Black Currants are not often subject to their depredations, but this season they really seemed to have acquired a sudden liking for them. Apples, Pears, and Plums were the next attacked, great numbers of the two former being chipped and shelled out, while the latter were devoured wholesale. This determined raid on the fruits was not the result of a scarcity of water, because in addition to an unusual rainfall, we have the river close at hand, and open ditches and a pond within 200 yards, which were running constantly all the summer ; there was also no lack of wild fruits in

the woods round about. I believe as "R. D." seems to think—that we must look elsewhere for an explanation.—*R. Stevens, Paston, Northumberland.*

THE NEW NORTHERN GREENING APPLE.

In his interesting and instructive paper on Profitable Fruit Farming, read at the late Crystal Palace Fruit Conference (see p. 114), Mr. John Wright called attention to the merits of two Nottinghamshire Apples —Bramley's Seedling and the new Northern Greening —both of which, as marketing varieties, are destined to be extensively planted beyond the borders of the county in which they are at present best known. Of the new Northern Greening we are to-day enabled to give an illustration, prepared from specimens received from Messrs. J. R. Pearson & Sons, of Chilwell, who are propagating it extensively, and so far as we know, were the first to exhibit it at the Apple Congress held at Chiswick in 1883, though of its origin or history beyond this we know nothing. The fruits are of medium size, the smaller ones nearly round, and the largest oblate or much flattened. The eye is of medium size, closed, and set in a shallow or moderately deep, evenly rounded cavity. The stalk varies from ¼ in. to ½ in. in length, and is moderately stout, but often characterised by a fleshy swelling at its attachment with the tree, and inserted in a narrow, moderately deep cavity, partly filled up by a fleshy swelling or ingrowth on one side. The skin is of a bright glossy green on the shaded side, with a few small scattered pale brown spots, brownish red on the sunny side, marked with broken stripes of darker red and pale brown spots surrounded with red.

The shoots are moderately vigorous and densely downy or felted when young, ultimately becoming nearly glabrous. The leaves are of medium size, oval or ovate-oval, cuspidate, and doubly serrated. It is a vigorous grower, and makes a handsome, compact tree as it attains age. The Messrs. Pearson write: "We consider it by far the best late Apple in cultivation. It is a very heavy bearer, the fruits will keep sound till June, and are of good culinary quality; in fact we do not know of any fault that can be laid to its charge."

The New Northern Greening Apple.

RICCARTON, MIDLOTHIAN.

Within easy distance of the Scotch capital, this interesting and ancient family seat is so embosomed amongst tall trees as to be unnoticeable by the visitor till close upon it. Riccarton is the residence of Sir James Gibson Craig, Bart., who has collected together a large number of the most beautiful and interesting trees, of which we shall speak anon. Part of the old baronial residence still forming a portion of the modern mansion is dated 1621—a fact which speaks of the antiquity of the place. It is built of fine massive blocks of white freestone, no doubt obtained from the noted quarries in the vicinity of Edinburgh. Another interesting and historical fact, speaking from a horticultural standpoint, is that Fuchsia Riccartoni, which is now scattered over the length and breadth of the land, and in some places—as in the Isle of Man—has attained enormous proportions, was raised at Riccarton. It was reared and flowered under glass, where, however, it scarcely attracted any notice till some neighbouring gardener grew it out of doors, when it soon exhibited its real value.

The kitchen garden and the glass structures are situated at some distance from the house, and in September the vineries contained some fine samples of Muscat of Alexandria, Gros Colmar, Resin de Calabre, and Alicante Grapes, the bunches and berries of the latter being very finely finished. Mr. McDougall, the gardener, also succeeds very well with Peaches, three fruits in some cases weighing 2 lbs. Tuberous Begonias and table decorative subjects are some of the plants that receive special attention in the houses, while Stocks, Asters and hardy herbaceous plants occupy the borders.

The summer flower garden occupies a narrow valley surrounded with woods and choice ornamental trees. The beds are laid out on the grassy slopes, but particularly on the sunny side of the valley, and viewed from the opposite side had a most striking effect, owing to the floriferous naturo of the occupants, while the foliage subjects, such as Ricinus Gibsoni and Centaurea ragusina compacta, afforded a beautiful contrast. A yellow-flowered annual Chrysanthemum named C. algeriense, filling a large bed, was very conspicuous.

Ornamental Trees.

To examine the trees, however, was an irresistible attraction. Leading to the house is a noble avenue of giant Beeches that meet overhead, forming a dense canopy; while in the immediate vicinity of the house there were equally aged and patriarchal specimens of Sycamores, best known in Scotland as Planes, also Oaks, Scotch Pines, and Sweet Chestnuts. Owing to the unusual lateness of the season and the latitude of the place, the latter were still abundantly laden with their slender, graceful, and attractive flower spikes in the last week of September.

In the bottom of the valley running through the flower garden was a huge clump of Berberis vulgaris, heavily laden with its bright red berries, which made it a conspicuous object, even at a distance. Other deciduous trees in the vicinity are Prunus Pissardi, Acer colchicum, with bronzy foliage, Carya amara, 30 ft. high, as well as fine bushes of Spiræa discolor ariæfolia and Deutzia crenata flore pleno, 10 ft. high. The noble owner of the place has recently been making considerable plantations of ornamental trees alongside one of the drives, including many species of Oak, Hawthorn, Pines, Limes and others, showing that the old love is still unabated.

The Conifers constitute, however, without doubt the most valuable and interesting collection of ornamental trees and shrubs, and is the richest in species. In the enumeration given below it will be seen that the collection is a select one, and does great credit to this northern latitude. A tree of Abies nobilis, about 18 ft. in height, bore about a dozen cones of large size, while another, about 50 ft. in height, was loaded with cones; and from evidence which we had elsewhere in the neighbourhood of Edinburgh, the season has been by no means unpropitious for the production of cones. The variable Abies concolor, known under various aliases, such as A. Parsonsi and A. lasiocarpa, runs up to a height of 40 ft. in fine condition. Two fine specimens of Tsuga Albertiana, with long drooping branches, and laden with miniature cones, measure 60 ft. in height. The trees here, as well as those at Dropmore, Bucks, are much more symmetrically pyramidal than are those of T. canadensis, the common Hemlock Spruce. The Pinsapo Silver Fir (Abies pinsapo) stands about 30 ft. high.

A very uncommon tree comparatively is Arthrotaxus selaginoides, with curious, stout, cord-like branches which owe their appearance to the short leaves being adnate to the shoots. The tree is about 12 ft. high, is bearing cones freely amongst the upper branches, and is, of course, evergreen. There is also a smaller specimen of the golden variety, A. s. aurea. The Cryptomerias seem to thrive wonderfully at Riccarton, where we noticed two specimens of C. japonica about 40 ft. in height, also another 50 ft. high, and one of C. elegans 10 ft. high, which is of a fine bronzy colour. C. spiralis is a variety of C. japonica, with the leaves spirally twisted round the branches. The Retinosporas are represented by R. plumosa aurea, R. squarrosa Veitchii, and a fine specimen of R. lycopodioides, about 7 ft. in height. Beautiful trees are the golden Chinese Juniper (Juniperus chinensis aurea); another variety, with the branches tipped with white—namely, J. c. alba variegata; also J. recurva, 10 ft. high; its dwarf variety, J. r. nana, about 18 ins. high; and J. excelsa, 18 ft. high, which is of a fine silvery or glaucous colour.

One of the first specimens of the Mammoth Tree of California (Sequoia gigantea) that came to this country was planted at Riccarton in 1855; but, like the old Araucaria imbricata at Kew, it has not made so satisfactory a growth as younger trees close by. It is closely surrounded by other trees, originally no doubt for the purpose of protection, and is interesting on account of its age. Its congener, the Red Wood Tree (Sequoia

sempervirens), has reached a height of 60 ft., and near by it is a large tree of Abies amabilis, with its branches affected by gouty swellings caused by a woolly aphis, an insect allied to that which causes American blight on Apple trees. The Abies in question was mentioned in the *Transactions of the Arboricultural Society for* 1884.

A noble specimen of Thuja Craigeana was planted by Lord Palmerstou on April 4th, 1863, and is now 50 ft. in height and laden with its small yellowish cones. Scattered about the grounds are other species, such as T. occidentalis, T. Verveneana and T. orientalis elegantissima, the latter being notable for its dense upright habit and feathery branches. Thujopsis dolobrata variegata and Libocedrus decurrens are other beautiful trees that rightly find a place here. The golden Scotch Fir (Pinus sylvestris aurea) is represented by a tree 6 ft. high, planted by Lord Iddesleigh on November 5th, 1885. On the upper edge of the flower garden are two noble trees of Pinus Laricio about 70 ft. in height. They are two of the original trees of this kind first sent to Scotland, have trunks of great dimensions, and are still in robust health. Close by a striking contrast is presented by P. L. pygmæa, a pigmy relation about 2 ft. in height, although known to be twenty years old.

Lawson's golden Cypress (Cupressus Lawsoniana aurea-variegata), having some of its branches bright yellow, is here finely coloured, and stands some 8 ft. high. The creamy white variegated variety is also well grown, while C. L. nana alba is a beautifully conical bush, having all the young growths of a strikingly distinct creamy white colour. The White Cedar of North America (Cupressus sphœroidea or C. thyoides) also thrives very satisfactorily, as does C. nutkænsis, which is widely disseminated in gardens under the name of Thujopsis borealis. A tree of the variegated form, C. n. aurea-variegata, stands about 10 ft. high, and is beautifully pyramidal in outline.

The Amateurs' Garden.

British Ferns in Winter.

A mistake which amateurs are very liable to make in the keeping of hardy Ferns during winter is to allow them to become dry, under the impression that, growth being suspended, they must be dried off in the same manner as a Fuchsia or Pelargonium. This is bad enough for the deciduous kinds, but it practically means death or starvation to the evergreen sorts, many of which are amongst the most beautiful of hardy Ferns, whether British or exotic. Amongst the larger kinds, the varieties of Polystichum aculeatum and P. angulare are eminently adapted for the adornment of cool greenhouses or shaded conservatories, whether artificial heating be used or not. Their hardiness is one of their chief recommendations, and unheated places may be made cheerful with them even in mid-winter. Several of the varieties of the common Polypody are eminently adapted for the purpose, including Polypodium vulgare cambricum, the Welsh Polypody, and the more finely-divided garden or other forms, such as P. v. cornubiense, P. v. multifido-cristatum, P. v. grandiceps, and others too numerous to mention. Of the Hart's Tongue, or Scolopendrium, there is also endless variation, some of which are mere curiosities; but S. v. crispum, S. v. ramo-cristatum, S. v. Wardii, and a host of others are both useful and handsome. The smaller and choice kinds of an evergreen nature include Asplenium Trichomanes, A. T. Moulei, A. marinum, A. Adiantum nigrum, A. viride, A. fontanum, A. lanceolatum, Polystichum lonchitis, Adiantum Capillus-Veneris, and others of great beauty. All these enjoy a moderate quantity of water in winter, and must not be allowed to get dry, otherwise the best and finest of the roots perish. All of them are sufficiently hardy to be wintered in a house without heat, but the fronds keep green and fresh for a much longer period, provided they are protected so as to prevent the fronds becoming frozen during severe weather.

Calceolarias.

The stock of these should not be starved at any time, otherwise the plants become stunted or drawn by overcrowding, and never form the large healthy crowns of leaves that augur well for a good show of flowers. If the young seedlings are still in boxes, pans, or even in small pots, they should be shifted on, both with the object of preventing crowding and to give the seedlings more root room. Like Cinerarias they are exceedingly liable to the attacks of green-fly, and should be lightly fumigated to keep the pest down. Keep them in cold frames, well matted up at night, and do not allow them to suffer for want of water when they get dry, otherwise their delicate roots perish.

Hardy Florists' Flowers.

The choicest of such things as Auriculas, Carnations, Picotees, and Polyanthuses are wintered in cold or unheated frames, because the improvements effected by the plant have rendered many kinds constitutionally weaker than their less favoured relations of the above genera. Except in the case of tree Carnations, which should be transferred to the greenhouse or conservatory, the others are best wintered without heat. The utmost caution should, however, be exercised in watering and ventilating them to prevent damping. The smallest quantity of water necessary should be given, and that in the morning, so that superfluous moisture may be dried up before the frames are closed at night. Sufficient should be given to moisten the ball at each watering, and no more. Generally speaking, however, if the pots are plunged in ashes or coco-nut fibre little or no watering is required during the whole winter. Much, however, depends on the state of the weather. Ventilate freely on every favourable occasion, taking off the lights during fine weather, and in the absence of frost leave on air all night. This will promote a sturdy habit of growth, and a stronger constitution than if the plants are in any way coddled.

Variety of Fruit in Small Gardens.

Now that fruit culture is year by year becoming better understood, and its principles brought under the notice of the public, a great variety of fruit can be grown in gardens of limited extent by adopting certain methods of culture, particular forms of trees, and the system of pruning. For the open ground, the principal forms of small trees are the pyramid and the bush, pruned so that they assume the outlines indicated. Trees to occupy little space on a wall may be pruned and trained as single or double cordons, and nailed to the wall in an upright position or in an oblique one. This latter system is more generally adopted for Pears than Apples, small trees of which more naturally assume pyramid or bush forms. The Apple is also grown as cordons, either single or double, and trained horizontally within 1 ft. or so of the ground, all round the borders of walks. All these systems may with advantage be adopted in small gardens, and as they may be bought already partly trained, amateurs will find no difficulty in continuing them on the same plan. A large number of kinds can be grown in little space, and when so treated, Apples must be grown on the Paradise stock and Pears on the Quince. They should be planted with their roots near the surface, and afterwards mulched to encourage root development within easy reach of air, warmth, and surface feeding. By so doing the trees are directly under the cultivator's control.

EDINBURGH NURSERIES.—II.

Beech Hill and Rosemount.

Following the great western road leading out of the City through Murrayfield, and about two miles from the capital, we come to bold rising ground surrounded and partly occupied by tall trees of handsome proportions. Here, on the right hand side, is the Beech Hill Nursery of Mr. John Downie, Edinburgh, while Rosemount is a little farther on, on the left. The former occupies the gently-rising sunny slope, and at the time of our visit, at the end of September, was aglow with florists' flowers of every hue.

Vineries and Greenhouses.

Glass is by no means extensive, but every house was occupied to the best purpose. The vineries are lean-to structures, and although not very high, yet we counted nineteen bunches on a rod of Alicante, twenty-one on Gros Colmar, and forty-two on a Vine of Muscat of Alexandria, consisting of three rods. Other sorts in good condition were Foster's Seedling and Duke of Buccleuch, both having clean well-finished bunches and berries.

A wonderful show of tuberous Begonias occupied a house 52 ft. in length. The greater proportion of them were seedlings of this or former years, and exhibited the endless tints and shades for which this useful and showy class of plants is now noted, and which it is needless here to enumerate. The size of the flowers and the dwarf condition of the plants show that the secret of growing tuberous Begonias has already been learnt north of the Tweed. A considerable number of varieties suitable for bedding-out purposes in Scotland is grown, and we had evidence of their suitability for this kind of gardening in the floriferous state of a bed of plants grown in the open air. A rich scarlet Tropæolum named Mrs. Peebles we also noted as a useful bedder. Handsome Fuchsias were Mrs. T. Sinclair, a semi-double white and red variety; Mrs. Penny, with a violet-purple and striped corolla; and Phenomenon, another dark kind.

Conifers and Shrubs.

There is a fine assortment of the leading forms of Cupressus Lawsoniana, including the well-known C. L. lutea, C. L. aurea, C. L. erecta viridis, and C. L. erecta Fraseri. The latter differs chiefly from C. L. erecta viridis in its short erect or ascending branches of deep and distinctly glaucous colour, whereas the older variety is green. It is a feathery branched sort, and not likely to be injured by heavy snowstorms. There are specimens of it ranging from 1 ft. to 3½ ft. in height. Similarly neat specimen Thuja Verveneana, Retinospora plumosa aurea, Juniperus chinensis, and green and golden Irish Yews are also plentifully grown. The Silver Firs were represented by healthy young trees of Abies pinsapo and A. nobilis from 12 ins. to 15 ins. in height. Shrubs are not extensively grown, nor is there space for them; but we cannot pass over a fine lot of Berberis Darwinii and Ligustrum ovalifolium aureum variegatum, both very useful for grouping and for bedding purposes.

Pansies and Violas.

These in their show, fancy and bedding forms constitute a strong feature of these nurseries, and have always been favourites with Mr. Downie for some thirty years past. Amongst the show varieties Andrew Miller, light plum, John Donaldson, velvety maroon, Mrs. Dobbie, white with dark blotch, Mrs. Turnbull, pure white, Countess of Rosebery, cream, David Malcolm and Archie Ormiston, both black, George Rudd, yellow, and Snowball, white with a dark blotch, are all very fine selfs and representative of their class. Marked improvements continue to be made amongst the white-ground varieties, including Advance, Selina, Queen Mab, and Ello, all belted with some shade of purple. Older, but nevertheless fine kinds are Mrs. Ritchie, with violet-purple belt, Mrs. J. G. Paul, belted with plum-purple, Devonia, purple belt, Jessie Linn, Miss Jessie Foott, Miss Ross, and Jeanie Nicol, all of which would be difficult to surpass in the richness of their contrasting colours. Undine is distinct in its pale purple band, on a white ground. The white ground varieties are even more numerous and varied than are the whites, and they not only exhibit greater brilliancy but are of stronger constitution, as a rule. Magi, with purple belting, and Lyra with a bronze-purple band are seedlings of this year. A handsome large flower is Lord F. Cavendish, golden yellow and bronzy purple, while William Dickson though paler in every way is nevertheless a bold-looking flower. George S. Veitch has a very deep golden yellow ground colour, and is useful for exhibition purposes. The following are also notable for the richness of the blotches surrounding the eye or the belting, namely Dr. D. P. Stewart, Dr. Geo. Robertson, J. B. Robertson, Mrs. Harvey, Mrs. King, The Favourite, John Elder, James Cook, and John Erskine.

Fancy Pansies are not fettered by the fine rules that regulate the markings of exhibition sorts, consequently there is a wider range of variation, and the flowers are generally more conspicuous for ordinary decorative purposes. But here, as elsewhere, tastes differ. W. B. Latham, with dark blotches, shaded with crimson on the upper petals; R. Dean, rosy crimson; Maggie Bella, creamy white, with dark blotches; Matchless, dark crimson; and Miss Paterson, purple and white, are all charming new varieties of this year. Comparatively new are William Kilgour, dark maroon; Mrs. M. Houstan, rosy crimson; Mr. Dodds, deep rich yellow, with dark blotches; Harry Bell, yellow, with dark blotches; and David Henderson, maroon, all beautiful and showy kinds. A sort named Beauty will long sustain its reputation for the richness of its rosy crimson blotches surrounded with white. Also useful for exhibition is Mrs. W. Smart, with rich blotches on a white ground; Miss Bliss shows a wonderful combination of bronzy red, rose, white and yellow. A handsome variety is Mrs. John Downie, with deep chocolate blotches surrounding the eye, while the upper petals are strikingly pencilled with clear rose. A charming white kind is Princess Beatrice, while Mrs. Forrester, rich crimson; Pilrig, crimson and yellow, with mulberry blotches; William Dean, velvety black and violet-purple; Mrs. Jeanie Reid, dark purple, edged white; Miss Anna Park, cream; Lord Rosebery, deep plum-purple and white; and Mary Tate, should

all be included in the most select of collections. The last-named has often been certificated, and is considered as one of the best fancy Pansies ever raised.

For summer bedding purposes, the ever beautiful, hardy, and easily-grown Violas are yearly being cultivated to a much larger extent. The merest tyro can grow them easily after a limited experience, and although restricted in the number of kinds as yet, compared with show and fancy Pansies, there is, nevertheless, an abundance from which to select for bedding on an extensive scale. As in the case of Pansies, we can mention but a select few out of the mass. Countess of Kintore and Countess of Hopetoun are two of the most desirable, the former being well adapted to a dry climate. Bullion, golden yellow self; Duchess of Albany, bronzy mauve; Skylark, white with a blue margin, or Picotee-edged; Owen Cameron, indigo-blue; Virginal, white; and Lady Polwarth, pure white and free-flowering, afford beauty and variety which one cannot but admire.

ANTIRRHINUMS, PENTSTEMONS, DAHLIAS, &c.

The collection of named varieties of Antirrhinum, including those of this year, is very extensive; but we cannot stop to particularise where all are so beautiful, and rejoice in white, rose, crimson, yellow, and innumerable other tints, while others are marked, mottled, or striped in a thousand ways. The same might be said of Pentstemons, which luxuriate in the new soil here, and bloom far into autumn. Regalia, blue, with white throat; Sunrise, scarlet and white throat; Acme, dark rose; and Amelia, pure white, are some of the gems of this year.

Amongst show Dahlias, Bendigo, purple-crimson; Spitfire, bright scarlet; Richard Dean, rich purple; Florence, golden yellow; and Harry Keith, rosy purple, are all positively new kinds of last year or the season previous. Splendid exhibition flowers are Harry Turner, dark maroon; Mrs. Douglas, brilliant scarlet; Cyprus, pale orange; John Neville, yellow; Mrs. Gladstone, pink, one of the most popular in modern exhibition stands; Mrs. Langtry, cream, edged crimson; and Walter H. Williams, brilliant scarlet. Beautiful new fancy Dahlias are Magnet, General Grant, Pelican, Adventure, striped red like a Carnation; General Gordon, yellow, striped crimson; and Florence Stark, white, striped purple. Pompons, dwarf bedding, single, Cactus, and decorative Dahlias are grown in endless variety, and include all the leading new kinds. Hollyhocks, French Poppies, summer and autumn-flowering Phloxes are also grown in great variety.

THE ROOKERY, BROMLEY, KENT.

ON the main road leading from Beckenham to Bromley, and near the latter place, is the estate of Charles Norman, Esq., screened from the highway by a broad belt of trees. The mansion itself is a handsome red brick building greatly modernised by recent extensive improvements, while an original part of it still left is very old. It is surrounded by trees, some of which are of great size and age, especially the Elms, Planes, Birches, Cedar of Lebanon, and variegated Sycamores away behind the house. There is also a row of Scotch Firs with huge red-barked trunks on the lawn, and two very fine old Holly Oaks (Quercus Ilex) with their branches supported by chains. It may here be noted that the soil is clay to a great depth. A short distance from the house, on a low-lying part of the grouud, is a winding pond beautifully surrounded with trees, and having Sweet Flag, Epilobium hirsutum and Bambusa metake planted on its banks.

HARDY FRUIT.

Apples were a fairly good crop, but, with the exception of a few trees, Pears might be described as a failure. Amongst these exceptions we noted in the fruit-room were Baronne de Mello and Forelle, or the Trout Pear. They had borne good average crops, but the fruits were only moderate in size. Filberts and Raspberries were good crops, especially where the latter were trained to wires. Amongst Plums, Coe's Golden Drop had borne uncommonly well. On the open wall Peaches have given great satisfaction, considering the untoward nature of the season. They were still being gathered for use during the second week of October. Some of the latest and useful kinds were Royal George and Lord Palmerston.

IN-DOOR FRUIT.

Under glass the Peach trees are all young, and planted in a low span-roofed house, which, like most of the others on the place, has been greatly remodelled or improved. In fact, within the last three or four years, the gardener, Mr. Lydiard, has greatly improved, or entirely rebuilt most of the houses on the place, bringing them up to the modern style and requirements. The Peach house in question has inside borders, elevated some feet above the pathway, and supported by brick walls. The walls of the house are built on piers, so that the roots of the trees, although planted inside, have ready access to the outside borders. The inside borders behind the brick walls used to be empty. The trees bore a very fair crop, while Tomatos in a similar house also bore heavily. Cucumbers, in two stages of advancement, were being grown on for winter cropping.

Only two varieties of Grapes are grown upon the place—namely, Black Hamburgh and Muscat of Alexandria. One house was devoted to each of these two kinds, and a considerable quantity of the former had been cut at the time of our visit. The Muscats were large, both in bunch and berry, and well finished. The rods have only been planted for three years, and have given great satisfaction. One old vinery is devoted to a single Vine of Muscat of Alexandria, an aged specimen, supposed to be 140 years old. There are records concerning it in the mansion which carry it back for 100 years. It consists of many branches or rods, which are trained over the whole roof, and bear wonderful bunches and berries of good size; the flavour is also excellent. The Hamburghs in the earliest house had all been cut.

THE PLANT HOUSES.

The show house or conservatory was very gay with early-flowering Chrysanthemums, conspicuous amongst which were a large number of well-flowered specimens of Madame Desgranges. Richardia africana had also commenced to flower freely. The stoves and their contents were all in splendid condition. On the roof of one was a large specimen of Allamanda Schottii (Hendersoni) in a very floriferous condition, and the flowers are much used for dinner-table decoration. Two plants of Pandanus Veitchii were nearly white, and curiously enough the middle of some leaves was green while the tip and base were white. A large specimen of Asplenium nidus (the Bird's-nest Fern), better known as Neottopteris nidus-avis, bore fronds 4 ft. to 5 ft. long, and all of which were in perfect condition, not eaten or deformed as we frequently see them when of large size. Lomarias and other Ferns are also well grown. A large specimen of Dendrobium densiflorum gives promise of a fine show of bloom later on. A striking feature of this house was the way in which the end is covered with cork, with small pockets or crevices, in which plants of various kinds were thriving finely, including varieties of Begonia Rex, Pilea muscosa, Platycerium (or Stag's Horn), and other Ferns, Ficus repens, Fittonias and many similar fine-foliaged plants. Another stove was devoted to Crotons, Pandanus, Capsicums, &c.

Grown in tubs, and standing on a terrace, were beautiful specimens of the narrow-leaved Myrtle, neatly trimmed and kept down to a height of 9 ft. The sprays or cuttings from which they have been grown to their present dimensions were taken from Mrs. Norman's wedding bouquet. The plants are housed in winter.

The fruit room, Mushroom house, and some other structures are built against and hidden by the wall of the garden. All of these are new, fitted up in a very convenient way, and heated by means of hot-water pipes from one of the boilers. The Mushroom beds are built in the form of shelves or benches, one over the other, and those in bearing showed splendid crops. Taken altogether, the houses reflect great credit on Mr. Lydiard.

CHRYSANTHEMUM NOTES.

CHRYSANTHEMUMS AT CAMBERWELL.

A few days since I paid a visit to Messrs. Davis & Jones' Nursery, Lilford Road, Camberwell. Seven houses are devoted to "Mums," but the attraction is the large show house, 60 ft. by 30 ft., in which thousands of plants are carefully arranged from end to end, and the appearance was that of a large group of bloom put up for competition. Great care had evidently been taken in staging the plants, having due regard to colour. Plants are to be seen here carrying bloom fit for any exhibition board, and ranging in height from Avalanche 2 ft. high, with three enormous white blooms, to Madame C. Audiguier, with equally large blooms, and standing 11 ft. or 12 ft. high. Blooms of Edwin Molyneux stand out like huge mops. The new crimson Japanese Anemone, Nelson, is a fine addition to this section, as is Souvenir de Madame Blandinière, a rose-carmine, the tips of the centre florets white, with long guard petals. One of the finest white flowers in the collection is Madame Louise Leroy, which bids fair to rival Avalanche as a pure white deep exhibition flower. Mr. Garnar, a bright yellow, is in excellent form. Messrs. Davis & Jones have some good blooms of their new sport from Mr. Bunn, which has been named H. Shoesmith. Amongst the most prominent Japanese flowers were Mr. Mencke, a light yellow, with twisted florets; Hamlet, with straight florets of a reddish brown, very large; Miss Gorton, blush; M. le Comte Foucher de Cariel is a lilac shading to white in the centre, a good deep flower; and Florence Percy, which without a doubt is one of the most pretty white Japanese "Mums" of recent introduction. Both Anemone and incurved flowers are well represented; of the former Thorpe Junr. is one of the best. I noticed here that Nouvelle Alvéole has turned up again this year as M. Castex, sent out by Dr. Audiguier; there can be no mistake about this flower because there is nothing like it. Some of the finest blooms of the Glenny family I have seen this season are to be found in this collection.—*A.*

HIGH ELMS, KENT.

Those who grow Chrysanthemums for exhibition contrive to have them in full bloom, say during the first three weeks of November; then, of course, on all hands there is a glut of bloom which is soon over. If the flowers are desired for ordinary decorative purposes, some growers contrive to extend the season as long as possible, and with this object in view, Mr. Taylor gardener to Sir John Lubbock, Bart., M.P., grows two batches, struck at different times, say November and again in March. Those propagated in the latter month afford an abundant supply of flowers at Christmas, and onwards into January. Some of them are in pots and others planted out. During summer the latter necessitate but a minimum amount of attention; they are lifted in autumn, and planted on the inside border of a vinery, where they furnish a plentiful supply of bloom, although slightly smaller than those grown in pots.

The early ones already render the greenhouse gay, and will continue to do so for some weeks to come. Foremost amongst white kinds is Elaine, the pure white flowers of which are of good size and beautifully formed. Mdlle. Lacroix also shows its long drooping florets. Yellow kinds are well represented by Peter The Great, Soleil Levant, Mr. Bunn, and Chevalier Domage. The latter, a brilliant golden yellow, is perhaps the best of its kind in the reflexed section, and is here well done. The orange-red, crimson and other shades of that type are maintained by Val d'Andorre, Source d'Or, and Marguerite Marrouch. The rosy, quilled and loosely-arranged florets of Bouquet Fait render it a clean-looking and favourite flower. Rosea superba is much darker in colour, very floriferous, and only 2 ft. or 2½ ft. in height, a matter of great importance for conservatory work. A similarly-shaped, but much paler flower is Madame de Sevin. Hiver Fleuri is also very floriferous and suitable for conservatory decoration, and the dull rose colour is very distinct. Incurved kinds are not far behind, and include such popular sorts as Queen of England, Empress of India, Jeanne d'Arc, and Mr. Cobay, an intensely dark bronzy red sport from Prince of Wales. The reflexed Cullingfordii is as rich as ever in colour. Amongst the large hybrid Anemone kinds Madame Clos is already in fine condition, although no forcing whatever has been employed. The heads of the Pompon, Model of Perfection, by disbudding, have attained a good size.

BLOOMS DAMPING OFF.

WHAT is the cause of Chrysanthemums damping off prematurely? Several growers of exhibition blooms are just now asking themselves this question, and so far as I can learn, no two agree as to the answer. One attributes it to the premature appearance of frost, which may be right as regards early varieties. Others blame the stimulants, especially the various ammoniacal preparations, and fish manure; and still more attribute the visitation to the comparatively sunless and moist season, and the pretty frequent feeding with stimulants at the same time. The state of the atmosphere has nothing to do with it, as I have some 300 plants in almost as many varieties against a south protected wall as good, if not better, than I have seen them during the past five years. Damp, of course, never affects them. This would seem to give a hint as to the remedy, for evidently the nearer we approach open air treatment, with just as much stimulant as can be elaborated, the nearer—or, rather, the further—we are from damping off. Is damping off prematurely general this year with exhibition growers?—*W. J. Murphy, Clonmel.*

NOTES ON FRUITS.

Belle Julie Pear.

Notwithstanding the many Pears in cultivation, there is still room for improvement or the increase of kinds which may be depended on to produce a good average crop every year. Belle Julie is a variety which has now been tried for many years in the gardens of the Royal Horticultural Society, amongst the collection of old pyramid trees. It bears profusely, never seeming to fail, although many other kinds in proximity to it vary considerably from year to year. The fruits are small in size, neatly Pear-shaped, and covered all over almost uniformly with rough russety scales or dots on a pale green ground. The fruits are ripe in October and November, and are most pleasant eating. The flesh is white, melting, deliciously flavoured, and although not so inviting to the eye as the large and highly-coloured kinds, yet it appeals more forcibly to the taste, which should be reckoned of more importance than mere appearance.

GARDENING MISCELLANY.

Amasonia calycina.

Though better known under the name of Amasonia punicea, the above is now considered to be the more botanically correct. When grown under favourable cultural conditions, the display is certainly far grander and more imposing than when kept as a miserable starveling. The increased vigour is not so perceptible in the flowers, or so noticeable as in the increased size and number of the brilliant crimson bracts, which are of decorative value both before the expansion of the flowers and after they drop. The latter are long, tubular, and creamy yellow, offering a strong contrast to the brilliancy of the bracts, which are arranged in a sort of double line along the upper side of the arching stems, while the drooping flowers are arranged beneath them. We noticed a fine batch in one of the stoves in the nursery of Messrs. J. Veitch & Sons, Chelsea. The foliage was also noticeable on account of the size of the individual leaves and their dark green colour.

Tropæolum tuberosum as a Pickle.

In your issue of October 3rd, 1886, you suggest that Stachys tubifera might make an addition to our subjects for pickling. Well, I have not enough to spare this time for the experiment; but I will give your readers the result of a trial we made with Tropæolum tuberosum, the tubers of which resemble those of the Stachys. We pickled a jar of these, and after keeping them for two years they were pronounced to be the very best pickles ever tasted. I am not aware whether it is a new idea, but I think if some of our leading pickle manufacturers were to take it up, a large demand would soon be created for it.—*W. B. G.*

A Fine Old Wistaria.

At the Rookery, near Bromley, Kent, is an interesting specimen of the Chinese Kidney-Bean Tree (Wistaria chinensis), a climber that may be said to exceed the Mammoth Tree of California as far as length is concerned; but whether under favourable circumstances it would have attained its present enormous length if allowed to cling to a tree or other object so that it might ascend perpendicularly from the earth is another question, and one that evidently could only be answered in the negative. It is trained all round the outer wall of a vinery and another wall close by and running parallel with it, so that the Wistaria encloses a piece of ground, in shape a parallelogram. The Wistaria thus doubles upon itself, and the longest branches or stems have reached the extraordinary length of 400 ft. If all climbers occupied the same amount of space as this one, few of them could be accommodated in gardens of ordinary size.

Prunus Pissardi.

This crimson-leaved Japanese plant is destined to take a high place among our ornamental deciduous trees. The foliage opens of a bright vermilion-crimson, and retains the colour until the leaves drop in autumn. Then it flowers in early spring, and bears fruit also, so that it is, in all respects, a highly valuable subject. At Gunnersbury Park there are a few fine specimens that were planted just within the fringes of shrubbery borders, and which are also protected on the north and east by tall trees, which is found advantageous in spring. At that season they are clothed with blossoms, in summer they bear fruit, and their foliage is at all times richly covered. Mr. Roberts has so planted pale-coloured Clematises near them that their flowering shoots mingle with the leaves of the Prunus, and the effect is charming. Because it blooms so early, and is in so much danger of being cut off by the frost in consequence, this delightful species should have a sheltered position. It might also be cultivated in pots with advantage for the spring and summer decoration of a cold conservatory.—*R. D.*

Cedrus atlantica glauca.

This is a very handsome form of the African Cedar (Cedrus atlantica). I think it is one of Mr. A. Waterer's introductions; it takes on a most delightful silvery hue, and at this season of the year it affords a most remarkable contrast to the ordinary green types. When this new form grows into size it will make a decorative Fir of great value in the landscape, or, indeed, in any suitable position. C. atlantica is a native of Mount Atlas, in northern Africa, and forms the prevalent arborescent vegetation throughout the province of Constantine, on the eastern Atlas ranges. When matured it forms a large tree of broadly pyramidal habit, scarcely distinguishable from the Cedar of Lebanon, except that the branches are shorter; the leaves also are shorter, thicker, and more prickly. It was introduced into Europe in 1841, and subsequently into England. When the glaucous form attains to size it will be an object of considerable beauty, and it is said that the silvery tint is very persistent.—*R. D.*

Thyrsopteris elegans.

The dissemination of this Fern in gardens must unfortunately be slow, as it is of arborescent or tree habit, and cannot therefore be quickly increased by division. All attempts to increase it by spores have also failed, both at Kew and in the nursery of Messrs. J. Veitch & Sons, Chelsea. There is a specimen of it at the latter place, about 4 ft. or 5 ft. in height, which fruits abundantly; but the spores seem imperfect, inasmuch as no seedlings are ever raised from them. As a decorative subject, however, the fronds are very handsome whether in a small or large state. On a large plant the blade or lamina would be 2 ft. or 3 ft. long, and five or six times finely divided. A striking peculiarity of this Fern is that the curious cup-shaped involucres enclosing the spore cases occupy the lower portion of the frond only. In fact the lower pinnæ are transformed into compound racemes or dense panicles of spore-bearing cases; while the upper portion of the frond is of a deep green. The plant at Chelsea is twenty years old. It is a native of Juan Fernandez.

Large Cordylines.

It is to be regretted that Cordyline australis is not a few degrees more hardy, as we could then introduce a fresh feature in our parks and pleasure grounds by planting this ornamental subject. We can never see it in its true character when grown for table or similar decorative purposes, because whenever it becomes big and unmanageable it is cut down to be propagated. At Syon House, Brentford, some specimens are 25 ft. in height, while one about 20 ft. high is flowering freely. As might be expected, it exhibits its true character by bearing a tuft of leaves only on the top, while the stem is roughly clothed with the fibrous remains of the leaf-bases all the way to its base. The flowers are small and white, borne in huge drooping panicles, and although sweet scented, their odour is lost on account of their height from the ground. For large and cool conservatories this species constitutes a suitable subject, and might be more largely grown by those who have imperfectly or altogether unheated houses.

Bayonet Plant.

The plant to which this name is applied is also known as the Wild Spaniard, and botanically as Aciphylla squarrosa. It is a singular-looking subject, although a member of the Umbellifer family, and in its native country is said to attain a height of from 6 ft. to 9 ft. This, of course, would refer to the flowering plant, a condition in which it is seldom seen in this country. We noted a flowering specimen, however, in the Botanic Gardens, at Edinburgh, a short time ago, and the flower stem did not exceed 15 ins. or 18 ins. in height. There is reason to suppose, however, that it would have made more vigorous growth had the past season been more favourable to plants generally. The fruits were strongly guarded by formidable-looking spines, which are modified bracts, and divided into a number of branches, most of which are reflexed, closely covering the fruit and partly interlocking with one another. The name Bayonet Plant may apply either to these or to the leaves themselves, which are equally spiny, formidable, and point in all directions. Mr. Lindsay, the curator, has also been successful in flowering Rhenm nobile again during the past summer.

Datura suaveolens.

A considerable number of Daturas has been introduced from time to time, but although D. sanguinea and the double garden form D. Knighti are grown to some extent, none of them have attained the popularity of that under notice. Of the arborescent or shrubby kinds none are so easily managed or flower so freely. Indeed, it may be flowered at any season almost if grown in pots, because after it has completed its growth it may be pruned back, re-potted if necessary, and started again in heat. Flowers will be produced again as the shoots elongate, provided the plants are well exposed to the light, and the house is well ventilated to maintain a short-jointed and vigorous growth. The greatest amount of bloom at any one time, however, would be produced by large-sized specimens planted out, as is done in the greenhouse at High Elms, Kent, where a specimen about 10 ft. high is now richly furnished with its huge trumpet-shaped, pendulous, pure white flowers. The latter are about a foot in length, highly fragrant, and are most acceptable at this season of the year.

ORCHID NOTES AND GLEANINGS.

The Stand Hall Collection.

A very few years ago the Orchids grown at Stand Hall, Whitefield, were very few in number, but at the present time there is to be seen there one of the finest collections in Lancashire, not as regards quantity alone, but for number and quality combined. Mr. Thomas Statter, the worthy owner, in conversation remarked, "while I grow Orchids none but first-class varieties will find a place in my houses." The varieties at present in flower well substantiate this remark, as all would bear the minutest inspection of the most ardent connoisseur. The first plant calling for special notice is a superb form of Cattleya Dowiana aurea, a variety well worth a distinctive name, the sepals and petals being very broad and of good substance, in colour clear nankeen, the lip intensely deep purple, almost black, the gold lacings confined to the throat and not running to the base as is usual in the type; the contrast is splendid and well-nigh indescribable. In the same house are several fine plants of Vanda cœrulea in full beauty; a very fine specimen of Cymbidium Mastersii with six spikes, C. Lowianum with nine spikes; Cœlogyne Massangeana with a fine raceme of bloom; also the somewhat rare Miltonia grandiflora. In another house are two good plants of the new Lælia Goldiana, each with a strong flower spike, one about to open its blooms. Oncidium tigrinum is done here well, a plant with a spike carrying twenty-eight well-formed flowers being a show in itself. Oncidium cæsium, a somewhat neglected Orchid, when grown as it is here, makes a charming effect.

Cypripediums have not yet taken Mr. Statter's fancy to any marked degree, still the section is represented by a few good things, amongst those in flower being C. Spicerianum magnificum, a splendid variety, C. Stonei, C. venustum pardinum, C. Leeanum superbum, and C. insigne, a very fine variety which may be mistaken for the variety C. punctatum violaceum. Other species in flower include Oncidium Forbesi, a dozen or more plants with fine spikes in bloom; O. crispum, O. ornithorhynchum, O. Gardnerianum, O. varicosum Rogersi, O. Jonesianum, Cattleya Bowringeana, a fine plant with five spikes; Comparettia macroplectron, Masdevallia Chimæra, M. Schlimi, Dendrobium aureum, D. bigibbum, D. chrysanthum, very fine variety; and Catasetum Bungerothii, several plants in flower and bud. Lælia Perrinii was also very fine. The quantity of well-developed spikes of the Lælia anceps, L. albida, L. autumnalis, &c.; the spikes of the numerous varieties of Cattleya; the strong, well-ripened growths of the various Dendrobiums thickly studded with flower buds, all promise a plentiful supply of bloom during the winter and spring months. Mr. Johnston, Mr. Statter's able lieutenant, deserves the highest praise for the efficient manner in which he treats the valuable plants under his care.—*I.*

Vanilla planifolia.

Several species furnish fruit, which is collected and dried, or otherwise prepared, and sold as Vanilla; bu the variety under notice produces the best. It has been

grown and fruited for many years at Syon House, Brentford, and at present the crop seems as good, that is, in as great a quantity as in most years. The long, pendent rod-like pods are borne in large clusters, and although somewhat similar to French Beans, are round instead of being flattened. Some growers cultivate either this species or V. aromatica, but they seldom obtain any fruit. There is some difficulty in fertilising the flowers artificially on account of their structure, while if left to themselves they never set at all. At Syon House they occupy the middle partition and back walls of two houses kept at a high temperature for the growth and ripening of the Musa Cavendishii. The plants are bulky and evidently old, and if wanting in ornament, the fruits are most useful for flavouring purposes.

SOPHRONITIS GRANDIFLORA.

EVERYWHERE is this beautiful Orchid showing its bright flowers, both the plants and blooms being greatly improved since strictly cool culture has been adopted for them. There is great variety in the tints of the flowers, some being of the scarlet of the Vesuvius Pelargonium, others crimson, and rarely clear pink. A very richly-coloured variety is now in flower with F. J. Pullar, Esq., at Ettrick House, Bridge of Allan. Its large well-formed blooms are brilliant scarlet tinged with cerise, the whole surface of the flower being darker in the veining. The lip is bright yellow, with a few scarlet lines.

HOULLETIA ODORATISSIMA ANTIOQUIENSIS.

THIS handsome species now bears a fine inflorescence in the Royal Botanic Gardens, Glasnevin, Dublin. Its flowers are nearly 4 ins. across, the sepals and petals shining reddish chocolate, the column and curiously-formed labellum white and pale yellow, the erected horns of the labellum being of the same rich tint as the petals. The curious Catasetum fuliginosum, the handsome Stanhopea Wardii, and other good things are also in flower at Glasnevin.

THE GARDENERS' CALENDAR.

THE GREENHOUSE.

NEW HOLLAND PLANTS.—During wet weather, or when the ground is too damp for outdoor operations to be conveniently carried on, the time might be profitably spent in re-staking and tying all trained specimens of Dracophyllum gracile, Boronia, Tremandra, Darwinias, Pimeleas, Heaths, and similar subjects which have now ripened their wood for the season. In doing so, however, be careful to use as few stakes as possible, because when the surface soil in a pot gets (literally speaking) packed full of stakes the fibrous roots of the plants themselves must to a great extent get injured, independently of the damage done by the rotting of the stakes. Training, however, becomes indispensable in the case of large exhibition plants, especially slender twiggy kinds like the Dracophyllum and some Heaths. Rigid-branched and dense-growing kinds, such as Erica affinis, E. depressa and E. Cavendishii, require no staking. While going over the plants in this way carefully note whether they are perfectly free from insects or fungoid diseases. Many of the hard-wooded New Holland and other plants are particularly liable to white scale, which are best removed with a small hard brush dipped occasionally in some insecticide.

CINERARIAS.—Wherever these are housed, they now require increasing attention to guard against attacks of green-fly, which readily find a secure retreat on the underside of the leaves or amongst the advancing flower buds, much to their injury. Fumigate lightly on successive nights to keep the pest in subjection. The plants should also be kept near the glass. Heated frames are eminently suitable for the housing of them till they come into flower; but in the absence of such, the shelves of any cool and intermediate house will answer, provided they are properly attended to in the matter of ventilation.

LACHENALIAS.—Avoid if possible the keeping of these in close ill-ventilated houses, where the leaves get drawn and weakly, as good flower spikes then become an impossibility. A shelf near the glass in a cool house with plenty of ventilation will favour the proper development of the foliage and a vigorous growth generally.

FREESIAS.—Treatment similar to that given Lachenalias will also suit these as well as others of the more popular Cape bulbs, which continue to find favour in private establishments, including such as Ixias, Sparaxis, Babianas, Watsonias, &c.

FORCING AND FRUIT HOUSES.

PEACH HOUSES.—Owing to the lateness of the season generally, the trees in the late houses still retain their foliage, and a little artificial heat must be given with abundant ventilation to induce a thorough ripening of the wood. We have still an occasional fine day or two, but the sun has now infinitely less power than in the earlier days of autumn. See that the borders inside are not in an over dry condition, otherwise the roots, which should still be active, will be liable to injury, and a wholesale dropping of the buds may be expected in spring, even before their expansion. Clean, prune, and re-tie the trees in the early house preparatory to the closing of the latter towards the end of this month. If disbudding and pruning has been properly attended to during the growing period very little will now require to be done in that respect unless the shoots are crowded, in which case remove where possible the oldest wood, and that which has already borne fruit.

CUCUMBERS.—Plant successional batches according to requirements, and train the shoots thinly over the trellis-work or wires as growth proceeds. Much depends upon the free admission of light at this dull season, or in other words, upon a full exposure of all the foliage possible to light. Ventilate on favourable occasions, and close early so as to retain sun-heat. Maintain a temperature of 65° at night, with a rise by day.

ASPARAGUS, RHUBARB, FRENCH BEANS, &c.—Introduce batches of Asparagus and Rhubarb to the forcing pits if that has not been already done. Asparagus coming through the soil should be shaded, but at the same time ventilation should be given, to prevent the shoots from getting drawn and spindly. Rhubarb may be placed in the Mushroom house, or, in the absence of that, a position may be found for it in the forcing pit, where it can be kept shaded to blanch it. Remove pods from the French Beans as they become fit, and store them in a room where they can be placed with their ends in water till sufficient is obtained to make a dish. Those left will then make more rapid progress. Osborn's Prolific is a useful kind for this purpose.

THE KITCHEN GARDEN.

FRUIT TREE PLANTING.—Now that the trees are rapidly losing their foliage, planting of Apples, Pears, Plums, Cherries, Peaches, and similar subjects should proceed rapidly, provided the soil is not in a saturated condition. Some growers plant largely even before the leaves drop, and no harm will result if the weather be cool and moist; but should warm dry days occur during or after the operation the leaves part with a greater quantity of moisture than the roots can supply, consequently the young shoots especially cannot be so plump as they would be if planting were deferred till the leaves have fallen naturally.

HORTICULTURAL SOCIETIES.

National Chrysanthemum.—*Nov. 7th and 8th.*

"FINER than ever," was the verdict of the majority of the visitors to the Royal Aquarium on Wednesday morning, and a truer statement was, perhaps, never made. The display in all departments was unusually good—the trying weather notwithstanding. As to the trained plants, we have never seen finer examples, or so many of them at any previous National; and the cut blooms, the fruits, and the vegetables made up a display that will not be approached anywhere this season.

Messrs. Davis & Jones, Lilford Road, Camberwell, carried off first honours for the group arranged in a space not to exceed 100 sq. ft. The blooms were very numerous and of good average size. Pompons occupied the front. Mr. J. Hudd, gardener to F. W. Prior, Esq., Gordon House, Blackheath, was second with a good group also; and Mr. J. Townsend, Gardner's Lane, Putney, third. There were four competitors. Messrs. J. Laing & Son, Forest Hill, secured the first prize for a group of plants not to exceed 4 ft. in height. The blooms were numerous, of wonderful size, and some of the plants were only in 6-in. pots. Mr. J. H. Witty, London Cemetery Company, Highgate, was second in this class with a good group; and Messrs. Davis & Jones came third. The best nine trained specimens, large-flowered, including Japanese, were shown by Mr. J. Brooks, gardener to W. Reynolds, Esq., The Grove, Highgate; Margot, William Robinson, Bouquet Fait, Lady Selborne, and James Salter were his best plants, and were dwarf trained. Mr. Edward Casey, gardener to J. W. Jones, Esq., The Grange, 23, Highbury New Park, was second with standards; and Mr. W. Davey, gardener to C. C. Paine, Esq., Cedar House, Stamford Hill, was third with standards. There were three entries for the prize offered by the Proprietors of this Journal, and Mr. F. E. Wright, gardener to Miss Oxley, The Lawn, Upper Clapton, carried off the prize with fine pyramidally-trained specimens of L'Ile des Plaisirs, Bouquet Fait, Source d'Or and Margot.

The Challenge Trophy and £10, offered for competition among recognised Chrysanthemum or horticultural societies, brought out admirable collections from the Weald of Kent, Wimbledon, Highgate, Southgate, and Bristol, and the prize was carried off by the Weald of Kent Gardeners' Mutual Improvement Society. Some of their finest blooms were Belle Paule, Carew Underwood, Criterion, Bertier Rendatler, Grandiflora, Madame de Sevin, and Madame C. Audiguier, representing the Japanese kinds; while the incurved kinds included fine blooms of Bronze Queen of England, Lord Alcester, Golden Queen of England, and Golden Empress of India. The first prize for forty-eight incurved varieties was won by Mr. J. Doughty, who had certainly a very fine lot, including Golden Empress of India, Emily Dale, Lord Alcester, Empress of India, Alfred Salter, Jeanne d'Arc, Prince Alfred, Alfred Salter, White Venus, and Jardin des Plantes. Mr. J. Horsefield, Heytesbury, Wilts, was second. Mr. Sullivan, gardener to D. B. Chapman, Esq., Downshire House, Roehampton, took the first prize for twenty-four incurved varieties, showing good samples of Empress of India, Lord Alcester, Golden Empress, Lord Wolseley, Emily Dale, and Alfred Salter. Mr. J. Doughty, gardener to Mr. M. Tomlin, Angley Park, Cranbrook, Kent, was second.

The first prize for forty-eight Japanese blooms was taken by Mr. J. McKenzie, gardener to T. S. Cornwallis, Esq., Linton Park, Maidstone. Some of his finest blooms were Edwin Molyneux, Ralph Brocklebank, Soleil Levant, Baronne de Prailly, Mrs. H. Cannell, Mons. Bruant, F. A. Davis, Thunberg, Criterion, Comtesse de Beauregard, Elaine, Maiden's Blush, and Val d'Andorre. Mr. W. Packman, gardener to C. C. Shea, Esq., The Elms, Foot's Cray, Kent, was second; and Mr. J. Munro, gardener to E. J. C. Paul, Esq., Cambridge House, Twickenham, was third. The winner of the first prize in the class for twenty-four blooms was Mr. C. Cox, gardener to J. Trotter, Esq., Brickenden, Herts, who had some good blooms. In the amateurs' classes, Russell Bradburry, Esq., Wealdstone, Harrow, took the first prize (a Silver Medal) in the class for twelve incurved blooms, in which the leading varieties were dominant; Mr. W. G. P. Clarke, 9, Fishpond Road, Hitchin, was second. Mr. F. Glasscock, Bishops Stortford, took the first prize (a Bronze Medal) for six blooms. In the classes for amateurs and single-handed gardeners, Mr. A. Emery, gardener to R. W. Tweedie, Esq., Eastbourne, had the best lot of twelve incurved blooms, which were very meritorious; Mr. T. Todd, gardener to Dr. Southey, Staplehurst, Kent, was second. Mr. A. Emery was again first in the class for six incurved varieties.

Messrs. Sutton & Sons offered prizes for collections of vegetables, and Mr. S. Haines, gardener to the Earl of Radnor, Highworth, took the first; Mr. C. J. Waite, gardener to the Hon. W. P. Talbot, Esher, was second, and Mr. W. Pope, gardener to the Earl of Carnarvon, Newbury, third. Mr. E. S. Wiles, gardener to R. A. Cartwright, Esq., Banbury, took the first prize for three dishes of Potatos, offered by the Messrs. Sutton; Mr. G. Goldsmith, gardener to Sir Edmund Loder, Weedon, was second. Mr. J. Hughes, gardener to Colonel Cartwright, Byfield, took the first prize for the collection of vegetables, offered by Messrs. Webb & Sons; Mr. R. Lye, gardener to W. H. Kingswell, Esq., Newbury, was second; and Mr. J. May, gardener to Captain Le Blanc, Barnet, third. Mr. C. Fidler, Reading, offered prizes for a collection of vegetables, and Mr. L. Harris, High Wycombe, Bucks, took the first prize; Mr. R. Lye the second, and Mr. W. Pope the third. Mr. E. S. Wiles took the first prize offered for nine dishes of Potatos.

Mr. H. Deverill, Banbury, offered several prizes for vegetables, and Mr. C. J. Waite took the first. He also offered prizes in several other classes, and W. S. Portal, Esq., Malshanger Park, took first for Onions; and Mr. T. Doherty, gardener to the Right Hon. Lord North, Banbury, took two first prizes for Onions in other classes.

The collections of fruit and vegetables, both in competition for prizes and not for competition, were very extensive and meritorious, but space forbids detail. Mr. Thomas Bunyard, Ashford, Kent, exhibited a fine group of Apples in splendid condition and very highly coloured. Warner's King, Beauty of Kent and Blenheim Orange were good. Messrs. Charles Lee & Son, Royal Vineyard Nursery, Hammersmith, exhibited Apples and Pears, including many fine samples of each kind. Messrs. T. Rivers & Sons, Sawbridgeworth, also showed a collection of Apples, including very fine samples of King of Tomkins County. Messrs. J. Veitch & Sons, Chelsea, occupied a long table with Apples and Pears in excellent condition; of Apples there were 110 dishes, and 65 dishes of Pears. Mr. Butler, gardener to Mr. A. J. Thomas, Sittingbourne, exhibited a large collection of Pears. Messrs. John Laing & Sons, Forest Hill, showed a collection of Apples in clean and good condition. Messrs. J. Cheal & Sons, Crawley, Sussex, exhibited a collection of very highly coloured Apples and Pears.

Amongst miscellaneous exhibits, Messrs. Sutton & Sons, Reading, occupied a whole table with Potatos, consisting of 130 varieties, of which 70 are unnamed

seedlings, Satisfaction, Masterpiece, Best of All, and Abundance were shown in quantity. They were awarded a Silver-gilt Medal. Mr. C. Fidler, Reading, had also a large collection of Potatos, including Fidler's Reading Giant in quantity. Mr. H. Deveril exhibited Wroxton Brussels Sprouts, Carrots, Onions in quantity, Celery, Leeks, Beet, &c. Messrs. H. Cannell & Sons, Swanley, Kent, showed some grand samples of zonal Pelargoniums in bunches of cut flowers. They also showed a fine lot of the double white Begonia Octavie, and cut flowers of the tuberous kinds generally. A large group of Ferns was exhibited by Mr. H. B. May, Dyson's Lane, Upper Edmonton, consisting of Adiantums, Pteris, Davallias, and others. Messrs. Hooper & Co., Covent Garden, showed a fine group of Chinese Primulas. Mr. H. G. Smyth, 21, Goldsmith Street, Drury Lane, had samples of peat, artificial manures, Orchid baskets, &c. Mr. Benjamin Field, 75a, Queen Victoria Street, E.C., exhibited various kinds of peat, loam, sand, Orchid baskets, and other garden sundries. Mr. Joseph Arnold, 32, Polygon, London, N.W., exhibited Orchid peat and various samples of silver sand. An exhibit of "Pure Ichthemic Guano" was shown by Mr. William Colchester, Ipswich.

Kingston and Surbiton.—*November 6th & 7th.*

It is a prevalent opinion that Chrysanthemums will be considerably later this season, if not inferior to those of previous years; but judging from those at Kingston on Tuesday last, the Japanese kinds will hold their own, although many of the incurved varieties might be considerably better. Taken all round, however, there was a fine display of blooms, and Kingston may be said to again hold its own. The prizes for miscellaneous groups of plants were better contested than last year, and Mr. J. Buss, gardener to A. W. Aston, Esq., West Hill Lodge, Epsom, was awarded the first prize for a group that was decidedly the best, and consisted of Chrysanthemums, Palms, Crotons, Primulas, Ferns and other subjects; Mr. T. A. Glover, gardener to F. Ellis, Esq., Manor House, Wallington, was second.

Although the individual blooms were by no means large, yet the groups of Chrysanthemums as a whole were very creditable. The first prize was taken by Mr. G. Springthorpe, gardener to R. H. Alexander, Esq., Gifford House, Roehampton, with an evenly-flowered lot containing some very dwarf plants. Mr. H. W. Pitcher, gardener to Mrs. Dunnage, Albury House, Surbiton, was second; Mr. Stemp, The Gardens, Randall's Park, Leatherhead, third; and Mr. T. Hunt, gardener to C. Boyles, Esq., Broghill, Wimbledon, fourth. The competition in the classes for trained plants was as strong, probably, as it has been for some years, but the flowers, as a rule, were rather small but numerous enough. Mr. R. Cawte, gardener to J. P. Robinson, Esq., Brook Leigh, Esher, had the best six trained specimens of incurved varieties; Mr. W. Read, gardener to E. Pettit, Esq., Oatlands Park, Surrey, had the best trained specimen of a reflexed variety in Mr. Christine. The best three standards, and the best six trained Pompons were those of Mr. R. Cawte; Mr. W. Read had the best three varieties; and Mr. H. Elliott, gardener to Mrs. L. Harrison, had the best single trained specimen.

Cut blooms always attract most attention, and although, as above mentioned, they were not on the whole equal to those of previous years, yet many were of exceptional merit, and quite equal to those of any year. There were six entries in the class for twenty-four incurved varieties, and Mr. C. Gibson, gardener to J. Wormald, Esq., Morden Park, Surrey, carried off first honours. His finest blooms were Empress of India, Emily Dale, Queen of England, Golden Empress of India, Lord Alcester, Lord Wolseley, Princess of Wales, Prince Alfred, Mrs. W. Shipman, Lady Hardinge, and Jardin des Plantes, the first six or eight being of unusual size. The second and third prizes were taken by Mr. E. Coombs, gardener to W. Furze, Esq., Roselands, Teddington, and Mr. Sullivan, gardener to D. B. Chapman, Esq., Downshire House, Roehampton, respectively. The best twelve varieties were shown by Mr. C. Slade, gardener to Lady Bowater, Richmond Park; Mr. J. Reeves, gardener to W. Hewitt, Esq., Templemore, Oatlands Park, had the best six; and Mr. J. Daniels, Inglewood, Kew Gardens, had the best six of one variety, showing Empress of India. The first prize, for those who had never previously taken one for Chrysanthemums in open competition, went to Mr. J. Reeves. Mr. C. Gibson was again first in the class for twenty-four Japanese blooms, showing fine samples of Edwin Molyneux, Madame C. Audiguier, Mrs. J. Wright, Yellow Dragon, Carew Underwood, Val d'Andorre, Fair Maid of Guernsey, Mons. J. M. Pigny, Mons. Tarin, Criterion, Elaine, Madame J. Laing, and Mrs. H. Wellan; Mr. J. Munro, gardener to E. J. Paul, Esq., Cambridge House, Twickenham, was second; and Mr. C. Beckett, gardener to F. H. Bryant, Esq., Juniper Hill, Dorking, was third There were eight entries in this class. Mr. J. Snow, South Park, Wadhurst, Sussex, had the best twelve; Mr. J. Quarterman, gardener to C. E. Smith, Esq., Silvermere, Cobham, had the best six; and Mr. J. Snow had the best six of one sort, showing Edwin Molyneux. Mr. R. Bradford, gardener to H. B. Wallis, Esq., St. Mary's Road, Wimbledon, took the first prize in the class for those who had never previously been successful in open competition. Mr. R. Cawte had the best twelve reflexed; Mr. Sullivan had the best twelve Anemone-flowered, and the best twelve Japanese Anemone-flowered. Mr. Slade had the best twelve bunches of Anemone Pompons. The premier incurved bloom in the exhibition was Lord Alcester, 5 ins. broad and 4½ ins. deep, shown by Mr. W. Allen, gardener to Sir George Russell, Bart., Swallowfield Park, Reading. The premier Japanese was Boule d'Or, 10 ins. in diameter, shown by Mr. J. Munro. Mr. E. Molyneux, Swanmore Park, Bishops Waltham, exhibited two new Japanese varieties, namely Sunflower, yellow, and Avalanche, white; and Mr. J. Lyne, Belvedere House, Wimbledon, showed Alfred Lyne, a silvery rose sport from Novelty; all three were certificated. The Challenge Vase, valued at twenty-five guineas, offered for forty-eight distinct blooms, was won by Mr. E. Coombes. He had, amongst incurved kinds, fine blooms of Golden Empress of India, Lord Alcester, Beauty, Princess of Wales, Emily Dale, Empress Eugénie, and others. Japanese kinds included fine blooms of Edwin Molyneux, Duchess of Albany, Jeanne Délaux, Soleil Levant, Madame C. Audiguier, Boule d'Or, Florence Percy, and Avalanche. Mr. J. Quarterman was second; and Mr. R. Cawte came in third. Space forbids detail, but the competition for first honours was keen.

There were fine collections of Grapes, Apples, and Pears, especially of the first two kinds, and the black Grapes were certainly admirable. The first prize for three bunches of the latter was won by Mr. C. Griffin, gardener to Miss Christy, Coombe Park, Kingston, showing Alicante; he also had the best white kind, in Muscat of Alexandria. Mr. W. Bates, Poulet Lodge, Twickenham, had the best four dishes of Apples; and Mr. T. A. Glover had the best four dishes of Pears.

QUESTIONS AND ANSWERS.

Florists' Laced Pink: Erratum.—At p. 148., in the ninth line from the bottom of the centre column, for "was" read "is," thus:—"there is no man," &c.

Calanthe Veitchii.—*F. J. R.:* The pseudo-bulbs you mention are unusually large. Twelve inches is generally considered evidence of good culture; but 16 ins. long and 9 ins. in circumference at the base, which you give as the dimensions of your pseudo-bulbs, speaks very highly of the treatment you give them. We do not mean to say that these dimensions have never before been equalled, but we think the records of such are few. That they should bear two spikes each is also above the average; but we have had specimens sent us bearing three flower spikes, two from the side or base of the pseudo-bulb and one from the apex. This is very exceptional, however, and your results are certainly good.

Planting.—*O. P.:* We believe the information you require was not given in the last editions of either of the works you mention. Grigor's *Arboriculture*, an inexpensive book, would help you on the subject.

Dahlias.—*Novice:* What are sold as "pot roots" are the tubers formed by the plants left over from the spring sale, and allowed to make what growth they can in the small pots originally potted up in during the succeeding summer.

Grubs in Chrysanthemum Leaves.—*R. J. Innes:* The grubs in the leaves of the Marguerites you sent us are certainly not dead, although they have changed to a deep brown or black colour. They have merely become transformed into the pupa or chrysalis state, to rest in that condition till spring, when the perfect insect will hatch out to increase its kind, by laying eggs in greatly increasing numbers upon your plants. The pest does not confine itself merely to the Marguerites, but attacks the autumn-flowering varieties of C. indicum, as well as the annual C. coronarium, C. carinatum, and other Composites. Remove all leaves containing the grubs and burn them, or squeeze every pupa between the finger and thumb. Their autumn position is best seen by examining the under side of the leaves.

Names of Fruits.—*J. Potten:* 2 and 3, Beurré Superfin; large Pear, Doyenné Boussoch; 6, Winter Nelis. *J. McP.:* Allen's Everlasting.

Communications Received.—E. H. W.—A. O.—S. & S.—B. L.—G. P. Junr.—N. B. (next week).—A. D. —W. Collins.—J. C.—J. P.—R. T.—J. C. B.—W. J. M.—W. B. H.

LONDON SEED TRADE.

November 5th.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a steady demand for Red Clovers; French Red Clovers are steady, and finest qualities scarce. Alsyke is firm, and in short supply. White Clover unchanged. Winter Tares dull. Linseed and Hemp are dearer; other Bird Seeds unchanged. Blue Peas are in good demand at full prices.

COVENT GARDEN MARKET.

November 7th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½-sieve	2 0	4 6	Pine-apples, St. Michaels, each	2 0	7 0
Cobs .. per 100 lbs.	100 0		Pine-apples, Eng., lb.	1 6	2 0
Grapes ..... per lb.	0 8	2 6	Plums, ½-sieve	2 6	4 0
Melons	1 0	2 0	Peaches ..... per doz	2 0	8 0

Canadian and Nova Scotia Apples, per barrel, 10s. to 22s.

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces .. per dozen	2 0	3 0
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 3
Cabbages .... per doz.	1 6		Onions, per bushel	7 0	9 0
Carrots .... per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	3 0	4 0	Radishes, per dozen	1 6	
Celery, per bundle	2 0		Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 0	1 3
Herbs, per bunch	0 2	0 4	Turnips, per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys. 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Arum Lilies .. per doz.	9 0	18 0	Ficus elastica each	1 6	7 0
Chrysanthemums, per dozen	4 0	9 0	Fuchsia, per doz.	3 0	6 0
— large plants .. each	2 0	5 0	Marguerites per doz.	6 0	12 0
Cockscomb, per dozen			Palms in variety, each	2 6	21 0
Coleus ..... per doz.	2 0	4 0	Pelargoniums, scarlet, per dozen	2 0	6 0
Cyclamen .. per doz.	12 0	18 0	Primula sinensis, per doz.	4 0	6 0
Cyperus, .. per dozen	4 0	12 0	Roman Hyacinths, per doz.	9 0	12 0
Dracæna term., doz.	30 0	60 0	Solanums .... per doz.	9 0	15 0
— viridis, per dozen	12 0	24 0			
Evergreens, in var., per dozen	6 0	24 0			
Ferns, in var., per doz.	4 0	18 0			

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Asters, doz. bunches	6 0	9 0	Mignonette, 12 bun.	2 0	4 0
Azaleas .... 12 sprays	1 0	2 0	Paper White Narciss, 12 sprays	0 9	1 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sprys.	1 0	1 6
Camellias, 12 blooms	3 0	4 0	— scarlet, 12 sprays	0 4	0 9
Carnations, 12 blooms	1 0	2 0	Primula, double, bun.	0 9	1 0
Chrysanthemums, 12 blooms	1 0	4 0	Roman Hyacinths, 12 sprays	1 0	1 6
— 12 bunches	4 0	12 0	Roses, Tea, per dozen	0 6	1 6
Cornflower, 12 bunch.			— Red ..... per doz.	0 6	1 0
Cyclamen .. 12 blooms	0 6	1 0	— Saffrano .. per doz.	1 0	1 6
Eucharis. per dozen	3 0	6 0	Stephanotis, 12 sprays	6 0	8 0
Gardenias, 12 blooms.	2 0	4 0	Tuberoses, per dozen.	0 6	1 0
Heliotropes, 12 sprays	0 6	1 0	Violets .. 12 bunches	1 0	1 6
Lapageria, 12 blooms	2 0	4 0	— Parme, French, 12 bunches	3 6	5 0
Lilium longiflorum, 12 blooms	5 0	9 0	— dark French, bun.	1 6	2 6
Marguerites, 12 bun.	3 0	6 0			

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Next Week's Engagements.

MONDAY, Nov. 19.—Chrysanthemum Show at Wolverhampton (2 days). Bulb Sales at Protheroe & Morris's, and Stevens Rooms.

TUESDAY, Nov. 20.—Chrysanthemum Show at Oxford (1 day), Liverpool, Hanley, and Edinburgh (2 days). Sale from Sample at Protheroe & Morris's Rooms.

WEDNESDAY, Nov. 21.—Chrysanthemum Shows at Birmingham, Rugby, and Nottingham (2 days). Meeting of the Floral Committee of the National Chrysanthemum Society at The Aquarium. Bulb Sale at Stevens' Rooms. Plant and Bulb Sale at Protheroe & Morris's Rooms.

THURSDAY, Nov. 22.—Hull Chrysanthemum Show (2 days). Bulb Sales at Protheroe & Morris's Rooms.

FRIDAY, Nov. 23rd.—Bolton Chrysanthemum Show (2 days). Orchid Sale at Protheroe & Morris's Rooms.

SATURDAY, Nov. 24.—Bacup Chrysanthemum Show. Bulb Sales at Protheroe & Morris's, and Stevens' Rooms.

For Index to Contents & Advertisements, see p. 186.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, NOVEMBER 17, 1888.

CURRENT TOPICS.

PLANTING WASTE LANDS.—Recent discussions with respect to the management of our national domains by the Woods and Forest department of the Government, do not tend to encourage any proposals to place waste lands in similar hands, with a view to render them productive. A well-known enterprising northern firm of nurserymen, Messrs. Little & Ballantyne, of Carlisle, have recently put forth a proposal, which, if bold and comprehensive, and worthy of all due consideration, is also one needing considerable caution in relation to its adoption. We quote their proposal more fully on p. 183, and, therefore, here content ourselves with criticism.

That there should remain in the country so many millions of acres of land in an absolutely unproductive state, is discreditable both to our reputation and to our Government. Not all of this land would pay to plant in any form, but still, much of it would, and as it is not proposed to invite the Woods and Forests department to undertake the planting of such lands, but rather the County Councils, when formed, there is less objection to the proposal than otherwise might be the case. That we have gravely neglected our duty to our successors, in the matter of tree planting, there can be no doubt, and no time should be wasted when the new county authorities come into existence, in beginning to remedy the evil. The money spent in such labour would encourage the attachment of labour to the land, and in time would prove to be reproductive. The face of the country would also be greatly beautified, and its productiveness materially enhanced. Even if some

mistakes were made, anything seems to be better than allowing myriads of labouring men to remain idle, and fairly good soil to remain unproductive. We do not favour land nationalisation, but the moderate proposal of Messrs. Little & Ballantyne certainly merits every consideration.

THE BRITISH FRUIT GROWERS ASSOCIATION.—If this newly formed body purposes accomplishing really useful work, it must exhibit greater boldness and more energy. The great evil in relation to the further development of fruit culture generally, just now, is found in ignorant indifference, and it is only by combating this indifference in a firm and thoroughly antagonistic way that any progress can be made. The Association held a meeting at the Royal Aquarium last week, and a very interesting discussion upon the eternal subject of railway rates for the transit of fruit took place; but so thoroughly was this little light hidden under the bushel, either of modesty or of timidity, that very few persons were present, and but few knew that the meeting was to be held.

That sort of thing will not do at all. An association which has such big aspirations must exhibit bold actions. There is a wide field open for the Association to operate in; but if no more be done than so far has been accomplished, and no more energy displayed than has been so far evidenced, that field will have to remain untilled. We make these remarks in the best possible spirit, for we are most anxious to see the Association playing an important part in the fruit agitation; not that progress in hardy fruit culture is dependent upon the co-operation of any voluntary body, but at least such body may, if rightly directed, do very much to encourage and develop that progress. Not only should useful information, both with regard to fruit culture and also with regard to market advantages in all parts of the kingdom be obtained, but the same knowledge should be as widely dispersed in the interests of the members needing it.

THE NATIONAL CHRYSANTHEMUM SHOW.—The recent show of the National Chrysanthemum Society was made up of a combination, not merely of plants and flowers, but of fruit and vegetables, all of a very high order, and because of these interesting aids, the show has become for the metropolis practically the gardeners' fête of the season. With such a wealth of material at disposal, it is therefore a matter for regret that the obstacles placed in the centre of the Royal Aquarium prevent the production of that fine effect in combination which is seen at Kingston for instance; or indeed in any considerable hall where a show of even moderate extent is effectively arranged.

There is much to be deplored that in the interests of horticulture so few visitors to the show, comparatively, should have found their way upstairs, and thus have missed the grand display of Potatos and other vegetables, fruits and other interesting exhibits. Probably not more than one visitor in fifty found the fruit and new flowers, and only a very thin attendance at any time was seen in St. Stephen's Hall, where the exhibits and exhibitors were, in a double sense, out in the cold. We hope the committee will endeavour, ere another November fête arrives, to see whether some more desirable arrangement cannot be made. The Aquarium is both central and easy of access, and, therefore, highly favoured. Still, the grand show of the Society is broken up, and all its effect destroyed for lack of combination. Were the entire area of the floor of the building placed at the Society's disposal, there can be no doubt but that the display created would be a grand one, excelling all others in the kingdom, and proving worthy of the National Chrysanthemum Society.

The Potato Disease.—We direct the attention of our readers to an important statement made at the meeting of the Scientific Committee on Tuesday, with reference to some experiments made at Chiswick, which will be found on p. 180.

Baskets of Autumn Foliage and Berries.—At the Chrysanthemum show held every year at Devizes in aid of the Town's Benevolent Fund, one delightful feature in the schedule of prizes is for baskets of autumn foliage and berries arranged by ladies. A large number of baskets are staged in competition, and it is always very keen. It is a feature well worth a place in other schedules of prizes.

Gardening Engagement.—Mr. James McDougall, formerly with Mr. R. G. McDougall, The Gardens, Forest Side, Grasmere, and lately with Mr. C. R. Lawson, The Gardens, Nunnykirk Hall, Morpeth, as gardener to L. E. Ames, Esq., Linden Hall, Morpeth.

Nottingham Chrysanthemum Show.—At a committee meeting of the Notts Horticultural and Botanical Society, held on the 31st ult., it was decided to hold a great Chrysanthemum, Fruit, and Potato Show at the Arboretum on the 21st and 22nd inst., when liberal prizes will be offered, and the competition will be open to the United Kingdom.

The Red Pyracantha.—"I like the way that Mr. Roberts uses this delightful-berried plant at Gunnersbury Park," writes R. D. "Some years ago, in extending the pleasure grounds, a piece of an old orchard was taken in, and the Standard Apple trees were retained for the sake of their blossoms in the spring. To cover the nakedness of the trunks, Mr. Roberts planted a bush of the Red Pyracantba against each, associated with a Clematis. The plants have berried nicely, and have a very pleasing effect, but the birds are devouring them with great rapidity, although the weather is so open and mild."

Manchester Horticultural Improvement Society.—We have before us a neatly-printed volume of the proceedings for the year 1887 of this well-conducted and most useful association. The work is demy octavo in size, extends to 108 pages, and is sold for 1*s*. The text consists of eight papers read at the society's meetings, all of which, if not of equal merit, contain a great deal of interesting and practical information. Judging the work from an educational point of view, we must, however, point out that it would have been better if the plant names throughout had been revised before the sheets were sent to press.

L'Orchidéenne.—At the meeting of this new society, held in Brussels on the 11th inst., some very fine Orchids were exhibited to the number of fifty-five specimens, and Certificates of Merit of the first class were awarded to Dr. Carnus, of Louviers, for Cypripedium Harrisianum polychromum; to Madame Gibez, Sens, for Ansellia africana aurea; to M. le Comte de Bousies, Mons, for Oncidium Forbesii maximum; to Madame de Cannart d'Hamale, Malines, for Vanda cœrulea and Cypripedium callosum; and to M. Peeters, St. Gilles, for Cypripedium nitens superbum.

Onion Show at Kelso.—Messrs. Stuart & Mein, Kelso, recently organised an Onion show, the conditions being that each competitor should stage six varieties, three bulbs of each; and notwithstanding the fact that the season has been exceptionally unfavourable to Onion culture, a good number of exhibits was sent from various parts of England and Scotland, ranging from so far north as Aboyne, in Aberdeenshire, to Banbury, in Warwickshire. Some heavy, well-matured, and finely-grown bulbs were shown, and the display was altogether excellent. The following were the prizetakers:—1, Mr. E. S. Wiles, Edgecote Gardens, Banbury; 2, Mr. S. Buglas, Old Town, Ayton; 3, Mr. Charles Harris, Crossford, Lanark. In addition to being well grown and of fine shape, the first-prize lot weighed 18½ lbs., averaging thus slightly over 1 lb. apiece.

Sir Trevor Lawrence on Hardy Fruit Culture.—In his address at the opening of the Apple and Pear Conference, at Chiswick, on October 16th, the president of the Royal Horticultural Society is reported to have said "It was important in dealing with this subject that they should not pitch their anticipations too high, and that it should not be supposed that in a reasonable extension of the cultivation of hardy fruit would be found any real panacea for the troubles which had been afflicting the agricultural classes of this country. The utmost that could be done would be to give those classes some small help, where intelligence and skill were brought to bear. Of course, as long as we continued to import such large quantities of fruits and vegetables—between six and seven millions sterling in value—persons would point to that total as indicating a direction in which more might be done in this country. But it must not be forgotten that that total included some fruits which could not be cultivated in this country, and further, it was by no means clear at present that where hardy fruit, such as Pears and Apples, could be successfully cultivated, it could be done so as to bring anything like a satisfactory profit." In *The Standard* of November 13th, it is stated that, in a letter from the same gentleman, read at a meeting of the Fruit-Growers' League, "the writer expressed his sympathy with the object of the league, and his conviction that a largely-extended area of land might advantageously and profitably be devoted to the cultivation of hardy fruits and the increased production of table vegetables." Has Sir Trevor been correctly reported?

The Centenary of the Introduction of the Chrysanthemum to Europe.—The growers and admirers of the Chrysanthemum are bestirring themselves with a view to celebrate the centenary of the introduction of the Chrysanthemum to Europe. According to reliable authority it would appear that the first large-flowered type of the Chrysanthemum was introduced from China in 1789. It is said that the first European tidings o this flower came from Holland in 1689, but some doubt appears to be thrown upon the truth of this statement. One authority states it was "introduced into this country in 1764, and soon became a favourite in our gardens." But this appears to be getting into debateable ground. It seems, however, pretty clear that there was an introduction from China in 1789, and authorities think that this date should be seized upon for the purpose of the celebration. On the occasion of the Crystal Palace Show on the 9th inst., some representatives of Chrysanthemum culture, the judges, &c., met in the Board Room under the chairmanship of Mr. E. Sanderson, president of the National Chrysanthemum Society, there being present also Messrs. R. Ballantine (vice-president), W. Holmes (hon. secretary), J. Laing, J. Douglas, W. Early, L. Castle, R. Dean, G. Gordon, and W. G. Head, when a conversation took place upon a proposal that the centenary of the introduction of the Chinese Chrysanthemum should be celebrated in some form. Eventually the following resolution, proposed by Mr. John Laing and seconded by Mr. William Earley, was carried unanimously:—"That considering the year 1889 is the centenary of the introduction of the Chrysanthemum to Europe, it is advisable that the National Chrysanthemum Society be requested to prepare a scheme for the proposed celebration of this event." We cordially approve of the suggestion and the action taken at this preliminary meeting, and we are quite certain that the matter cannot be left in better hands than those of the National Chrysanthemum Society.

NOTES ON VEGETABLES.

SOUTHPORT RED GLOBE ONION.

Most of the red Onions are flat or very much depressed, but the variety under notice is ovoid, not globe-shaped as the name would seem to imply, and tapers somewhat to the neck. It is of great depth, evidently a good Onion, and of a bright crimson-red—not blood-red—colour, and ripens off very firm. Being one of the varieties tried this year in the gardens of the Royal Horticultural Society it was brought up to the Drill Hall, Westminster, on Tuesday last, along with a large collection of other kinds, and to Messrs. J. Veitcb & Sons, who sent the seeds for trial, a First Class Certificate was awarded by the Fruit Committee.

STACHYS TUBERIFERA.

This new vegetable has been several times exhibited lately at the metropolitan exhibitions, and on Tuesday samples grown at Chiswick, and also by Messrs James Carter & Co., were shown at the meeting of the Fruit Committee. During the morning a dish of the tubers were cooked, and when eaten with salt only, were very palatable, and considered superior in flavour to Jerusalem Artichokes. When we can get the roots somewhat larger, and find out the right way to serve them up, Choro-Gi will prove an acceptable dish for a change. The Committee awarded a First Class Certificate to it.

VEITCH'S RED GLOBE TURNIP.

This has been an excellent cropper with me this season, and I can highly recommend it to those desiring a good useful variety. The bulbs are bright purple at the top, white at the base, and when on an exhibition table are very attractive. They are also very firm, of fine flavour when cooked, and are good keepers. A fine Turnip for general crop.—*J. S. T.*

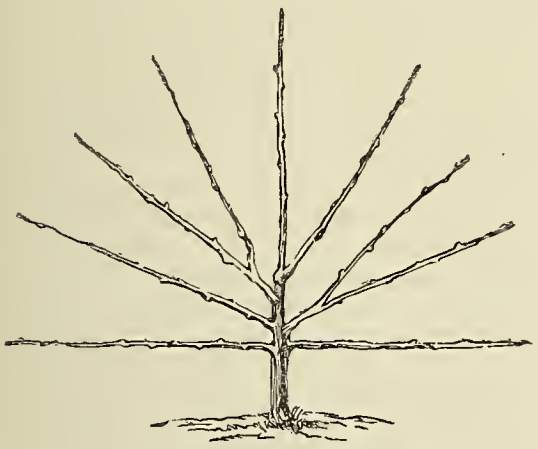
BEGONIAS IN SOMERSETSHIRE.

November 12th.—The forcing-house is hard at work once more, and some pots of "possibilities" for 1889 duly sown and shelved, each covered with a square of glass which will be removed as the seedlings appear. We shall sow another batch next month, a third in January, and a fourth at the end of February for late blooming. These last will carry us on in the houses until Christmas.

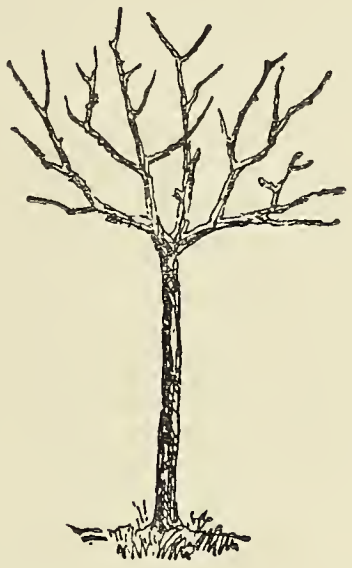
No singles will be sown before January, as this will give ample time to get them big enough for bedding out in June; but in the case of doubles for pot culture, it is scarcely possible to have them too early, if only they can be given room enough as they increase in size. After the past year's experience, I fancy a very large percentage of these will be grown entirely under glass. Some of our large growers who rely upon bedded-out plants, must have been sorely put to it to discover the quality and character of their seedling doubles, before the October frosts put further observation out of the question; and I should imagine that a large purchase of unbloomed seedlings from a good firm, at a moderate price, might prove a remunerative investment.

Looking back upon the rosults of last season, I find we obtained fine seedlings—by which I mean improvements on the parent plants—from such doubles as Davisi fl. pl., Superba, Felix Crousse, Livingstone (a Cactus-like variety sent out by Mr. Beachey), Formosa, Madame Arnoult, Mrs. A. Adcock, G. Legros, Madame E. Pynaert, &c. A goodly number of named varieties will, in consequence, go to the scrap-basket when sorting time comes, but their memories will survive in their more beautiful descendants. In yellows we produced nothing remarkable; indeed, of yellow seedling doubles there were not many good specimens to be seen in London. Messrs. Cannell sent us a box of blooms in the autumn which contained the best yellow double I have seen this year, but if report speaks truly it is to France we are to look next season for some really fine flowers of this colour.

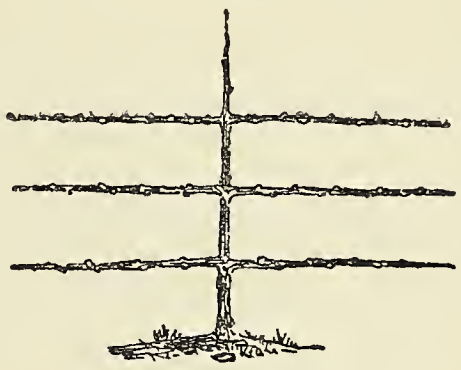
The singles here were raised chiefly from seed saved from selected seedlings of the previous year, and some grand beds were the result. The strain was commenced some time ago with purchases from Forest Hill. For the current year's seed we have intercrossed our own seedlings, where not related, and have added to these a few choice kinds from Messrs. Laing and Messrs. Cannell. By-the-way, there is an excellent list of these at the end of the little volume entitled *The Tuberous Begonia, its History and Cultivation*, for which admirable publication the proprietors of The Gardening World deserve the thanks of all growers; of all amateurs, because it simplifies what to many of them was a somewhat mysterious subject; of all nurserymen, because it cannot fail to interest the public in what it aptly calls "the flower of the future." I have grown Begonias for years, laboriously feeling my way, and I can see what time would have been saved, and what disappointments avoided, had such a book as I have named been ready to hand.—*Somersetshire Rector.*



Fan-trained Tree.



The Standard.



The Espalier.

THE "LITTLE NATIONALS."

I little imagined that my not ill-natured note on the Auricula and Carnation Societies' proposed application to the Crystal Palace Company would have proved to be so "fetching." However, the criticisms submitted are kindly also, and of the nature one always likes to meet with in horticultural discussion. My ire was aroused by the report of these "little" societies' intentions, not only because, as I said, members of the council of the R. H. S. and gentlemen not so, but always hard upon other societies for not sticking to the old ship, were patrons or officials, but also that the secretary of both societies is a member of the council of the R. H. S. also, and if holding office in a society means anything, it means stout and steadfast loyalty to that society until, at least, such office can be speedily resigned. It may be, perhaps, that the "little Nationals" have greater claim upon the sympathies of florists than the Royal has. Then it but further illustrates the old saying that "no man can serve two masters."

Now, with respect to the comparative merits of Chiswick Gardens and the Crystal Palace, I must join issue with your genial contributor, "National Carnation," when he pronounces the Palace to be the centre of humanity. I venture to assert that there is as large a population within one mile circuit of Chiswick as there is of the Crystal Palace, also that Chiswick is far more accessible from the south-west and north than is the Palace; and whether of Auriculas or Carnations, nearly all the exhibitors come from those directions, and hardly one from the east or south-east. To the Lancashire and Yorkshire, as well as other northern growers, Chiswick, *viâ* the North London Railway to Gunnersbury, is far more accessible than is the Palace. If, therefore, it be shown that Chiswick—admitted by "National Carnation" to be the centre of horticulture—is also a centre, and an important centre, of humanity, in addition to its being so admirably placed for accessibility by rail, I have at least shown that my case is unassailable.

Only on one point may the "little Nationals" do better by going to the Palace: they may obtain a larger subsidy, and, I presume, that is of some consideration. Visitors, however, will need special guides to find the shows in that huge building. The case of the National Chrysanthemum Society admits of no comparison. For one person who grows Auriculas or Carnations, one thousand persons grow Chrysanthemums, whilst the latter flowers give so much that is massive, grand, and attractive. The comparison savours of that seen between the armies of Monaco and of France. And now with respect to "Exhibitor," who seems strangely to assume that the grand vinery at Chiswick is a place of heat and steam in April. That is too absurd altogether, as it is hardly that at any time, even in July when it is used by the Chiswick Horticultural Society. Now in July, farther, the Carnations can have the benefit of a light cool tent on the grass—and what more delightful or in consonance with these modest unassuming flowers!—whilst, again, there may be seen by the visitors, it is to be hoped, a fine show of border kinds growing in the open ground.

"Exhibitor" thinks the London public would not go to Chiswick. Do they go to the Palace except on special fête days or when there are firework displays? There is a population of one million persons, thousands of whom are in good circumstances of life, within easy distance of Chiswick. Are these not as good as Crystal Palace season ticket holders?—*Leo.*

P.S.—Since writing the above, I have seen a communication from the secretary of the Nationals, in which he complains that the report furnished to the papers of the Auricula and Carnation Societies' annual meetings was unofficial. That may have been so, but the best of unauthorised reports is that we sometimes learn the whole truth, whilst in authorised reports we learn only what it is thought judicious to make public. In the meantime it is satisfactory to learn that the council of the Royal Horticultural Society have agreed to give a donation of £10 to each of the National Societies, if these shows are held under the Royal's auspices. We shall soon see now how far these donations may help to make Chiswick a centre of humanity, as it is of horticulture. [The reader is referred also to p. 179.—Ed.]

THE NEW VEGETABLE.

Stachys tuberifera.

I think that in this we have an introduction which to all intents and purposes is really new, and not a mere improvement upon something we have had for ages. I thought at one time that I should have had my curiosity gratified by our plants flowering, for it would be interesting to know what the blooms are like. It seems that the specific name—tuberifera—has been given to it provisionally, and that may or may not do for botanists, but a popular name is wanted for it in gardens. The first name I saw it figured under in your pages (p. 117, vol. ii.) was Choro-Gi, but that will never do, and the name adopted in the Paris markets—Crosnes—is almost as unsuitable. If spelt "Crones" it might do very well, as the roots resemble whelks more than caterpillars.

We lifted our crop recently, and found them fairly productive. We planted only a few sets, probably weighing less than 2 ozs., and they produced about 3 lbs. of tubers. It cannot be claimed for it that it will equal any other of our root crops for productiveness, but we may fairly assert that a greater weight of this edible can be raised off a given area of ground than Peas would give; and its advent is doubly welcome, as it is available for use during the long winter months when high-class vegetables are often scarce. There may in many instances be some little difficulty in getting it passed successfully through the kitchen to the dinner-table, for some *chefs* hail anything new with delight, while others frown upon novelties for a time, so that this new introduction will probably encounter many rebuffs before it becomes firmly established among us. That it will, however, before long become popular I feel well assured, as its flavour and unique appearance render it a first-class addition to our stock of culinary vegetables.—*W. B. G.*

TRAINING FRUIT TREES.

Excepting for orchards the standard form of tree is not so popular as it was at one time in small gardens; but it nevertheless shows an Apple tree in its most natural form, and when laden with brightly-coloured fruit, constitutes one of the most attractive features of a garden in autumn. The stock may be grafted at the top of the naked stem, but if grafted near the ground and the stock allowed to form the stem of the tree there is less liability of its being snapped across by the wind. Less pruning is required by standards than most other forms of tree, and should consist chiefly in thinning out the weak, dead, or useless wood. Our illustration shows a small-headed tree grown according to this system. The fan-shape also shown above is the most popular and serviceable form to which Apple trees on walls should be pruned and trained. With the exception of the lowest branches, all the others are nailed to the wall in an ascending direction. The upper branches should be kept down as low as possible to prevent them from making too great headway, which they are apt to do and so rob those beneath them of a due share of nourishment. The horizontally-trained tree represents that known as the espalier, and is chiefly or almost wholly adopted for the training of Pear trees on walls, fences, or on wires strained between two poles.

GARDENING NOTES FROM IRELAND.

A FEW SUGGESTIONS ABOUT THE ARRAN ISLANDS. As the subject of the adaptability of the south of Ireland for the early growth of fruits and vegetables for market is at present receiving some attention, I think it would be a favourable time to notice the superior claims, so far as climate is concerned, which the Arran Islands possess for this purpose. In a report presented some time ago by Mr. John Cairns to a relief committee in Dublin, and whose representative on the islands he was for several months in the present year, he alludes particularly to the genial climate always prevailing there, and speaks also of the success with which fruits and vegetables could be grown there for an early market. As a case in point, he stated that the Flounder Potato had been grown there for an early crop, and had yielded good tubers fit for use in May. This, perhaps, will not surprise anyone when they are told that the plant Crassula coccinea, better known, probably, under its old name of Kalosanthes coccinea, lives out there all the year round, "and produces," as Mr. Cairns says in some notes of his with which he has favoured me, "flowers of large size and of most intense colouring."

As a further proof of the mild climate which predominates over the islands, he states that the native Maidenhair Ferns live out there without protection of any kind, and that Richardia æthiopica, better known under the name of Calla æthiopica, "lives out all the winter, keeping its leaves green, and flowers freely every season." Another plant found to grow in abundance is Sempervivum urbicum. Here it attains the height of 2 ft., and branches out into the appearance of a shrub. Now here are three plants, one a native of Table Bay, another of Central Europe, and another of the Canary Islands, all proving the mild nature of the climate existing over the Arran Islands, and consequently the easy cultivation of fruits and vegetables; and although no doubt there would be difficulties to overcome in utilising the soil, &c., there is no reason why such could not be done. As regards Potato growing, in favourable years, the crop is very productive, notwithstanding the fact that the "oldest inhabitant" can remember them grown consecutively in the same soil for seventy years. The soil is described as a very light limestone, and the only manure used is seaweed, two applications of it being given to the crop during the season. Another matter worthy of note is that Sea Kale is found growing in abundance, its wild luxuriance surpassing even cultivated plants.

Yet, Mr. Cairns remarks, nothing whatever has been done to cultivate this plant by the islanders, and which could be made the source of a large income, if grown extensively for market purposes. In addition to what could be done in the way of early vegetables, Mr. Cairns, who is a man of thoroughly practical knowledge, gives his opinion that the Grape could be grown and made to ripen its fruit out of doors. This, he says, might be done by training the Vines over the face of the limestone rock, and which presents in most cases a convex form with a surface as smooth as glass. These rocks, he says, become so hot under the influence of the sun, that Vines brought across them would be in a more favourable position for ripening both fruit and wood, than is found in many structures put up for their accommodation. With such favourable conditions as these in existence, no wonder Mr. Cairns imagines one asking him, "What has been done to turn them to account?" and he answers, "Nothing, absolutely nothing."

Well, I think there is room here for some enterprising individual to work on such lines as Mr. Hall is said to be laying down for the South of Ireland. The circumstances are even more favourable than in the south, if I except the one of distance from the mainland. But in this respect the Arran Islands would be in no worse position than the Channel Islands, which at present enjoy so good a position in the early markets. With regard to cheap labour and a plentiful supply of the nimble fingers of the young, the Arran Islands possess a great advantage over other places, and in a speculation of this sort should make a very strong point. In concluding his remarks in his communication to me, Mr. Cairns sums up thus, "On the whole," he says, "the climate and warm limestone soil are so favourable, that the production of early vegetables for market should be the principal aim of the inhabitants."

To this opinion I fully subscribe, but unfortunately the inhabitants do not appear to be aware of what could be done with the fine climate they enjoy; at all events they have not hitherto taken advantage of it to assist them to make their miserable condition of life anything better. There may be causes at work to prevent them from doing so, even if they have the requisite knowledge, and of which we know nothing. I dare say it will come as a surprise to many that we have a climate of such rare mildness existing so near us, and that plants, such as I have named, live in a state of extra luxuriance in proximity to the mainland, which is often swept with storms of great fierceness. Such is the fact, however, and in alluding to the matter here, I am hopeful that a further investigation by practical persons will lead to the extensive cultivation of early fruits and vegetables in the Arran Islands.

SOME PLANTS IN FLOWER AT THE GLASNEVIN BOTANIC GARDENS: CHRYSANTHEMUMS. ALTHOUGH, as I write, we are on the eve of our Dublin Chrysanthemum Show, where no doubt we shall be treated to some big things, and of which I shall have something to say next week, it would be well to examine what is being done with general collections, which have not been treated for exhibition purposes, at least, with a view to competition. This is the case with the Glasnevin collection, all of which have been got in and arranged in the blooming-house. They extend the whole length of a large house, occupying the whole space from front to back, and are very tastefully arranged. When in full flower—which will not be for a fortnight—they will present a very splendid appearance. Just now many varieties have expanded their first blooms, and taking into account that the plants are carrying a full head of flowers, these are of good size and fine form. Mons. Freeman, a lilac incurved, is a very good one; so also is Alex. Dufour, a crimson. Then there are others, such as Lord Alcester, a creamy yellow, and very good; Empress of India, white; Queen of England, a buff; Emily Dale, a creamy yellow; Madame de Sevin, Peter the Great, Lady Selborne, Golden Empress of India, Mrs. Marsham, white; and of the latter colour, the ever-welcome Elaine and its sport White Princess.

The fine old yellow Jardin des Plantes is done here very well, and in size and form is still able to hold its own amongst yellows. The very handsome dwarf Chrysanthemum, La Vierge, grown here in pots, for early use, was still showing large quantities of flowers; and I was assured that no other flowering plant for autumn decoration gives more satisfaction. Then the wonder is that more use is not made of it for this purpose, or even for outdoor work. The plants here were not much over 1 ft. high, were stout, and as they stood under the eye their flowers presented an unbroken surface of white. No doubt we shall have this plant more plentifully grown when it becomes better known, and I have noticed some plants of it already in the hands of some suburban growers.

ORCHIDS IN FLOWER. THERE are a goodly number of Orchids in flower at the present time, amongst them several of somewhat recent introduction. One of these, Catasetum gnomus, is now in flower, as is also Cypripedium œnanthum superbum and Cymbidium Mastersii. The latter is a very handsome Orchid, and all that could be desired as to its lovely perfume. Then there are also Cymbidium elegans, Calanthe vestita, C. rosea, C. veratrifolia, Cypripedium insigne maculatum, C. Spicerianum, Cattleya Harrisoniæ, C. maxima, Odontoglossum grande, Oncidium varicosum, O. incurvum, Dendrobium Farmeri album, Cœlogyne Massangeana, and Epidendrum alatum. Considering the lateness of the season this is a fair show of Orchids in flower, and they are likely to keep the house gay with bloom for some time longer.—*W. D.*

FARM GARDENING. WITH reference to the remarks of "W. D.," at p. 146, allow me to say that I don't think Mr. Hall could apply his argument to the wilds of Donegal or Connemara; but according to my idea, south Cork, with its fine climate, if an industrial school for its peasantry were established, could be made a formidable rival to the Scilly Isles, Cornwall, or Brittany in a few years. Twenty thousand people from the river Lee to the sea-coast could be at work for an early spring and late autumn delivery to Scotland; and they would not be able to give Glasgow and Edinburgh enough. We have Whiddy and Clonakilty Islands, which snow or frost never visit. What better have you in the south of France? The White Sweetwater and Black Hamburgh Grapes would fruit in the open, planted between the rock crevices at Crookhaven, and allowed to grow *au naturel*, as at Gibraltar. I am afraid "W. D." sees but through a glass darkly. He talks of climate in the surroundings of Dublin in contradistinction to that of England in the same article. If he comes south to me in spring I will show him a bloom of flowers in February that he won't get in the United Kingdom, and our harvest should be in the spring and not August.—*W. B. Hartland, Cork.*

THE BRITISH FRUIT GROWERS' ASSOCIATION.

THE RAILWAY RATES QUESTION.

A meeting of the above association was held in the Balloon Room, Royal Aquarium, on Thursday, November 8th, to discuss the subject of railway rates in relation to fruit transit. Mr. T. F. Rivers took the chair at 5 p.m., and in the course of a few introductory remarks, said—I have to congratulate this association on the very encouraging success which has attended its formation. We have received greater support and sympathy than we expected, and I think we may say that the association has become an established fact. We have succeeded in drawing public attention to the necessity of thoroughly examining the possible outcome of the decadence of industrial fruit growing in this country, and, I hope, of arresting the serious loss which would undoubtedly occur, if measures were not taken to arrest such loss before the evil had gone too far to mend. This association will not have been formed in vain if it can succeed in attracting the serious attention of cultivators to the best means and methods by which the country can hold its own in the competition with which it is threatened, and the objects of our society are to obtain the best possible information from fruit growers in different parts of the country, and to distribute this information as widely as possible. With this end in view, we propose in the ensuing year to hold meetings in the provincial districts, to invite the co-operation of all who are willing to help us in the good work by reading papers, and assembling to discuss matters which are of vital importance to this particular industry. Our meetings will be held on the understanding that they will be entirely non-political, and this salutary abstinence will, I hope, meet with the hearty approval of all who join us. We intend to deal with matters of important interest in a thoroughly impartial spirit. One of the important points is the cost of the conveyance of fruit, and we shall be glad if we can, by obtaining information, enable growers, handicapped by distance from the centres of distribution, to compete with those more happily situated. We trust that we shall be able to obtain by reports from competent persons sufficient knowledge on this head to submit our case to the Board of Trade. We are not accustomed in England to make a grievance, but to examine and endeavour to remove an existing one. In this particular case there are good grounds for believing that the cost of the transport of fruit is much greater than it need be, and that this cost presses heavily on one of our native industries. There can, however, be no doubt that the question will be fairly dealt with. I must remind those who make the reports that the facts must be accurate, and that a case which is to be submitted to the Board of Trade must be very clear and distinct. We also hope by inquiry and discussion to raise the standard of quality of fruits sent to market, and as planting is likely to be carried on for some years on a more extensive scale than has hitherto been known, any information as to the relative value of sorts in different districts will be of very great importance to the planter, and it will, I hope, be one of the aims and objects of the society to classify and determine as far as possible the suitability of sorts of fruits to different localities; the fewer sorts the better, both for the fruit tree grower and the planter. It is, I think, known to many that a very decided liking is exhibited by certain fruits for particular districts. I may instance the Winesour Plum in Yorkshire, the Apple orchards of Herefordshire and Devonshire, the Bullaces of East Anglia, and in my own district the singular success of the Early Prolific Plum. A society which can visit the different fruit-growing districts will be able to gather more facts than a society which is fixed permanently in any one locality, and will, I imagine, much extend its sphere of usefulness.

Several letters were read from members of the Association and others interested in the subject, from which it appeared that those who lived sufficiently near to market all sent their fruit by road, as being cheaper and safer, and one writer stated that it would be to his interest if all the railway rates were increased. The majority, however, at a distance from towns condemned the present charges strongly, Mr. Watkins, of Hereford, remarking that the present rates are amongst the greatest hindrances to the extension of fruit cultivation. Mr. J. Udale, Tamworth, wrote:—"Railway rates for the transit of fruit and vegetables under some circumstances are quite prohibitive. Twelve months ago I was in the habit of sending all classes of fruit to two fruiterers in Birmingham. Choice fruit was sent by

passenger train, coarse fruit and vegetables by goods train, thinking it would be much cheaper. However, after one or two consignments had been delivered at the ordinary goods rate, I received notice from my customer —whom I have known for many years as a strictly honest and truthful man—that the railway company had a higher tariff for fruit and vegetables, and that they demanded extra payment of either 1*s.* 3*d.* or 1*s.* 6*d.* on previous payments for the same weight of the same class of goods sent in the same hamper. This additional charge, in conjunction with a rate upon returned empties, caused me to cease sending such goods to Birmingham, and I dispose of them nearer home. This excessive charge by the railway company causes a direct loss to four classes of the community: —First, the grower; second, the railway companies themselves; third, the fruiterer; fourth, the public. My experience is, that the railway rates are prohibitive of the rapid transport and wider distribution of all classes of garden produce, except fruit and flowers of the highest quality, beyond a distance of twenty miles; and I have long been of opinion that the time had come when it was desirable that growers should combine for the purposes of dealing with railway rates, selecting the most suitable markets, and disposing of their own produce, if possible, direct to the consumer."

From Mr. W. E. Bear a suggestive letter was received in which he said—"I am sorry that I have too much in hand for the next fortnight to help your useful association by preparing and reading a paper on railway rates. It seems to me that the only really important thing for your association to do in this connection is to form a Parliamentary Committee, and to get the association recognised as a body entitled to be represented before the Board of Trade. All members who have real grievances should send details to the committee, and those that prove on examination to be valid should be brought before the Board of Trade. It is of no use to read a paper showing that rates on fruit are too high; everybody knows that. The time has come to get such rates reduced."

Mr. Albert Bath said he was not prepared to treat the subject fully, but he had made some careful comparisons between the rates per ton for fruit conveyed by rail from different stations at an equal distance from London, and he showed by a series of figures the extraordinary disproportion that existed on some lines. He contended that a system of equalisation was needed in the interest of growers who had to send their fruit long distances.

Mr. R. Dean followed with some facts and figures relating to the irregularities of railway charges, showing how the foreign preferential rates press very heavily on the home producer, the difference in a railway rate often meaning the whole of the profit. It was stated that English Potatos and fruit cost 23*s.* 4*d.* per ton to bring them from Selling to London, yet foreign produce of the same character was brought to London viâ Selling for 20*s.* per ton.

Mr. R. Ivatt, Mr. J. Cheal, Mr. A. Dean also gave many statements of a similar character, but Mr. Figgures of the Railway Clearing Office remarked that the railway companies were mostly willing to make any reasonable concessions, and that there was a danger if rates were much decreased it would have a tendency to flood some markets, with a consequent reduction in prices to the producers. He thought the best plan was to encourage people to send their goods to the nearest markets. In the course of a prolonged discussion many interesting and important facts were elicited, and the business of the meeting was concluded by a resolution, proposed by Mr. Ivatt and seconded by Mr. Roupell, to the effect "that the Executive Committee of the British Fruit Growers Association be requested to collect all available information on the subject of railway rates in connection with fruit transit and distribution, to enter into communication for this object with the Railway and Canal Traders Association, and to submit the results in the form of a report at the earliest convenient meeting."

Anthurium crystallinum.—The larger this plant is grown the finer it seems to become, both as to the rich velvety green colour of the foliage, and the fine effect produced by a plant well furnished with large healthy leaves. At Gunnersbury House, Acton, there is a plant in a pot bearing sixteen leaves, all of great size, and many of them are over 2 ft. in length, and correspondingly broad. They are so arranged as to face in all directions, and the velvety green surface shows off the silvery nerves to the best advantage.

THE NATIONAL AURICULA AND CARNATION AND PICOTEE SOCIETIES.

The following communication reached us too late for insertion in our last issue:—

The annual general meetings of the Southern Sections of these societies were held on October 23rd, and not only were inaccurate reports of those meetings sent to the gardening papers, but articles have been written founded on these inaccurate reports. As honorary secretary of both societies, I beg to say that not a line was either written or prompted by me. The inaccuracy I complain of was the statement that it had been decided to hold the annual displays at the Crystal Palace. Nothing of the kind was decided at the meeting. It was decided this year, as it was also last year, to communicate with the directors of the Palace, to ascertain on what terms they would receive the societies, and an application was also to be made to the council of the Royal Horticultural Society. I thought, while negotiations of that kind were in progress, that it was advisable to be silent; others evidently differed from me in this respect. When it had been finally decided where the exhibitions were to be held, I would have sent a report as usual to the press. As it has been supposed I sent the notices to the press, I think it desirable to send the above note.—*J. Douglas.*

[Being unable to find in the report published in these columns any statement to the effect "that it had been decided to hold the annual display at the Crystal Palace," we enclosed a cutting of the report to Mr. Douglas, and asked him to point out in what particular it was inaccurate. To this Mr. Douglas replied, "The report you have enclosed is not official, and is inaccurate in so far as it leads people to believe that an application was to be made to the Crystal Palace and not to the Royal Horticultural Society." We then sent the correspondence to the writer of our report, and his comments thereon are given below.]

As the writer of the report of the annual meetings of the National Auricula and the National Carnation and Picotee Societies (Southern Section), I am desirous that Mr. Douglas should point out in what sense it was inaccurate. As a subscriber to the National Auricula from the very first, and as an invariable exhibitor at the shows, it would be absurd to imagine that I had any desire to send to The Gardening World a report that was not strictly accurate and cordial in its tone. I protest that I did not write a single sentence of a critical nature. I simply gave you an outline of the proceedings of the annual meetings, which I maintain was a strictly accurate one; and I did it with a sincere desire to benefit the societies by giving the horticultural world some knowledge of their proceedings. I maintain that it was a fair and honest report, but a strictly independent one, as such reports should be. These societies are kept too much in the background. If they are worthy of public support, as I believe them to be, too much publicity cannot be given to their proceedings.

I can plainly see what is in the mind of Mr. Douglas. He is aware that I wrote the reports he deems inaccurate, and therefore he rushes to the conclusion, without a scintilla of evidence to back his rash conclusion, that I am also the writer of "the articles" which have been written, "founded on these inaccurate reports." But an angry man is rarely logical. As I am not responsible for the articles founded on the reports, it is not necessary for me to refer further to them.

In similar communications to the above, which Mr. Douglas has made to the *Journal of Horticulture* and the *Gardeners' Magazine*, he appears to set up the claim that he alone, as the secretary, should send reports to the gardening papers—that is to say, he wishes to publish reports as he should like to see them from his point of view; and at the same time he appears to fancy that these societies are private institutions, and as such quite out of the range of publicity. I maintain that as they appeal to the public for support, the public have a right to know something of their doings, as grounds upon which such an appeal is founded, and independent reports are always much more reliable than official ones. Why, a large measure of the splendid success which has attended the National Chrysanthemum Society and the Gardeners' Orphan Fund, as appropriate illustrations, is owing to the independent reports of their proceedings given in the columns of the horticultural press.

If Mr. Douglas is willing to join issue, I shall be happy publicly to discuss, in the columns of The Gardening World, one or two matters affecting these societies upon which a little light might be turned with advantage.—*R. Dean, Ealing, W.* [To this we would only add, with all respect to our friend Douglas, that his objection "to the publication of the proceedings of any societies such as have appeared in the papers, even if they had been accurate" is utterly prepostcrous, though quite in accord with his practice of not inviting representatives of the press to his annual meetings, as other societies do. If Mr. Douglas considers that these societies are private institutions, he should drop the word "National."—Ed.]

THE FIERY THORN.

Many trees of this good old-fashioned subject are heavily laden with fruit this year, fully entitling it to the appellation of Fiery Thorn, a name which is expressed in Pyracantha, the specific title of Cratægus Pyracantha. The latter is sometimes used as a generic name, but the differences are too trifling for the retention of Pyracantha as a genus. Visitors to the Royal Horticultural Society's Gardens at Chiswick recently must have been struck with the fine appearance of a tree covering a large amount of space on an east aspect wall. It had evidently been left unpruned last spring, and the flowers being abundant on the last year's wood, there is at present a glowing mass of berries covering the whole tree from the ground—on which some of the bunches of haws are resting—to the top of the wall, or even above it, and which would be about 12 ft. high. Planters might with profit devote more attention to this species than is generally done, for besides being trained on a wall it may also be grown in the open in pyramidal form, or as a standard grafted on the common Hawthorn. As a pyramid we have also recently seen it loaded with fruit, shapely, closely branched, and certainly handsome.

NOTES FROM SCOTLAND.

Late-flowering Hardy Plants.—Allow me to supplement my remarks in your last issue with a few notes on one or two other plants worthy of high recommendation:—Erodeum Manescavi, a very fine species, has produced its purplish red flowers in abundance since July. Montbretia crocosmiæflora, a beautiful hybrid between M. Pottsii and Crocosmia aurea, should be included in all collections of hardy plants, being much superior to its parents; the flowers are orange-scarlet, much larger, and produced more freely. Scabiosa caucasica is almost a perpetual bloomer, and a most useful border plant for cutting purposes. Schizostylis coccinea is a fine late-flowering plant, flowers crimson, also useful for conservatory decoration.—*J. C. B., Kelso.*

Hardy Pears.—In a recent issue of The Gardening World, "Caledonian" made special reference to the Moorfowl's Egg Pear, as being amongst others a suitable variety for planting in districts where none but the hardiest sorts can be relied upon. Having had a lengthened experience of this old favourite variety, I can readily endorse his opinion of its merits in common with that of other authorities on fruit trees well adapted for cultivation in cold northern parts. According to my experience with it, however, I have to remark that it, with other fruits grown under diverse cultural conditions, does not seem to develop its pleasant and somewhat peculiar flavour so fully in a light, as in a stiff clayey soil. The fruit this year has been allowed to hang longer on the trees than usual, in order to test whether this will have any effect on the flavour, but in the case of many varieties the opposite course is often adopted to secure good flavour.

Other varieties I have proved to be good croppers in a cold locality, and in the open quarters are Louise Bonne of Jersey and Beurré Superfin. Beurré d'Amanlis and General Todleben do well on south and west aspects of walls. I have found it simply waste of space to plant such sorts as Duchesse d'Angoulême, and my opinion has been endorsed by old local authorities.

"Caledonian's" reference to the Victoria Plum leads me to mention an instance of the remarkable fertility of a comparatively small tree, growing in the open in an amateur's garden, which was brought under my notice recently. Although the tree in question has not been subjected to any so-called skilful manipulation, the fruits it produced this autumn numbered upwards of 1,000 of a fair size. Doubtless equally notable instances might be recorded of the prolific character of this well-known variety.—*D. Mackie, Ayrshire.*

FLORICULTURE.

New Fuchsias.

THAT well-known raiser, Mr. James Lye, has just forwarded to us a batch of flowers of new Fuchsias of his own production, and very charming they are. That Mr. Lye's Fuchsias are advancing in the popular estimation there can be no doubt, and they are being largely grown both for exhibition and decorative purposes. At county shows one sees Lye's new varieties among the sorts exhibited for prizes, and in the collection at Chiswick they are conspicuous. When at the Bath and Trowbridge shows we saw that from eight to ten of the Clyffe Hall seedlings were very prominent among the fine specimen plants, and it is due to Mr. Lye to mention that while he has studied closely improvement in the quality and colours of the flowers, deeming these to be of the first importance, he has also greatly improved the habit of the plants, and a remarkable floriferousness characterises all his seedlings. It is especially as exhibition varieties that we would commend them, and it may be safely assumed that the sorts which come out well on the exhibition stage are also of great value for decorative purposes.

The new varieties sent for inspection comprise two that are denominated dark—viz., Ayrshire, bright coral-red tube and sepals, rich blue corolla which is slightly semi-double, stout, and very fine, and a decided advance in the way of blue-corollad Fuchsias; and Renown, pale red tube and sepals, purple corolla, shaded with maroon, a very bright and pleasing variety, contrasting well in all its parts vigorous habit. Of light varieties there are Constancy, flesh-coloured tube and sepals, rich carmine corolla, sepals well reflexed, stout, extra fine; Delight, pure white tube and sepals, pink and carmine corolla, slightly shaded with violet, an extra fine variety for decorative and exhibition purposes; Fair Maid, creamy white tube and sepals tinted with blush, deep carmine corolla flushed with magenta, stout and very fine; Heroine, white tube and sepals with lines of pink, bright carmine corolla, new in colour, excellent habit; and Peasant Girl, white tube and sepals tinted with the most delicate blush, pink and carmine corolla slightly shaded with violet. The last of the batch is a fine double white-corollad variety, named Distinction, with pale bright red tube and sepals, stout and full double white corolla flaked with rose, large, symmetrical, and of fine quality.

With the Fuchsias came trusses of a new seedling nosegay Pelargonium, named Rosalba, also raised by Mr. Lye, and strongly recommended by him, both for bedding purposes and pot culture. The trusses of bloom are of immense size. On one of them 143 pips could be counted; the colour is rich deep pink; the habit compact, short-jointed, and very free blooming. Of late years we have seemed to be losing a good deal of the nosegay type, once so popular for bedding purposes. This new variety of Mr. Lye's may be the means of helping to popularise the race again.

Winter-flowering Carnations.

I HAVE come to the conclusion that the winter-flowering or tree Carnation is simply a kind of sport (or accident) from the summer-flowering varieties, and having, by some means, bloomed in the autumn, winter, or early spring, it had been propagated as a distinct type, and so its character became fixed. I infer this from the behavior of some of my own plants last summer. Take the self-yellow Germania. A plant of this variety threw up two strong flowering shoots, which gave me some fine blooms, and towards the end of the summer it put up another flowering-stem, which has developed three plump buds. I have taken the plant into the greenhouse, but whether I shall succeed in getting it to expand under the influence of solar heat only remains to be seen. I think, therefore, that with a little management, Germania could be made both a summer and winter-flowering variety.

Last autumn Mr. Dodwell sent me some strong seedlings. They were duly potted up, and as soon as possible in the spring planted out in the open ground. A few of these threw up strong branching stems that did not lead to bloom in the summer, and they grew to a height of 2 ft. or so. These plants were lifted in September, potted, and placed in the greenhouse, and though, for want of artificial heat, I cannot expect to bloom them during the winter, I hope to do so in the spring months. Now, Mr. Dodwell does not grow winter-flowering Carnations, and so I think I am justified in regarding these as accidental sports.

At the Royal Nursery, Slough, where winter-flowering Carnations are largely grown, the practice is adopted of sowing the seed in a gentle heat, early in the year, and when large enough the plants are potted off singly into pots, and finally planted out in beds in the open air as soon as it is convenient to do so. Being placed in good soil, the plants grow into good size, and towards the end of the summer they throw up their flowering stems. Then the practice is adopted of lifting the plants, potting them, and taking them into a light airy house heated with hot water, to bloom during the autumn, winter, and spring. Plenty of air is required, even when heat is turned on air is given on the side opposite to the wind. By this means the plants are kept sturdy and growing, and Mr. Turner states that from these seedlings he gets an abundance of flower during the winter months. Any really good variety is named, propagated, and duly sent out. All the fire-heat required is just enough to keep damp from settling upon the flowers, and to assist them in expanding.

The usual practice in propagating winter-flowering Carnations is to take cuttings in the spring, and strike them in a gentle heat as one would Pinks; but these do not make sufficiently strong plants to flower well the following winter, therefore it is better to take the cuttings in August, root them in a gentle warmth, getting them potted off singly into pots during the autumn, and then winter them in a cold frame. These plants grow into a good flowering size by the following autumn; they come into bloom quickly and early, and go on flowering all through the winter and early spring—indeed, with the aid of a little heat it does not appear difficult to have Carnations in bloom all the year round.

I have now in bloom a fine white seedling Pink of the Mrs. Sinkins type. It was one of some seedlings also received from Mr. Dodwell, but which failed to bloom, though it sent up a late flower-stem that developed a bud, which is now fully expanded, and I am bound to say, is full of promise. I shall look forward to its flowering again in the spring with considerable expectation.—*R. D.*

A FABLE NOT FOUND IN ÆSOP.

ONCE upon a time there dwelt a giant in a cave. It was a pleasant feather-bed-and-down-quilt sort of cave, because not kept up at the giant's expense, but endowed by the Government with something under or over £20,000 a year! The cave is situated in a locality designated geographically as "Botany Bay." Beside the giant's cave is a public highway, along which the poor jobbing gardener now and then proceeds to his daily labour. It was a dreary, wet, and foggy morning in November, and two or three poor "Japonicas" were going to their daily toil, when out popped the giant. "Ah! oh!! hum!!!" said he. Of course, the poor gardeners were a little frightened because in their innocence (as long ago derived from Eden itself) they had thought the giant asleep under his eider-down quilt. "Where do you come from?" said the giant, in tones *a la* Richard III. "From Chiswick, Sir," said the boldest of the horticultural villains. "Ah!" ejaculated the giant, "I know it well! in truth, a dull and dreary place—you—you—you really ought to be ashamed of yourselves!" and then he brandished his club and said, "Why don't you make it a really living thing—a thing interesting, a perfect paradise, where intelligible work is being carried on always—as it is [?] in my cavern?"

The poor gardeners felt in their hearts that it was not altogether their fault that their Cabbage-garden was not quite as perfect as the giant's cave; but what could they do? One of the gardeners, however, not bolder than the rest, but very shrewd and quiet, had taken stock of the giant, and having a spade in his hand, did not much mind the gnarled old botanical club that the giant carried. "You are quite right," said the gardener, "we are ashamed of ourselves; but we did our best, and thought we had pleased our employers when we grew pretty plants for them." "No, you didn't!" said the giant, "you are such poor fools. Why didn't you consult me?" "We are very sorry," said the gardener, "but—but we thought you had plenty to do in your cave." "Not a bit of it," said the big man, "not a bit of it! Now what you poor fellows want is a policy—a policy is the thing! Now why don't you make your dull old Cabbage-garden like my lovely botanical cave?" "We should like to do that," said the man with the spade, "but you see we have to work to bring in grist to the mill, and——." "Oh, don't tell me," said the giant, "try a Pumpkin plot among your Cabbages every year, do—do as I don't do myself, grow *Les Plantes Potageres;* in a word, do what I cannot do in my gloomy cavern—grow the best of everything in the sunshine and in the open air."

"Ah, yes," said the gardener, "we should like to do that, but you see——." "Now don't answer me," said the giant, "because I am sure, if intelligently carried out, my plan would be found both interesting and useful, and——." But at this moment the man with the spade lost all patience and accidentally brought down his implement on to the giant's toes. "Ugh, ugh," said he, "you are such a stupid set—you wont be advised. Now why can't you improve as I tell you? You see the superior organisation and intellect and industry displayed around my cavern, don't you?"

"Yes," said the gardeners quite quietly, "we see all that; at least, you are telling the truth, we feel sure, but we have to work for our living. The Government hasn't endowed our Cabbage-garden at Chiswick with a grant of £18,000 to £20,000 a year." This seemed to hurt the great man worse than the spade on his toes, and he turned and left the "Japonicas," muttering as he went, "The poor misguided fools! The idiots! If they would adopt *Le Potager d'un Curieux*, it would do wonders for them (!)."—*The Man with the Spade, his + mark.*

POTATO CULTIVATION.

THE JENSEN SYSTEM OF MOULDING.

THE following report was read at the meeting of the Scientific Committee of the Royal Horticultural Society held on Tuesday last:—

During two successive seasons elaborate experiments and careful observations were made as to the effect of the Jensen system of moulding. The experiments were made at Chiswick under the superintendence of the Scientific Committee. Although results of considerable practical interest were obtained, yet the primary object of the experiments was frustrated by the non-appearance, or, rather, by the scanty development of the Potato-fungus. Moreover, it became apparent that the cost of the experiments, as then carried out, would be such as to preclude their imitation on a large scale for practical purposes.

During the present season the Potato disease set in at Chiswick with virulence about July 29th. Up to that time no attempt had been made to check its course, or to note the conditions under which it occurred; but at the suggestion of Mr. Plowright, two rows in juxtaposition were submitted to experiment on August 10th.

The rows were 30 yds. in length, the variety selected Schoolmaster, and the conditions as absolutely identical as possible, except that the one row was left moulded in the ordinary way, while the other was "high-moulded"—that is to say, banked up on one side to form a ridge, while the haulm was slightly bent over to the other side. In the ordinary system of moulding, a furrow is left along the top of the ridge, into which it is surmised that the spores fall, washed off by rain from the foliage. The high moulding, it is supposed, obviates this by securing the fall of the spores on the ground between the rows, and not on the rows themselves. As the disease appeared to be equally severe on both rows, and was, moreover, far advanced, but little expectation was indulged in that the results would be of any value.

Nevertheless, on September 29th, the Potatos in the two rows were lifted and examined, as dug, by Mr. Barron and Dr. Masters. It speedily became apparent that there was a considerable difference between the two rows, and that the tubers from the high-moulded row afforded a much cleaner and more even sample. With a view to put this general impression to a numerical test, fifty tubers from each row were taken indiscriminately, twenty-five by one observer, the remainder by the other, so as to equalise, as far as possible, the "personal equation."

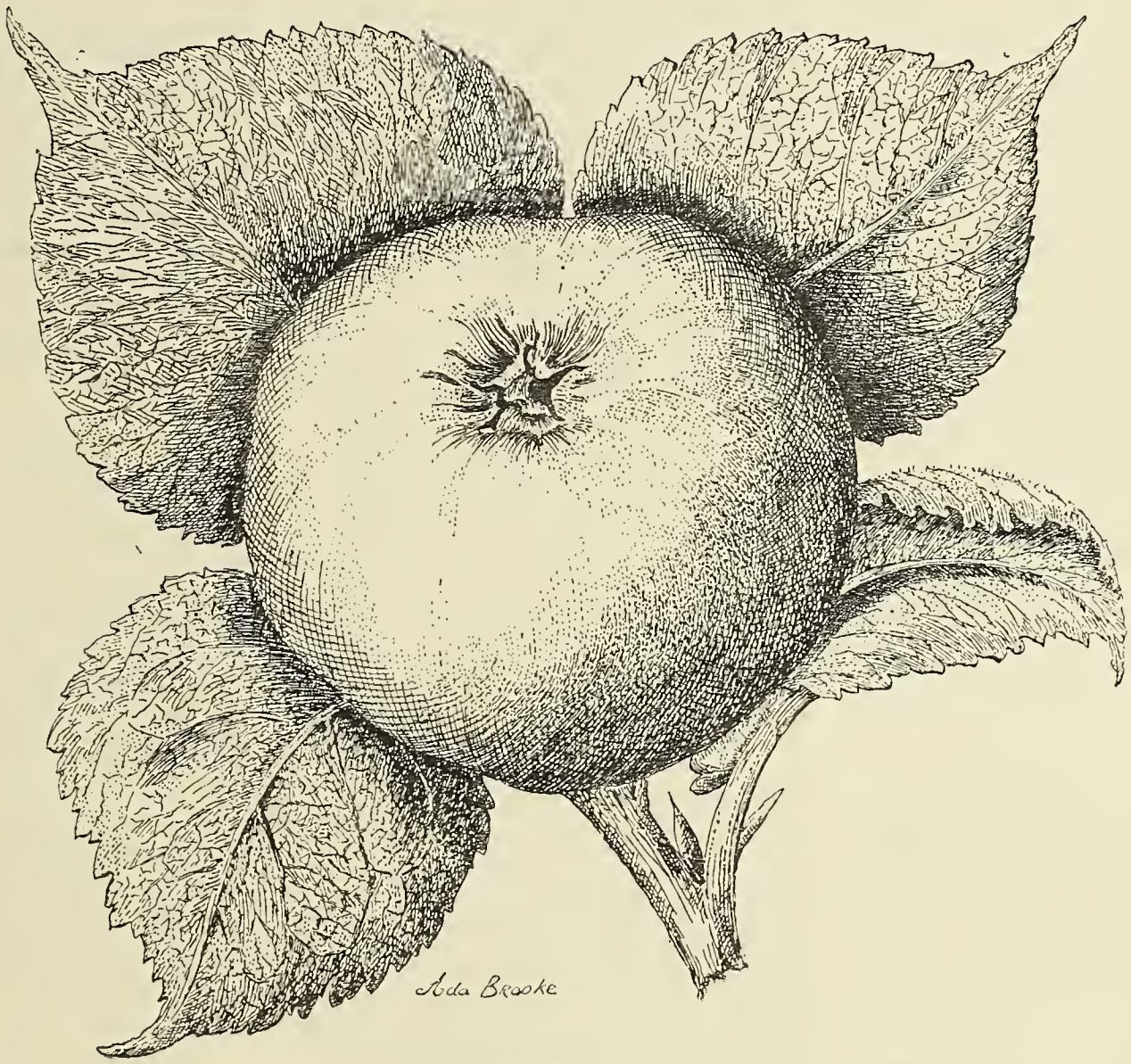
These 100 Potatos were then examined with a more careful scrutiny, each one being cut open to ascertain whether or no it was diseased. The result was as follows:—Out of fifty taken from the row moulded in the ordinary way, thirteen were found diseased, or twenty-six per cent. Out of fifty taken from the high-moulded row, five only were noted as diseased, or ten per cent. No doubt a more careful examination by the microscope would have indicated a larger proportion of disease in each case, but it is not likely that it would have very materially altered the proportion either in one direction or the other. In order, however, to obtain further information upon this point, twenty-five tubers from each row were put aside for future examination, with the result, that when examined on November 12th, of the twenty-five tubers from the

ordinary moulded row, thirteen were diseased and twelve sound, while those from the high moulded row were *all sound.*

BRAMLEY'S SEEDLING APPLE.

In our last issue we gave an illustration of the New Northern Greening Apple, which we supplement to-day with a portrait of the second of the noted Nottinghamshire Apples recently commented upon by Mr. Wright — Bramley's Seedling—a characteristic pen-and-ink sketch prepared from specimens kindly sent to us by Mr. H. Merryweather, nurseryman, of Southwell, who has been instrumental in bringing its merits as a market variety before the public. The variety, it appears, was raised at Southwell by Mr. M. Bramley, and Mr. Merryweather received a First Class Certificate for it at the Chiswick Apple Congress in 1883, since which time it has been extensively planted, in Nottinghamshire orchards especially. The fruits are large, deep or somewhat inclined to be conical, bluntly five-angled, pale green where shaded, and sparsely marked with white or russety dots; suffused and slightly streaked and spotted with brownish red on the exposed side; eye large, flatly open between the calyx segments, set in a moderately wide and deep, slightly plaited cavity; stalk shorter than the evenly rounded cavity is deep. The shoots are very vigorous, dark brownish red, and felted with hoary down, especially in a young state; leaves large, nearly orbicular, cuspidate, coarsely irregularly and bluntly serrated, deep green and somewhat hoary beneath.

Its constitution appears to be of the most vigorous character, and the hanging power of its leaves most remarkable, keeping fresh and bright on the trees long after other varieties have cast theirs. Mr. Merryweather writes: "Neither heavy clay nor light sand interferes in any way with its luxuriant healthy growth and foliage. I have, indeed, seen it in every situation and under all conditions, but never saw it where it was not flourishing. Canker is unknown to it and as a frost-defying flower it is unequalled, producing a crop when other varieties are blank." We may add that its culinary qualities are unexceptionable, and with ordinary care it will keep till May.



Bramley's Seedling Apple.

THE ROYAL HORTICULTURAL SOCIETY.

For the first time during the last quarter of a century the council of this society had on Tuesday last the courage to consult the members of the Fruit and Floral Committees on a matter vitally affecting the society's future, namely, to consider the best place for holding the meetings next year. The invitation was well responded to, and the discussion which followed a brief address from the president, ended in a compromise, which we can loyally accept for the present, because it is entirely a step in the right direction, if it does not go at once so far as we could have desired. The president put the case for and against going to Chiswick entirely very clearly from his point of view. He did not claim that there had been a large attendance of the outside public at the Drill Hall shows, but there had been a good attendance of amateurs, gardeners, and nurserymen — the men who really were interested in horticultural matters, and that he thought was a distinct gain. He was of opinion that the society would not succeed in attracting the outside public either at the Drill Hall, or at Chiswick. He failed to perceive the advantages of Chiswick, and thought that if the society's shows were held there, many exhibitors would not be able to show. He considered, for his own part, that a meeting place in London was the most convenient, but perhaps it would be well to make arrangements by which some of the meetings might be held at Chiswick and some in London.

Dr. Masters remarked that though this was not entirely an exhibitors' question, it was a fact that exhibitors would go to Chiswick, and had done so on many occasions. The committees had also been many times summoned to meetings there, the attendances had always been satisfactory, and much good work had been done in a pleasant and agreeable way. His view of the question was that as a duty to horticulture they should make more use of Chiswick, and as helping in that direction some at least of the regular meetings should be held there.

Mr. Shirley Hibberd was of opinion that the meetings at the Drill Hall had practically come to an end, there was now nothing to see there, nobody came to see it, and the whole thing had proved a mistake. There was ample accommodation at the office for the exhibition of novelties at the meetings of the committees, and the Drill Hall meetings should be abolished. Everybody was sick of the Drill Hall, but not of Chiswick.

The secretary, the Rev. W. Wilks, briefly stated the tenor of some twenty-nine letters on the subject which he had received, from which it appeared that eleven were in favour of going to Chiswick, and eighteen were against the proposal.

Mr. G. Bunyard and Mr. Pearson thought the hour of meeting was too early; Mr. Cannell was of opinion that they should go to the Crystal Palace, which had many advantages as a show place, and where he believed they could be accommodated on nominal terms; and Mr. George Paul, speaking as an exhibitor, did not think the Drill Hall had been a failure, and was adverse to showing at Chiswick.

At this point the general feeling of the meeting appeared to be that it would not be advisable to leave London altogether, and Dr. Masters rose to move a resolution requesting the council to make arrangements for holding a certain number of meetings next year at Chiswick. This was seconded by Mr. Hibberd, and carried.

Mr. Wilks then asked for an expression of opinion as to the desirability of continuing to hold the London meetings in the Drill Hall; and after some discussion, in which the difficulty of finding a better place was pointed out by members of the council, it was resolved, on the motion of Mr. H. B. May, seconded by Mr. Bunyard, that the council be advised to secure the Drill Hall for another twelve months.

The New Bye-Laws.

At a subsequent meeting of Fellows, called to pass the new bye-laws, the president explained that the delay which had taken place in bringing them forward for adoption had been unavoidable, owing to the time and care which had been taken by the Fellows' Committee and the society's solicitors in drawing them up in conformity with the terms of the charter.

Mr. Charles Noble protested against their being asked to pass the chapters *en bloc*, on the ground that the rules had only just been placed in their hands; but on Mr. Pearson explaining that the only really important changes that had been made were in chap. X., which dealt with the election of council and officers, the whole were passed with little trouble. On two points only was there any real opposition to the wording of the rules. The first related to the election of honorary foreign members, and was raised by Mr. Dyer, who proposed that the number should be limited to twenty, as under the old bye-laws. Mr. Pearson moved that the number should be raised to thirty, but this was negatived. In the second case, the new rule objected to, also by Mr. Dyer, was the most important one of all, inasmuch as it was that which regulates the procedure of electing members of the council. Under the old bye-laws the council practically nominated and elected whomsoever they chose. Under the new ones this power has been taken from them, and any two Fellows may recommend any other Fellow for removal from or election to the council, and the balloting list shall give the names of any Fellow or Fellows proposed for removal or election, and of the proposers and seconders thereof. Mr. Dyer could not see how this arrangement would work, and wanted power given to the council to propose what is usually called a house list. This was, however, regarded by the meeting as the old plan under a new name, and the Fellows would have none of it, for the new rule was carried. With reference to the election of president, Sir Trevor Lawrence stated that the revision committee had made a proposal that no president should be elected for a longer period than three years; but it was thought advisable that this point should be held over for discussion and settlement at the next annual meeting.

The Amateurs' Garden.

The India-rubber Plant in Winter.

Many amateurs succeed admirably with this plant in summer; but not a few fail with it in winter. This is especially the case with newly bought plants if they have been taken from a house with a high temperature, and subjected to window treatment in dwelling houses. Provided fires are kept burning in the rooms where the plants are grown, they will suffer little or no harm by the change. The question of watering, however, is often the most important one, requiring attention, and must be learnt by careful observation. A considerable amount of water is absolutely necessary in summer while growth is being made; but as this becomes matured in autumn, water should be gradually withheld so as to harden the wood, and induce the plant to thoroughly go to rest. The roots must not, however, be allowed to get dust dry for any length of time, otherwise the lower and older leaves will drop, rendering the plant leggy and unsightly. The younger roots will also suffer or even get killed by drought. Therefore, strive to maintain them always in a moderately moist condition, and remove the plants from the window in the case of severe frost, and there will be no difficulty in preserving the plant in a healthy and sound condition.

Chrysanthemum Cuttings.

Those who possess a cold frame in a sheltered place, and wish to obtain a batch of Chrysanthemums to flower during the first and second week in November, should commence now by taking cuttings. Those that spring from the soil in the pots are generally the strongest and best. Although early in the season to get a large quantity, a few will suffice for an early batch. Make a clean cut with a sharp knife close below a joint, and remove the basal pair of leaves with the same care. Get some small 60-sized pots, and after thoroughly draining them with crocks and filling them with soil pressed moderately firm, insert a few cuttings round the sides of each. Use a compost consisting of good loam rendered porous with a quantity of sharp silver or, in its absence, river sand. Water the soil down with a rosed watering pot after the cuttings have been inserted, and plunge the pots in ashes in the cold frame, which should be kept closed till the cuttings begin to root, after which they should be ventilated. If the frame is heated in any way a little warmth applied during severe weather would be an advantage, and hasten the rooting process. In the absence of these appliances a shelf in the greenhouse will accommodate them admirably.

Collecting Leaves.

Those situated in rural districts, or where much wood abounds, have now a golden opportunity of laying up a store of a most useful manure, which is put to an endless number of purposes in garden economy, and is always wanted. Leaves may be used for covering Rhubarb, in order to force it earlier by the heat produced during fermentation. Hotbeds may also be made of them in spring for raising seeds, for propagating plants from cuttings, and for raising Cucumbers, Marrows, or Potatos in spring. A small quantity of farmyard manure mixed with the leaves will make the heat stronger and more lasting. Decayed leaf-soil is required in the potting of many plants, and for mixing with the soil in which seedlings are raised. Leaves also constitute a good manure for shrubbery or herbaceous borders where the soil is heavy. Looking at the question from this point of view, it will be another incentive to have all walks and lawns thoroughly and frequently raked or swept, so as to prevent the leaves being trodden into mud upon them. Tidiness also greatly increases the amount of enjoyment to be derived from the garden at this dull season.

Planting Raspberries.

Now is the time to prepare ground for new plantations. The site selected should be in a cool sheltered part of the garden where the soil never gets very dry or baked in summer. In fact, the Raspberry likes moisture provided the ground is at the same time well drained. Trench it all over two spades deep, applying a good quantity of fairly well-rotted manure at the same time. It will increase the moisture-holding power of the soil in summer if the subsoil below that actually turned up is loosened up as the work proceeds. This allows superfluous moisture to pass away, while during dry weather, it again rises towards the surface by capillary attraction. After the leaves have fallen, get young suckers with as many fibrous roots attached to them as possible, and proceed to work. They may be planted in lines 5 ft. or 6 ft. asunder, and 4 ft. to 5 ft. between each plant, and staked. Should the suckers be weak it would be an advantage to put two or three of them to each stake so as to furnish them as soon as possible. A better way is to stretch wires between strong poles inserted at each end of the line of plants. The latter may be planted 3 ft. apart, and trained so as to wholly cover the wires, forming a close line of canes. The wood ripens better when so trained, and the fruit can more readily be collected.

POTATOS AT MANCHESTER.

In your notice at p. 153 of the annual Apple, Pear and Potato show recently held in Manchester it was incidentally stated that the Manchester Society's Gold Medal had been awarded to Messrs. Dickson & Robinson, of Old Millgate, for their collection of Potatos. This was all very well as a bare and simple statement of fact, but no idea is given by the half-dozen words of the wonderful extent and merit of the collection. The council of the Manchester Royal Botanical and Horticultural Society never bestow a gold medal unless it is richly deserved. This, perhaps, goes without saying. In the present instance the honour was so exceedingly well deserved, that I think it is but ordinary justice to the exhibitors to specify in what direction the merits of their collection consisted. The extent of table-surface occupied was over 20 square yards, and the number of distinct varieties laid out to view—several of them never before exhibited in Manchester—was not less than 120. In every instance they were admirable examples of careful culture, having fine, fat, well-coloured tubers, and in not a single instance was there the slightest indication of disease.

The arrangement was artistic and effective. The middle of the group was occupied by a great pile of Imperator, that capital late white round Potato, which is not likely ever to be surpassed in respect of all-round good qualities. Upon each side of this centre-piece were three rows, stretching away right and left, of great heaps of other leading sorts; and exterior to these, in turn, were long rows of china plates, containing samples of yet other sorts, all first-rate in complexion and substantial promise to the eye, even of the non-professional; for the public, though they may not possess minute techuical or scientific knowledge, are, as a rule, very good judges, since the first requirement in accurate judging is no doubt plain common sense.

To the company in general the show was evidently a great surprise. When they sit down to dinner, hungry, and by no means inquisitive in horticultural matters, so long as they get plenty to eat, people accept the Potato purely as the companion of their beef or mutton. The adjacent dish is filled with Potatos, and that will do; they ask not whether they are consuming Sutton's Early Regent, or Chiswick Favourite. Great, accordingly, was the astonishment of many when shown, as in this grand display, that the everyday idea of the Potato requires to be multiplied by quite 120. To intending cultivators the exhibition was, of course, immensely useful; this, in truth, we take to be the grand practical value of every such exhibition. It is not simply in the hope of winning a gold medal, that men like Messrs. Dickson & Robinson exhibit; their prime object is to give wise and solid information to gardeners all over the country, so that the nation as a whole may be the better for their endeavours. If ever a Gold Medal was unquestionably well won, it was in this instance.—*Subscriber.*

CHRYSANTHEMUM NOTES.

Chrysanthemum Buds Damping Off.

I observe in your last issue that Mr. Murphy draws attention to Chrysanthemum buds damping off, and so far as I know it is not a new complaint about Chrysanthemums. I have known it to exist for years, sometimes with one grower, and then with another. Although I have seen many collections this season, I have not met with a symptom of damping amongst them. I was aware, however, that a noted grower expected to be debarred from exhibiting on account of his losses from damping off. No doubt the craze for large blooms has something to do with this disease, and the cooking and feeding under glass to bring them forward for showing has something more. Whatever the cause is, there has not been, I believe, any attempt made to investigate it or provide a remedy. I saw sulphur applied, but it did not arrest the disease, and nearly all the flowers were lost. As Mr. Murphy suggests, I think the nearer we can follow outdoor cultivation the better. Those having buds affected from this cause ought to send some to the proper quarter to see if a fungus is at work, causing the destruction.—*W. D.*

What is the cause of Chrysanthemums damping off prematurely? is the question Mr. Murphy asks at p. 167, and to which, he himself, in my opinion, gives a very correct and sensible reply. Discontinue feeding with stimulants when the flowers are half-open, admit an abundance of air night and day, with just sufficient heat in the pipes to prevent a moist, stagnant atmosphere, and there will be fewer complaints of flowers damping off prematurely—a vexations occurrence after eleven months' close attention to all other cultural details.—*J. Horsefield, Heytesbury.*

Jeanne Marty.

This is the finest of all the Anemone Japanese varieties. The inner cluster of quilled petals was, in fine blooms, shown at Kingston, fully 4 ins. across, and were also not unlike a flower of Macaulay, but with large guard petals; the colour is a pleasing peach or pink. Such grand varieties in this section as these, indicate presently wonderful development, and the old, stiff Anemone forms may then be utterly eclipsed. Whilst incurved flowers seem to have shown us their best form, there would appear to be no limit to the marvellous range of variety and form which the Japanese can furnish. They will soon have to be more considerably classified for exhibition.—*A. D.*

New Chrysanthemums.

At the Chrysanthemum, Fruit, and Vegetable Exhibition held by the National Chrysanthemum Society in the Royal Aquarium, Westminster, on November 7th and 8th, the undermentioned new varieties received First Class Certificates.

Avalanche.—A white Japanese variety of large size. The florets are broad, flat, and before being fully expanded are spreading, but they ultimately become erect or ascending.

Florence Piercey.—In this we have a very pretty and striking new Japanese variety. The blooms are of medium size, or about 4 ins. to 5 ins. across, and 5 ins. deep, and pure white. The florets are slender and tubular till near the apex, when they widen out and are deeply jagged or crested. Both were exhibited by Mr. E. Molyneux, Swanmore Park, Bishops Waltham.

Miss Gorten.—The florets of this Japanese variety are broad, flat, nearly regularly recurved, and of a delicate pink shade. The blooms are of moderate size.

Fimbriatum.—This is also a Japanese variety, with long, narrow, more or less twisted florets of a delicate blush tint. The name applies to the fimbriated or lacerated apex of the florets. The heads are of good size.

Geo. Daniels.—The flower heads in this case are not quite so large as those of Fimbriatum, but have spreading and recurved, broad flat florets, with sometimes a few quilled ones amongst them. It is a pale or blush Japanese variety. All three were exhibited by Mr. Robert Owen, Floral Nursery, Maidenhead.

Alfred Lyne.—This new incurved variety is a silvery lilac sport from Novelty, which is nearly white. Exhibited by Mr. J. Lyne, Belvedere, Wimbledon.

James Weston.—A white Japanese Anemone. Exhibited by Mr. J. Ridont, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate.

Othello.—A Japanese variety with orange-buff heads, and a dark reddish brown centre. It is considered a very fine variety. Exhibited by Mr. George Stevens, St. John's Nursery, Putney.

Mons. Bernard.—A Japanese variety with large heads of a deep magenta, with a silvery reverse. The outer florets are somewhat drooping. Exhibited by Messrs. J. Laing & Sons, Forest Hill.

At the Crystal Palace on the 9th the under-mentioned varieties were certificated.

Marsa.—The flower-heads of this Japanese sort are large, with densely arranged, somewhat twisted florets, which are reddish purple above and silvery beneath.

Avalanche and Florence Piercey.—For description see those certificated by the National Chrysanthemum Society. All three were exhibited by Mr. W. Packman, gardener to C. E. Shea, Esq., Foots Cray, Kent.

Mons. Bernard.—For description see those certificated by the National Chrysanthemum Society. Exhibited by Messrs. J. Laing & Sons.

Violet Tomlin.—A new incurved variety of great promise. For description see p. 147. Exhibited by Messrs. Davis & Jones, Camberwell.

Mr. Garnar. — The flower-heads of this new Japanese variety are moderate in size, but of a deep golden yellow slightly suffused with buff, and very pretty. The spreading florets are revolute at the margin. The leaves are coarsely lobed and of good substance.

Avalanche.—For description of this variety, see the preceding column. Both of these were exhibited by Mr. Geo. Stevens, St. John's Nursery, Putney, at the meeting of the Floral Committee, on Tuesday last, when they received First Class Certificates.

GARDENING MISCELLANY.

Planting Waste Lands.

It occurs to us, in the interest of the prosperity of the country, that the ratepayers might be asked to bear the cost, and share the profits, upon conditions to be agreed upon, of increasing the wealth and resources of the country by the clothing of all our hill-sides and waste lands with timber. When the County Councils are in full working order, to which body such extensive powers will eventually be delegated both in the raising and expending of money, this might be an interesting and important question, especially in those districts where large tracts of land are producing no rent and otherwise laying unproductive, of which we have millions of acres. The subject is alike interesting to the landowner and the ratepayer, who, between them, may be able to devise a scheme of much more value to every individual, by the employment of labour at home, than is State-aided emigration. The working out of such a scheme would help to restore a closer relationship between the town and the country, lessen the poverty of our densely overcrowded cities, with its ever attendant evils, and make our country richer and the people happier and more contented.—*Little & Ballantyne, Carlisle.*

The Ribbon Tree.

The plants to which this popular name is generally applied are members of the Mallow family, natives of Australia and New Zealand. They number about eleven species, so far as is known, and consist mostly of shrubs, which generally require greenhouse treatment in this country. Singularly enough, the largest plant coming under our notice is a specimen of Plagianthus betulinus, about 18 ft. high, grown in the open garden at East Duddingstone Lodge, Joppa, near Edinburgh, the residence of Charles Jenner, Esq. In its native country it is stated to grow to a height of 40 ft. to 70 ft. The plant in question can hardly be termed a tree, as it consists of a mass of long, slender branches from the root upwards, and is perfectly healthy—a fact which testifies to its hardiness in this country. It may, however, prove hardier in the neighbourhood of Edinburgh than in that of London, as we find in other cases, such as that of the Tree Pæony, which in the south starts into growth too early and gets cut down by frost. The flowers are small, white, and produced in terminal, much-branched panicles.

Centropogon Lucyanus.

As a winter-flowering plant this is valuable, on account of the quantity of flowers it will afford during the dark months of the year, provided the plants receive liberal treatment, are placed near the light to keep them sturdy and short-jointed, and the flowering shoots are removed from time to time for cut-flower purposes. Side shoots are then thrown up, forming a long succession. The tubular curved flowers are brilliant red or scarlet, with pale tips, and furnish variety, whether for conservatory or cut flower purposes.—*G. H.*

Birds and the Fruit Crops.

It seems to me that both "R. D." and Mr. Stevens are, in a sense, right, as there must necessarily be more destruction of fruit by birds in a wet season than in a dry one, fruits having to form their staple food instead of insects. If food is not forthcoming through one channel, birds, like most other living things, are compelled by stern necessity to seek it in another. We seem to ignore the fact, that the circumstances which compel them to attack fruit are the same as those which deprives them largely of their natural sustenance, for it cannot be denied that there has been a scarcity of insect life this season, owing to the cold and wet. The wonder is how swallows and allied tribes have really existed. I rather favour the explanation that in a dry season, when insects are plentiful, water will to a certain extent counteract a desire for fruits, though not altogether, as birds have a certain claim upon fruit as well as man. In a thirsty moment, when at work upon a parching hot day, and when we cannot get water or possibly something stronger, do we not do the same thing as we condemn the birds for doing?—*Scarecrow, November 10th.*

The Mulberry.

I always read "R. D.'s" contributions with keen interest, because they are instructive and possess so much of real grit, but will you allow me to say that if he studied his Bible only half as much as he does plant lore, he would not have said (p. 162) there was no reference to the Mulberry in the Old Testament. The Mulberry is far more ancient than what your correspondent thinks, and if he will turn to 2nd Samuel, v., 23—24, or 1st Chron. xiv., 14—15, he will find it plainly referred to.—*C. S., Castle Menzies.*

Spotted Cyclamen.

Spotting frequently occurs amongst the flowers of Cyclamen persicum, but in some instances it is said to be due to the effects of cold, and is neither very regular nor very definite sometimes, which causes growers to dislike or disregard it. We noticed a plant the other day at Gunnersbury Park, Acton, which had six flowers closely and beautifully spotted with deep rose on a pure white ground, with the exception of the mouth which was deep purple. Two other flowers on the same plant, curiously enough, were entirely without spots. If growers would save seeds from these spotted varieties, there seems no reason why a spotted race should not be perpetuated by selection, just as other colours are preserved and intensified by the same means. It is rather surprising that no attempts should be made to perpetuate a race of fragrant varieties, which would enhance the value of these beautiful flowers in the public estimation to a considerable extent. Fragrant varieties have been noted amongst them from a very early time in the history of this species, and they frequently make their presence felt in collections yet, but they should be singled out and perpetuated by selection.

The Carmichael Strain of Azaleas.

These are varieties, or rather hybrids, of Azalea amœna, in which the flowers are considerably improved in size, and the foliage larger and paler. There can be no doubt, however, of their affinity with A. amœna, as it is evidenced in the close branching habit of the plant, the small evergreen leaves and the small flowers, which are borne in great profusion, almost or quite covering the foliage when in full bloom. The flowers, however, are larger and of several shades of rosy purple, dark or light, and spotted on the upper lip with darker markings. The greatest difference seems to be in the absence of a petaloid calyx, which is so characteristic of A. amœna, and adds so much to its effect in the aggregate. The flowers of the hybrid strain being, however, much larger, a coloured calyx, if present, would be more or less hidden. The hybrids are equally amenable for forcing, as A. amœna, and a batch is now flowering freely at Gunnersbury Park, Acton.

Begonia Octavie.

This is a charming acquisition, and those who saw the large collection exhibited by Messrs. Cannell & Sons, of Swanley, at the Aquarium last week, are not likely soon to forget its picturesque appearance. The plant is of dwarf and sturdy habit, 6 ins. to 8 ins. high, flowers double and pure white, of good form and substance, and produced with freedom. Altogether one may say it is a novelty possessing great merit.—*J. Horsefield.*

The Scarlet-berried Elder.

Few seem to be aware of the beauty of this shrub (Sambucus racemosa), when laden with its large clusters of bright red or scarlet berries, for decorative purposes in the shrubbery border during the latter part of summer and autumn. The complaint is that it fruits indifferently or not at all, while the fact that it is naturally a large-growing shrub or small tree is overlooked. Many years ago it was grown as a standard in the Jardin des Plantes, at Paris, with very fine effect, while in this country it is usually kept down to a low bush, when the results, as might be expected, are far from satisfactory. Those, however, who allow it to attain some size are rewarded by the production of large quantities of berries, making the plant a very effective object in a shrubbery, or as a large bush or clump in the pleasure grounds. We recently saw a standard tree of it heavily laden with fruit in the woodland arboretum at East Duddingston Lodge, Joppa, near Edinburgh.

Cyclamens at Clovelly, Hounslow.

For some time past there has been a wonderful display of Cyclamens at this place, the residence of W. H. Ellis, Esq. It is comparatively a new establishment, and the area of glass structures has been considerably extended, and is likely to be increased from time to time. The Cyclamens under notice measure some 15 ins. across, and carry some fifty or sixty blooms at the present time. The important point, however, is that they were only sown about ten months before these notes were taken, so that they have made remarkable progress in the time. They were sown on January 3rd in pans of light sandy loam and after germination were pricked into other pans with a little more room to develop. They were then potted into 60-size pots and kept growing till June, in the course of which time they were ready to be potted into 40-size pots. After this they were removed to a cool pit and hardened off. The secret of Mr. Ford's (the gardener) success, was never to check growth, but to keep the plants moving; nor were they at any time allowed to get dry; and during hot scorching sun they were kept shaded.

Cedrus atlantica glauca.

I quite concur in the opinion expressed by "R. D." (p. 168) as to the beauty of the silvery grey-tinted variety of the Mount Atlas Cedar. Nor can there be any doubt as to the persistency of the tint, as may be seen by a tree at High Elms, Kent, and another, possibly two, on Lord Brassey's estate at Normanhurst, Sussex, and which may range from 20 ft. to 25 ft. high. C. atlantica even in its typical form has a more decidedly glaucous tint than either the Himalayan, C. Deodara, or the Cedar of Lebanon (C. Libani), especially after the new growth and foliage for the season has been completed in thriving young trees; but those who have seen the true C. atlantica glauca will have no doubt as to its distinctness, for it is really a striking object in a landscape amongst other trees, even if planted alongside of the ordinary form. The whole tree is of a beautiful silvery sheen as if covered over with hoar frost, and is especially striking in autumn.—*F.*

Begonia geranioides.

This is a charming winter-flowering species, with dark green reniform leaves. The flowers are white, slightly fragrant, borne upon erect-growing panicles about 8 ins. high. The stamens are yellow, and give the flowers a very neat appearance. In the pistillate flowers the ovary is conspicuous, being white like the perianth; the styles like the stamens are a bright yellow. We are indebted to Mr. J. O'Brien for a couple of tubers of this interesting plant, obtained, I believe, by him from Natal. Our plants are growing and flowering freely in a warm greenhouse, close to the pipes, potted in sandy loam and a little peat. B. geranioides ought to become a popular plant, and doubtless will be so, if white flowers and fragrance have any effect in establishing the reputation of a Begonia.—*J. W. O.*

CHRYSANTHEMUM SHOWS.

National.—*Nov. 7th. and 8th.*

Owing to the pressure on our space last week, we were obliged to omit reference to many important classes, both in the way of cut blooms, fruit, and vegetables, an omission which we now supply.

The first prize stand of six Japanese blooms of any colour, consisting of Edwin Molyneux, was specially noteworthy on account of the size of the blooms, which were 10 ins. in diameter by 7 ins. deep. They were shown by Mr. J. McKenzie, gardener to T. S. W. Cornwallis, Esq., Linton Park, Maidstone; Mr. J. Doughty, gardener to Mrs. Tomlin, Angley Park, Cranbrook, Kent, was second with splendid blooms, both as to size and colour, of Belle Paule. For six blooms of one white Japanese variety, Mr. J. McKenzie was again first with large specimens of Meg Merrilies, and Mr. W. Jupp, gardener to G. Boulton, Esq., Eastbourne, was second with Avalanche. Special prizes were offered by Messrs. J. Jensen & Co., 102, Fenchurch Street, London, for six trained specimens, and Mr. S.

Gilbey, gardener to B. Booth, Esq., The Cazenoves, Upper Clapton, took the first; Mr. W. Davey, gardener to C. C. Paine, Esq., Cedar House, Stamford Hill, being second. Special prizes were also offered by Messrs. W. Wood & Son, Wood Green, London, for six cut back plants, and the first prize went to Mr. G. H. Cooper, Sydenham Road, Croydon. Messrs. Davis & Jones, Camberwell, were the only competitors for the prizes offered by M. Simon Délaux, Toulouse, France. They had several stands of Japanese, Anemones, Pompons, Japanese Anemones, and others very suitable for decorative purposes. In the miscellaneous class Messrs. H. Cannell & Sons, Swanley, Kent, showed a large collection of cut blooms of Chrysanthemums.

The prizes offered for fruit brought out some very fine samples in all the classes. Mr. A. Luff, gardener to F. T. Schwann, Esq., Oakfield, Wimbledon Common, took the first prize for white Grapes, showing good samples of Muscat of Alexandria. Mr. C. J. Goldsmith, gardener to Mrs. C. A. Hoare, Kelsey Manor, Beckenham, was second; and Mr. G. Duncan, gardener to C. T. Lucas, Esq., Warnham Court, Horsham, was third. Splendid samples of Alicante, large both in bunch and berry, were shown by Mr. W. Howe, gardener to F. Sate, Esq., Park Hill, Streatham Common, who took the first prize; Mr. J. Butler, gardener to A. Venables, Esq., Hollywood House, Wimbledon Park, was second; and Mr. J. Bury, Tewkesbury Lodge, Forest Hill, was third. Mr. J. Lambert, gardener to Colonel Wingfield, Onslow, Shrewsbury, took the first prize with handsome well-finished bunches of Gros Colmar; Mr. J. Craven, gardener to S. Wells, Esq., Osborn Park Gardens, Potters Bar, being second; and Mr. W. Allen, gardener to Lord Suffield, Gunton Park, Norwich, came in third. There was a very fine show of Apples and Pears, the former being highly coloured, especially the dessert varieties. Mr. C. J. Goldsmith took the first prize for dessert Apples, showing Red Reinette, Blenheim Orange, Glory of England, Ribston, and others. He was followed by Mr. Miller, gardener to J. T. Friend, Esq., Northdown, Margate; and Mr. R. Dean, Ranelagh Road, Ealing, came in third. Mr. J. McKenzie had the best culinary varieties, showing Peasgood's Nonsuch, Winter Hawthornden, Stirling Castle, Alexander, Gloria Mundi, and others. Mr. F. Miller followed; and Mr. S. Osborne, gardener to the Right Hon. The Earl of Fife, East Sheen, was third. The best dessert Pears, including samples of Durandeau, Duchesse d'Angoulême, Beurré Diel, and Pitmaston Duchess, were shown by Mr. C. J. Goldsmith; he was followed by Mr. W. Allen, and Mr. E. Waterman, gardener to H. A. Brassey Esq., Preston Hall, Aylesford, Kent. There was a great competition in the classes for Potatos, which were on the whole clean, and excellent samples of cultivation. Mr. J. Hughes, gardener to Colonel Cartwright, Eydon Hall, Byfield, took the first prize for twelve dishes; Mr. E. S. Wiles, gardener to R. E. Cartwright, Esq., Banbury, coming in second, and Mr. W. F. Smith, Horpit, Wanborough, Berks, third. The prizes for six dishes were taken by Mr. E. S. Wiles, Mr. J. Hughes, and Mr. F. Miller respectively.

The following prizes were offered by Mr. C. Fidler, Reading:—Nine dishes of Potatos: Mr. E. S. Wiles took the first prize; Mr. L. Harris, Bradenham, Bucks, came in second; and Mr. C. Ross, gardener to Col. G. B. Eyre, Welford Park, Newbury, was third. Messrs. J. Hughes, E. S. Wiles, J. Butler, gardener to A. J. Thomas, Esq., and Mr. Harris took the other prizes for Potatos.

In the miscellaneous class Messrs. Richard Sankey & Son, Bulwell, Nottingham, showed flower pots, pans, baskets, and other samples of pottery.

Crystal Palace.—*November 9th and 10th.*

The show at the Palace on Friday and Saturday of last week was equally as extensive as that of the previous year, while some of the smaller sections were better represented than usual. In the classes for twelve blooms the competition was very keen.

Messrs. John Laing & Sons, Forest Hill, carried off the first award for a group of Japanese kinds arranged in a space of not less than 100 sq. ft. The blooms were of good size and numerous, Mons. Bernard, Anatole Cordonnier and Mrs. Wright being in fine form. Messrs. Davis & Jones, Lilford Road, Camberwell, were second. The latter were the only exhibitors of incurved varieties occupying the same extent of space as the above, and were awarded the first prize. The blooms were numerous, but of moderate size. Mr. F. Ball, gardener to Sir Henry Doulton, Woodlands, Tooting Common, took the first prize in the amateurs' class for a group occupying 50 sq. ft. Some of the blooms were of large size. Mr. J. Gravett, gardener to Dr. Hettey, Upper Norwood, was second. Mr. E. Cherry, gardener to Mrs. Gabriel, Streatham, had the best six trained specimens of incurved sorts, including fine bush specimens of Queen of England, Golden Empress of India and others; Mr. J. Weston, gardener to D. Martineau, Esq., Clapham Park, was second. Mr. E. Cherry, took the first award for six Japanese varieties, which were trained bush form and finely flowered; Mr. W. Clarke, gardener to J. H. Lile, Esq., Brixton Hill, was second. Mr. W. Wesker, gardener to A. Heaver, Esq., Upper Tooting, had the best four trained incurved varieties and the finest four trained Japanese. Mr. E. Cherry had the best Pompons.

There was most competition in the classes for cut flowers, and in that for twenty-four Japanese and twenty-four incurved varieties there were six entries. The first prize was carried off by Messrs. W. & G. Drover, Fareham, who had fine specimens of Belle Paule, Boule d'Or, Comte de Germiny, E. Molyneux, and J. Délaux amongst Japanese kinds, and Lord Alcester, Golden Empress of India, Barbara, and Alfred Salter amongst incurved kinds. Mr. J. Horsefield, gardener to Lord Heytesbury, Heytesbury, Wilts, was second; and Messrs. W. Ray & Co., Sittingbourne, were third. In the class for eighteen incurved varieties, Mr. M. Sullivan, gardener to D. B. Chapman, Esq., Devonshire House, Roehampton, took the first prize with fine blooms of Lord Alcester, Empress of India, Queen of England, and others; and Mr. A. G. Hookings, gardener to Sir Henry Thompson, Hurst Side, West Moulsey, the second. Mr. T. Skinner, gardener to J. Aird, Esq., East Sutton Park, had the best twelve incurved sorts. Mr. J. Doughty, gardener to Mrs. M. Tomlin, Angley Park, Kent, took the first prize for a stand of one variety. Mr. W. Packman, gardener to C. E. Shea, Esq., Foots Cray, Kent, took the first award for eighteen Japanese varieties, including fine blooms of Avalanche, J. M. Pigny, Comte de Germiny, and others, the stand being an excellent one; Mr. T. Glen, gardener to Mrs. Montefiore, Crawley, Sussex, took the second. Mr. T. Skinner had the best twelve Japanese; Mr. J. Dyer, gardener to G. H. Parsons, Esq., South Norwood, coming second. Messrs. W. & G. Drover had the best stand of one sort, showing Boule d'Or. They had also the best stand of reflexed varieties, and the best Anemone-flowered. Mr. G. Duncan, gardener to C. T. Lucas, Esq., Horsham, had the best Pompons, including the beautiful Mdlle. Elise Dordan, and the best Pompon Anemones. Mr. E. Chadwick, gardener to E. M. Nelson, Esq., Hanger Hill, Ealing, had the finest stand of single Chrysanthemums; and Messrs. W. & G. Drover took the first prize for Japanese Anemones. Mr. J. Rodbourn, gardener to Baroness Heath, Croydon, took the first prizes for single red and double Chinese Primulas. Mr. A. Carter, gardener to Mr. Alderman Evans, Ewell, Surrey, had the best white Primulas.

Special prizes were offered by Messrs. Sutton & Sons, Reading, and Mr. W. H. Smith, Shrivenham, Berks, took first for a collection of Potatos; Mr. G. Goldsmith, gardener to Sir E. G. Loder, Weedon, was second; and Mr. J. Lye, Clyffe Hall, Wilts, third. Mr. W. H. Smith was again first for a smaller lot.

In the miscellaneous class Messrs. H. Cannell & Sons, Swanley, Kent, showed a collection of Chrysanthemums, Begonia Octavie and Pelargoniums. Fine collections of fruit, mostly Apples, were shown by Messrs. J. Laing & Sons, Messrs. J. Cheal & Sons, Crawley, Sussex, and by Mr. C. R. H. Starr, Nova Scotia. Large collections of Potatos were shown by Messrs. Sutton & Sons, and by Mr. C. Fidler.

Brighton and Hove.—*November 13th and 14th.*

It has been our good fortune to visit the above exhibition on several occasions during the past few years as the Chrysanthemum season comes round, but never do we remember to have seen a finer display than that afforded on the present occasion, neither department of the show displaying any weak feature. Plants were shown of excellent quality and in fine form. The groups were considered by competent judges to have surpassed anything seen in the London exhibitions of the past week or two, being devoid of that formal style so frequent in the metropolitan shows. The first prize in the larger groups was well won by Mr. A. Bunney, gardener to W. Champion, Esq., of Danny Park, whose arrangement displayed the greatest taste, combined with quality and floriferousness. Mr. Taylor, gardener to Major Way, Wick Hall, was a first-rate second. Smaller groups were also shown in numbers, there being in three group classes, fourteen or more entries. Trained specimens were a treat to see, so fresh and good were they staged. Mr. Meachen, gardener to — Armstrong, Esq., Withdeane, was an excellent first for dwarf plants shown in the best condition. Mr. Hill, gardener to M. Wallis, Esq, Withdeane, was a close second. The last named was the winner, however, in standards, which appear to be his peculiar forte, whilst for pyramids, Mr. Meachen was again successful. Small plants in 6-in. pots were best shown by Mr. Bunney, and Pompons by Mr. Godby, gardener to Dr. Withers Moore, Burgess Hill. Primulas were very fine, chiefly from Mr. W. Miles, West Brighton Nurseries, and Mr. Bunney, who both showed doubles very freely flowered. Singles were best staged by Mr. Wickham, gardener to J. Humphrey, Esq. Cyclamen in the London style came from the West Brighton Nurseries, and table plants from Mr. Snow, Wadhurst, Sussex. Cut blooms were shown very strongly, there being on an average from seven to ten entries in each class.

For forty-eight, equal number of incurved and Japanese, Messrs. Drover, florists, Fareham, were first, with a strong lot in both sections; Mr. Hopkins coming in a close second. These two exhibitors were again successful, in the Japanese class where Messrs. Drover were first, and in the incurved where Mr. Hopkins held the post of honour; both showing finely developed blooms. Smaller classes were also well filled. Mr. Fowler, gardener to Mrs. Hall, Henfield, was a successful exhibitor in twelves of each section, Mr. Snow also showing well. With Pompons, Mr. Russell, gardener to Dr. Lewis, Henfield, was a capital first; and Messrs. Drover again with reflexed varieties. The amateurs were here also conspicuous by the fine quality of their flowers. Bouquets of Chrysanthemums were an interesting feature, and displayed a great amount of taste. Mr. R. Miller, of Shoreham, won in a strong competition. Grapes were shown well, particularly Muscats, where Mr. Goldsmith, gardener to Mrs. C. A. Hoare, Kelsey Manor, was victorious; Mr. Spottiswood, gardener to Mr. Duddell, Queen's Park, Brighton, followed a good second. Black Alicantes were best shown by Mr. Buxton, gardener to J. Butler, Esq., Withdeane. Pears and Apples were shown in large numbers, Mr. Goldsmith being the winner with very fine fruit in each class of dessert Pears, four kinds, and dessert and culinary Apples in similar quantity. With vegetables Mr. Goldsmith was also successful, taking the Messrs. Sutton's prize for the best collection with a strong lot. Other collections of vegetables were well shown, and single dishes of several kinds likewise. Miscellaneous exhibits were an important feature. The orchestra in the dome was grandly furnished by Mr. Longhurst, of Miles' West Brighton Nurseries, with finely grown Tree Ferns, Cycads and Palms, with a finish around the front of smaller plants of a brighter character. From the same exhibitor came also a finely got-up cross of white Chrysanthemums of enormous size. Messrs. Balchin, of Cliftonville Nurseries and Hassocks Gate Nurseries, had a number of well-grown Erica hyemalis and other kinds, with bright plants of Crotons, Dracænas, and small Palms, with a margin of Apples (about forty dishes). Messrs. Cheal & Sons, of Crawley, showed a fine lot of Apples and Pears, about eighty dishes in all, similar to what the firm has previously put up in so many exhibitions already this autumn. The management of this show reflects the greatest credit upon the executive, Mr. Longhurst, the painstaking secretary, Mr. R. Miller, the chairman of committee, Mr. Geo. Miles and the whole body of committeemen working with a will to render the exhibition a brilliant success, which it undoubtedly was, thanks to their practical and energetic labours.—*Grapho.*

Watford.—*November 13th and 14th.*

In spite of the early frosts the exhibition this year excelled those of previous seasons. Groups of miscellaneous plants claim the first attention. In the centre of the hall a magnificent oval group was set up by Mr. Myers, gardener to the Earl of Clarendon, consisting of well-grown flowering and foliage plants; not for competition. In the competitive class Mr. Dinsmore, gardener to T. Blackwell, Esq., carried off first honours with a very *recherché* group of foliage plants and Orchids, amongst the latter being some fine examples of Calanthe Veitchii. The groups of "Mums" were on the whole a little below those of last year, being rather too tall for good effect. Mr. Kirby, gardener to Sir A. Charles, secured first place with a group of fine flowers; Mr. Dinsmore second with a group of well-grown plants, not so large as the former, but more dwarf and compact. The keenest fight was in the cut-flower section. Here Mr. Beckett, gardener to H. H. Gibbs, Esq., Aldenham, appeared to be simply invincible, taking first honours with a magnificent set of twenty-four blooms (Japanese), amongst the most prominent being the new Sunflower, Sarah Owen, Edwin Molyneux, and Alba fimbriata. The last was a perfect flower, and was selected by the judges as the premier Japanese flower of the exhibition, the whole exhibit being awarded a special prize as the finest in the show. Second place in this class was accorded to a good twenty-four of Mr. Cox, gardener to J. Trotter, Esq., Brickenden Green. In the class for twenty-four incurved, Mr. Beckett again took first place with a fine even lot, one of the blooms being selected as the best incurved in the show; this was a fine example of Princess of Wales. Second honours were given to that veteran grower, Mr. E. Sanderson, of the "National," his being a very highly finished group of the leading sorts, and ran Mr. Beckett very close for first place. In the members' class for twenty-four cut flowers, Mr. Beckett and Mr. Henty were first and second respectively for Japanese, and Mr. Beckett and Mr. Sanderson in the same order for incurved. Other prize winners in the members' class were Mr. Mundell, gardener to Lord Ebury; Mr. Clark, Pinner; and the Rev. K. Gibbs, of Aldenham. In the amateurs' class, Mr. R. Bradberry, winner of the Silver Medal at the "National" last week, was first for incurved; Mr. Sturman, of Watford, being a good second. In the Japanese class, Mr. Lansley took the first place, with Mr. Bradberry a close second. The class for separate varieties, twelve of each, brought out a good lot of flowers, Mr. Beckett securing first place again with a dozen fine blooms of Avalanche, a pure white Japanese. Table plants, fruit, and vegetables were all well represented, Messrs. Lane showing fruit. A fine group of Bouvardias and Pernettyas came from Messrs. Cutbush, and miscellaneous plants from Mr. Darby, florist, of Watford. Space prevents us from noticing the table decorations, trained plants, and other interesting exhibits. Some idea of the show may be gathered when we state that over 350 entries were made—a good augury of the future usefulness of this young and healthy society.

ORCHID NOTES AND GLEANINGS.

Mr. Riley's Collection at Hapton.

I recently had the pleasure of visiting the collection of Orchids at Hapton, Accrington, and was agreeably surprised to find it so much improved. Mr. Riley is very fond of his plants, and is always pleased to see anyone who can talk about Orchids. He is continually adding to his collection, which contains many good things, and to Mr. Lambert, his gardener, great credit is due for the practical manner in which he handles the plants. The following are a few of the more conspicuous subjects in flower:—Calanthe Veitchii, C. oculata lutea, and C. rubra; Cattleya maxima Backhousiana, a superb variety; C. eldorado splendens, also good; Cœlogyne Massangeana, very graceful; Cypripedium barbatum, C. concolor, C. Godefroyæ, C. insigne, and C. i. punctatum violaceum, very fine; several good C. Spicerianum, and C. Sedeni; the beautiful Dendrobium bigibbum and D. formosum; Lælia Perrinii, L. autumnalis, and many fine L. anceps will shortly swell the show. The old favourite Lycaste Skinneri, and Maxillaria grandiflora are well represented, and a grand form of Pilumna nobilis is specially noteworthy. Of Oncidium tigrinum Mr. Riley has some of the best varieties I have ever seen, the lips of some of them being very broad and of a rich golden colour. O. Papilio, O. Kramerianum, O. Forbesii, O. varicosum, and the sweet-scented O. cheirophorum, are all well represented. Odontoglossum Alexandræ, O. cordatum, and a variety of O. Alexandræ, closely resembling O. Andersonianum, are charming. Pleione lagenaria, P. maculata, and P. Reichenbachiana are represented by good pots, well bloomed, which show what useful winter-flowering Orchids they are. Amongst Vandas, V. suavis and V. tricolor are in flower, showing good spikes, and growing well is Odontoglossum Harryanum. The many sheaths upon the Cattleyas and Lælias speak well for a good display in the near future. A house of Bouvardias in 32-in. pots is very fine. The varieties President Garfield and Alfred Neuner are well done, and are producing enormous trusses of flower. They are invaluable for cutting purposes at this season of the year.—*Rusticus.*

Lælia Victoria.

This new hybrid variety was derived from Lælia crispa fecundated with pollen from L. Dominii. The sepals are blush, the petals of the same colour, but broader, and all these segments are re-duplicate or folded backwards longitudinally, in the same way as L. crispa. The lip is of great size, with a greatly elongated rich crimson-purple lamina, having a velvety appearance. The tube of the lip and the enclosed column are white, stained with purple. It was exhibited by Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham, at a meeting of the Floral Committee of the Royal Horticultural Society held on Tuesday last, when it received a First Class Certificate.

Cattleya Dowiana aurea.

A recently imported but now established specimen of this magnificent Cattleya has flowered at Gunnersbury Park, Acton, where a collection of Cattleyas was got together some time ago, and which are now in robust health. Some have flowered, while others, including the comparatively new C. Bowringiana, are flowering. The spring-blooming kinds are now well furnished with flower sheaths. The Cattleya under notice is also known and grown under the simple name of C. aurea, although were its full name given as recognised by some botanists it would be C. labiata Dowiana aurea. For garden purposes it matters little what name it is grown under, as wonderful beauty and singular associations of colour will always command for it a great amount of admiration from others as well as Orchid growers. The nankeen-yellow sepals and petals contrast strongly with the rich velvety crimson-purple of the lip, and the latter again beautifully lined with orange alternating with crimson-purple stripes, the orange lines being more numerous and widely distributed over the tip than in the type. The latter is a native of Costa Rica, while C. Dowiana aurea comes from Antioquia, in New Grenada, just 600 miles distant from the home of the typical form.

Lælia præstans.

Amongst dwarf species, few, if any, are really superior in utility or beauty for autumn flowering, or, indeed, at various seasons, for if properly treated it will frequently bloom twice a year. Amongst a number of plants in the nursery of Messrs. J. Veitch & Sons, Chelsea, one variety was very choice the other week. The sepals were warm rose, and the petals similar or darker in colour, while they were very much broader even than usual. The lip was of an intense rich purple, while the tube was pale rose, and the line of demarcation between the two was very definite.

The Gardeners' Calendar.

THE STOVE.

Climbers.—Pruning of these is frequently deferred until after the new year; but a better practice would be to do it at once, as the question of light to the plants beneath them is such an important one during the present and the next month—which are the dullest, darkest, and dampest of the year—that it should not longer be neglected. This applies most particularly to evergreen kinds, which shade the houses to a certain extent all the year round. In performing the operation, however, judgment will have to be exercised so that those which flower from the wood they have now made should not have the shoots entirely cut away, but merely thinned out, tying in the rest somewhat loosely, in order to prevent a formal appearance. Keep the deciduous kinds perfectly dry at the roots to keep them at rest. Evergreen kinds, on the other hand, must not be treated exactly in this way, but they should just receive as much water as will prevent them flagging, otherwise they will drop their leaves and become unsightly.

Plants in Flower.—Such things as Bouvardias, Euphorbia fulgens (Jacquiniæflora) Centropogon Lucyanus, and Epiphyllum will last much longer in bloom and be finer if they are now placed in a house with an intermediate temperature—say from 55° to 60° at night—than if kept in the stove proper if a high temperature is there maintained. They should also be placed in favourable positions with regard to light, and if kept by themselves the house can be properly ventilated when practicable. Poinsettias will also do well here, whereas if placed in a greenhouse temperature the bracts soon decay or fall off.

THE GREENHOUSE.

Winter-flowering Plants. — Besides Chrysanthemums, the show house or conservatory may be rendered gay with a large assortment of plants that have been specially grown on for the purpose. Zonal Pelargoniums, Chinese Primulas and Bouvardias are indispensable, but a great addition will be made, and a finer effect, if Salvias, Libonias, Cyclamens, Richardias, Eupatorium, Ageratum mexicanum album, and Tree Carnations are also included in the list. In fact, there need be no want of variety despite the dull period of the year, provided advantage is taken of the numerous winter-flowering subjects now in cultivation.

Tuberous Begonias.—These are now rapidly going out of flower, and should be induced to go to rest by withholding water. Mark all those that are specially fine varieties, for the purpose of growing on again in pots for early flowering. Seedlings cannot be grown to large size in a single season, so that they will constitute the late-flowering batches. The named sorts and meritorious seedlings may be preserved by laying the pots in which they have been grown on their sides out of the reach of drip. Any place out of sight will suit them, provided wet and frost are kept at bay.

FRUIT AND FORCING HOUSES.

Vineries.—Wherever the Grapes still hanging are thoroughly matured and finished as regards colouring they may be cut, placed in bottles and stored in the Grape room, provided the vineries are required for the storage of plants. It is impossible to keep Grapes from damping if growing plants, such as Chrysanthemums or bedding plants, are kept under them, owing to the amount of watering required. Before storing them, however, thoroughly clean out the room to receive them. Then warm it up with whatever heating apparatus is employed, and thoroughly ventilate so as to dispel damp. Use as little heat afterwards as possible, otherwise the fruit will keep badly. Clear soft water in the bottles must be used.

Plants for Forcing.—The most satisfactory results are obtained in this department if the plants are brought on gradually. Those, therefore, which are required for future batches should now be placed under cover if not already done, and encouraged to make root development by plunging them in slightly fermenting leaves. At all events, they should not be exposed to frost, otherwise they cannot be in a good condition to introduce at once to a brisk temperature.

THE KITCHEN GARDEN.

Carrots, Parsnips, Chicory, Salsafy, &c.—Little further advantage can now be gained by leaving these any longer in the ground. Store Carrots in moderately moist sand, where wet cannot saturate them. Parsnips may be treated in the same way, or stored out of doors. Chicory and Salsafy may be put in small piles or heaps, with a layer of ashes between each. Turnips may also be stored out of doors, and covered with straw or a thin coat of soil.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*November 13th.*

The meeting on Tuesday last in the Drill Hall, Westminster, was a very small one, the subjects exhibited including only a large group of Cyclamens and collections of Apples, Onions and Beet. The Cyclamens, consisting of some 240 plants, were seedlings sown about seventeen months ago, grown in 48-sized pots, dwarf, sturdy, and well flowered. A large proportion of them were of the purest white and of great substance. Others were purple at the mouth, and the darker ones ranged from rose to rose-magenta and rosy crimson, some being of great size, compact and floriferous. A Silver Banksian Medal was awarded to the exhibitor, Mr. Warren, Holly Lodge, Isleworth. Cut blooms or rather trusses of hybrid greenhouse Rhododendrons were shown by Messrs. J. Veitch & Sons, Chelsea. The flowers exhibited great variety of colouring, as well as improvements in shape and size. Pink Perfection describes itself; Aurora, deep salmon; Taylori, rosy pink; Duchess of Edinburgh, scarlet; Maiden's Blush, blush; President, salmon and apricot; Princess Christian, soft rose; Ophelia, pale yellow; Primrose, pale soft yellow; Hippolyta, crimson-scarlet; Princess Alexandra, blush-white; and Empress, a large, soft red variety, would furnish in itself a neat collection, rich, varied, and all of good types. The exhibitors were awarded a vote of thanks. Mr. G. W. Cummins, gardener to A. H. Smee, Esq., The Grange, Wallington, exhibited Disa cœlestis, a violet and purple-tinted species, having the upper sepal hooded and spurred like an Aconite. It bears some resemblance to D. lacera, but the fringes on the labellum are reduced to a few short, irregular teeth near the apex of the organ. Mr. C. Herrin, Dropmore, Maidenhead, exhibited a branch of Pinus Lambertiana, bearing two large cones, 9 ins. and 10 ins. long, for which a vote of thanks was awarded; he also showed two varieties of Chrysanthemums, which have become proliferated, hen-and-chicken fashion, similar to that previously recorded by us, but in this instance the small flower heads were stalked. B. D. Knox, Esq. (gardener, Mr. Lawrence), exhibited a beautiful variety of Oncidium cornigerum with a large chocolate blotch on the tip of each segment. Cut flowers of five Nymphæas, all forms of N. Lotus, were brought up from the Royal Gardens, Kew. N. Lotus is white; N. Ortgesiana, rose; N. Kewensis, bright rose, with broad segments, and the best of all; N. L. pubescens, blush; and N. Devoniensis, with smaller bright rosy pointed segments, made a series of flowers at once interesting and beautiful for this late period of the year. A Japanese Chrysanthemum, named Charles Delmas, of a dull crimson with a yellow reverse, was shown by Messrs. J. R. Pearson & Sons, Chilwell, Notts.

A beautiful collection of Apples, consisting of fifty-six dishes, with a basket of Peasgood's Nonsuch, and a basket of Pears, consisting of fine specimens of Pitmaston Duchess, Baltet Père, and Louise Bonne of Jersey, all grown on the Quince stock, were shown by William Roupell, Esq., Harvey Lodge, Roupell Park. Other Apples in fine condition were Stirling Castle, Lodding-ton, Ecklinville, Beauty of Kent, The Queen, Lord Derby, Warner's King, Ribston Pippin, Cox's Pomona, and others. He was awarded a Bronze Banksian Medal. A smaller collection was shown by H. A. Lane, Esq. (gardener, Mr. W. Thornton), Leigham Court Road, Streatham, including fine specimens of Alexander and Cellini Apples, and some Pears. A seedling Grape from Gros Colmar, named Mrs. Clarke, was exhibited by Edward H. Woodall, Esq., St. Michael's House, Scarborough. It is said to ripen earlier than the parent. Asparagus Chicory, a new vegetable, was shown by Mr. J. Willard, Holly Lodge, Highgate; and a seedling Potato was exhibited by Mr. T. Tozer, Whitnash, Leamington. A collection of thirty-six varieties of Onions was sent up from the Royal Horticultural Society's Gardens, Chiswick, and which had been sent for trial by Messrs. J. Veitch & Sons, Messrs. Rutley & Silverlock, Mr. Deverill (Banbury), and the Novelty Co. The best-ripened and good kinds were Southport Red Globe, James' Keeping, Improved Wroxton, Yellow Danvers, White Spanish, Blood Red, and Bailey's Selected. A collection of thirteen varieties of Beet was also brought up from the Chiswick Gardens — clean, well-shaped kinds were Pragnell's Exhibition, Veitch's Selected, Pine Apple, Covent Garden Red, Dell's Crimson, Dracæna-leaved and Egyptian Dark Red. The latter is a Turnip-rooted and early kind. Beet is much smaller than usual, owing no doubt to the wet, cold and sunless summer. The above-mentioned kinds vary chiefly in the external as well as internal colour, with the exception of the three last mentioned. Dell's Crimson and Dracæna-leaved are long and slender kinds. Elcombe's Victoria and Elcombe's Red are also good kinds. The new vegetable, Stachys tuberifera, was also shown.

QUESTIONS AND ANSWERS.

Dendrobium moschatum.—*T. P:* You are correct in the main when you state that the treatment that should be given D. moschatum is similar to what D. nobile gets. It should be grown in pots, using a compost of equal parts of fibrous peat and sphagnum, with a good admixture of lumpy charcoal. Give ample drainage, as a liberal amount of water is required during growth. A rather higher temperature is necessary to mature the stems of D. moschatum than in the case of D. nobile, as it comes from a warmer country. Under good treatment the stems will grow 4 ft. or 5 ft. in height, so that you need not be surprised that your plant has not yet completed growth, although 3 ft. high. Give plenty of water, and maintain a good temperature until the stems cease lengthening, when water should be gradually withheld, to induce ripening. A lower temperature and a drier atmosphere are also necessary to induce complete rest, after which no more water should be given than what is absolutely necessary to prevent the stems shrivelling, otherwise the younger growths are liable to start prematurely. It should flower about midsummer.

Name of Chrysanthemum.—*J. H. Slade:* The two names you mention do not indicate two distinct Japanese varieties, but are synonymous. Bertier Rendatler is recognised as the correct name, and besides Curiosity, the same thing is also known as Madame Bertier Rendatler. The blooms on individual plants vary in the depth of the brownish orange colour that shades the yellow; but this depends a good deal on whether the blooms are produced from crown buds or from terminals. The same thing happens with several other varieties. They would certainly not be admitted as distinct in exhibition stands where a stated number of varieties were required.

Cattleya Flower.—*Levenshulme:* The flower you sent us is that of Cattleya labiata Warscewiczii, popularly known in gardens as C. gigas. It is flowering somewhat out of season, owing to its being recently imported, and the flowers are therefore somewhat smaller than the usual size. See the figure facing p. 27, in the *Manual of Orchidaceous Plants*, Part ii., by James Veitch & Sons, Chelsea; the text on the same page also describes it.

Leaves Curled.—*Cineraria:* The leaves of Cinerarias are so thin that they are liable to be curled up in various ways, either by drought, by a very low temperature, frost, or it may be they are in bad health. We cannot say which of these agencies has been the cause in the present instance; but from what you say we understand that you refer to the mechanism that causes the curling. The latter is merely due to the greater length of the under surface of the leaf compared with that of the upper. That is, the under side of the leaf grows faster than the upper in the bud state, causing it, of course, to become folded up, or as in the case you mention, rolled upwards at the edge.

Names of Plants.—*B. D. Knox:* The Oncidium is an uncommon variety of O. cornigerum, with a large blotch on the tip of each segment instead of being barred. *Jas. E. Bint:* The Caper Spurge, Euphorbia lathyris. *N. B.:* 1, Mitraria coccinea; 2, Polypodium (Pleopeltis) Billardieri; 3, Nephrodium molle corymbiferum; 4, Niphobolus lingua, probably, send when in fruit; 5, Nepeta Mussini var.; 6, Coronilla glauca, probably, send when in flower. *W. Hunter:* The Oncidium is O. excavatum; the other is Stanhopea oculata, not S. insignis. *Stoke:* Berberis vulgaris, the common Barberry.

Names of Fruits.—*T. Bradshaw:* Althorpe Crassane. *J. H. V.:* 1, not recognised; 2, Waltham Abbey Seedling. *R. McK.:* 1, Napoleon; 2, Souvenir du Congres; 3, Vicar of Winkfield; 4, not known; 5, Minchall Crab; 6, Ringer; 7, not known; 8, Triomphe de Jodoigne.

Communications Received.—J. P. (not quite up to our standard).—S. & S.—J. O. (many thanks).—E. L.—J. R. P. & S.—J. H.—J. L.—M. D.—W. D.—Scholasticus (A pure adventure).

TRADE CATALOGUES RECEIVED.

Charles Sharpe & Co., Sleaford, Lincolnshire.—Garden and Farm Seeds.

Dicksons, Limited, Chester.—Forest and Ornamental Trees, Evergreens, &c.

J. Galvin, Mount Talbot Nurseries, Roscommou.—Forest and Ornamental Trees, Fruit Trees, Roses, &c.

W. Thompson, Bridge House, Newtown, Pemberton, Lancashire.—Select List of Chrysanthemums, Roses, &c.

Little & Ballantyne, Carlisle.—Forest and Ornamental Trees and Shrubs, &c.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending Nov. 10th was 29·64 in.; the lowest reading was 29·56 in. at the beginning of the week, and the highest 29·71 in. on Saturday morning. The mean temperature of the air was 42·1°, and 2·6° below the average in the corresponding weeks of the twenty years ending 1868. The mean showed an excess on Sunday and Monday, but was below the average on each of the other days of the week. The general direction of the wind was easterly, and the horizontal movement of the air averaged 13·9 miles per hour, which was 2·2 miles above the average in the corresponding weeks of sixteen years. Rain fell on three days of the week, to the aggregate amount of 0·20 of an inch. The duration of registered bright sunshine in the week was 12·5 hours, against 10·6 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

November 13th.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report very little alteration in the Clover market. Red Clover continues firm. Alsyke dearer. White and Trefoil unchanged. Canary, Hemp and Linseed are much dearer. Rape is likely to advance. Rye Grasses are unchanged.

COVENT GARDEN MARKET.

November 14th.

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ..per dozen	2 0	3 0
Beet, per dozen.....	2 0	3 0	Mushrooms, p. basket	1 0	1 3
Cabbages.... per doz.	1 6		Onions, per bushel ..	7 0	9 0
Carrots....per bunch	0 6		Parsley, per bunch ..	0 6	
Cauliflowers, English, per dozen	3 0	4 0	Radishes, per dozen..	1 6	
Celery, per bundle ..	2 0		Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 0	1 3
Herbs, per bunch....	0 2	0 4	Turnips, per bun.....	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys. 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz..	6 0	18 0	Foliage Plants, various, each.....	2 0	10 0
Arum Lilies..per doz.	9 0	18 0	Ficus elastica each..	1 6	7 0
Chrysanthemums, per dozen	4 0	9 0	Fuchsia, per doz.	3 0	6 0
— large plants ..each	2 0	5 0	Marguerites per doz.	6 0	12 0
Cockscomb, per dozen			Palms in variety, each	2 6	21 0
Coleus .....per doz.	2 0	4 0	Pelargoniums, scarlet, per dozen	2 0	6 0
Cyclamen ..per doz,	12 0	18 0	Primula sinensis, per doz.	4 0	6 0
Cyperus, ..per dozen	4 0	12 0	Roman Hyacinths, per doz.	9 0	12 0
Dracæna term., doz.	30 0	60 0	Solanums....per doz.	9 0	15 0
— viridis, per dozen	12 0	24 0			
Evergreens, in var., per dozen	6 0	24 0			
Ferns, in var., per doz.	4 0	18 0			

No alteration in prices of Fruits and Cut Flowers.

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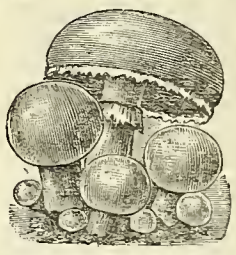
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Next Week's Engagements.

MONDAY, November 26th.—Bulb Sales at Protheroe & Morris's, and Stevens' Rooms.

TUESDAY, November 27th.—Sale of Orchids in Flower at Protheroe & Morris's Rooms.

WEDNESDAY, November 28th.—Chrysanthemum Show at Luton (2 days). Sale of Bulbs at Stevens' Rooms.

THURSDAY, November 29th.—Bulb Sale at Protheroe & Morris's Rooms.

FRIDAY, November 30th.—Eccles, Patricroft, and Pendleton Chrysanthemum Show (2 days). Committee Meeting of Gardeners' Orphan Fund at six p.m. Sale of Orchids at Protheroe & Morris's Rooms.

SATURDAY, December 1st.—Bulb Sales at Protheroe & Morris's, and Stevens' Rooms.

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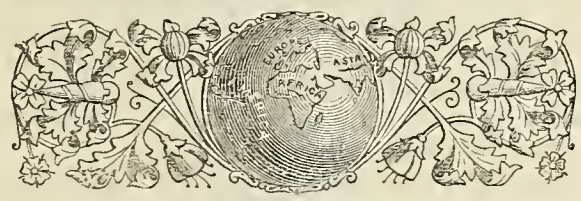

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, NOVEMBER 24, 1888.

CURRENT TOPICS.

THE CHISWICK MOVEMENT.—There can be no doubt but that the favour or otherwise towards Chiswick as shown at the recent meeting of the Fellows and Committeemen of the Royal Horticultural Society, which we last week reported, was pretty much according to the locale of the person giving the opinion. It was, of course, but natural that those living south or east of London should object to meetings being held at a place some half-dozen miles west of the metropolis, although that place is singularly accessible all the same. In our efforts to secure for Chiswick more favourable consideration as well as to make it to some extent the place for holding the society's regular meetings, we have not lost sight of the fact that moving these meetings to Chiswick would, of course, favour some attendants and exhibitors at the meetings at the expense of others. But then, take what course we may, someone must suffer.

These personal considerations, however, should not influence any who have the welfare of the society at heart, and after the year's experience at Westminster, we do ask all who may feel ever so greatly grieved by the removal of the meetings to Chiswick, what gain the St. James' Street Drill Hall has proved to be to either the society or to horticulture; and how far it has in holding meetings there fallen short of its earlier anticipations? It may be a serious matter in the minds of some objectors to remove the meetings to Chiswick, and we ask so much only for the larger ones; but we cannot disguise the fact that a grave responsibility hangs round the necks of those who have been and are pressing the society to retain yet for another year the cold, repellant place which all detest, and yet so many are afraid to quit. We have much more faith in Chiswick as a centre—both of population and of horticulture—than many objectors have. Still their opinion must be respected all the same. There can be no question but that the Drill Hall will be still a millstone round the society's neck, whilst the sum spent on it would be a veritable God-send towards helping impoverished Chiswick.

THE CHRYSANTHEMUM CENTENARY.—It will perhaps have occurred to some of our readers, that the assumed date of the introduction of the Chrysanthemum into England is identical with that of the greatest public event of modern times—the Great French Revolution of 1799. Whether or no the promoters of the centenary commemoration are absolutely assured of the exact date of the introduction of the flower, it will be odd all the same if found to have been at a time when the entire political world of Europe was excited by events in France absolutely without a parallel. The introduction of the Chrysanthemum is but another illustration of the old saying, "from what trivial causes do great results spring"; for the Chrysanthemum is now, without exception even perhaps of the Rose, the widest cultivated and most popular of garden flowers in the whole world.

Here in England it has become an absolute essential of our garden life. We could hardly exist without it, and gardening would be robbed of one-half its pleasure were Chrysanthemums absolutely destroyed. We hope ere setting about this centenary our Chrysanthemum friends have made absolutely sure of their dates. There are so many critics of history now-a-days, men of the greatest audacity, who will only too freely with their undeniable facts knock cherished tradition into a cocked-hat in no time, that it is best, even in the case of a highly favoured sentiment, to be very careful. Of course, no method of celebrating the centenary of our loved flower, of such undoubted Mongolian origin all the same, would seem more appropriate than an exhibition of unprecedented dimensions, held in London; but to effect that some self-denial would have to be practised in other directions in order that a grand idea might not be minimised by the want of concerted action. The material now employed in the making of some fifty local metropolitan shows, if employed in the production of one grand exhibition might result in something worthy of the centenary celebration.

PROTECTIVE EARTHING OF POTATOS.—The report of the comparatively successful experiment in the protective earthing of Potatos against the attacks of the Peronospora infestans, we published last week as having been conducted at Chiswick during the past summer has naturally attracted very much attention. Whilst we have been flooded during many years with all sorts of information with respect to the purely scientific aspects of the Potato Disease, all of which, if helpful in understanding the nature of the fungus and how it operates, yet it has been left exclusively to Mr. Jensen to indicate what may be termed remedial measures or practical methods of dealing with the disease in ordinary Potato cultivation. Not only is Mr. Jensen's method practical, but it is simple and easy of adoption universally, provided the Potatos are in rows sufficiently wide apart, and planted specially with a view to the adoption of the protective moulding.

It has been hard to create faith in the protective moulding system for two reasons,

first, the natural reluctance of British gardeners to adopt methods which are of foreign origin; and second, the late seasons, which until the present year proved to be favourable to Potatos under ordinary cultivation. Practically, although the protective moulding system has been advocated some four years, yet the present is the first real opportunity which has offered to submit it to a practical test, and so far as the Chiswick experience has gone it seems to have come out of the ordeal with singular *éclat*. We hope that next year, not only at Chiswick but universally, fair trials of the method will be made, without waiting to see first how the season will turn out. If the summer should prove warm and dry, and the Potato crop be healthy, no harm will have been done; but if the summer should be cool and moist, then the trial will be of exceptional interest, and it may be proved of inestimable value. No intelligent grower of Potatos should refuse to give Mr. Jensen's method a fair test next year.

Fruit Tree Growth.—Some surprise has been manifested because trees generally, and fruit trees carrying moderate crops of fruit in particular, have made so little growth compared with the anticipated result, having regard to the wet season. Two things, however, have to be taken into consideration: first, that the very abundant rains, whilst so thoroughly saturating the soil which is ordinarily cultivated during the growing season, had not reached the roots, the soil about which had become excessively dry prior to the trees making their annual growth; and second, the lack of warmth and sunshine was inimical to the development of growth, as warmth is absolutely essential to making of wood. The real test of the value of the present year's abundant rains may be looked for next summer; when, with most probably fairly good seasonable weather, and the soil about the roots well moistened, we shall find trees existing under exceptionally favourable conditions of culture.

What is to be the deduction from that anticipation? Some fruit growers will, perhaps, argue that as the trees are thus certain to develop wood freely, we should prune and thin very freely this winter in preparation. Others will hold that a big crop of fruit seems pending, especially of Apples, and that the fruit crop will absorb all the extra force derived from the moisture. But too liberal thinning is apt to engender excessive growth, whilst moderate thinning leaves a greater leaf area. To absorb the sap, we rather advise that thinning be done moderately; indeed, moderate thinnings yearly are always better than heavy cuttings out occasionally. Very much must depend upon the present state of the trees and their fruit promise, but under no ordinary conditions of culture ought trees to need very severe thinning.

Sheffield Botanic Garden.—We understand that Mr. Ewing, who has for many years been curator of the Sheffield Botanic Garden, has lately retired on a well-earned pension.

Death of Mrs. Laxton.—The death is recorded as having taken place at Bedford, on the 17th inst., of Jane Maria, wife of Mr. Thomas Laxton, aged fifty-four.

Municipal Honours.—Mr. D. T. Fish, of Hardwick, Bury St. Edmunds, is now Mr. Councillor Fish, for on November 1st he was elected to a seat on the Bury Town Council. It is an honour to which an intelligent gardener like Mr. Fish can reasonably aspire. Why should not the horticulturist as well as any other profession seek to govern his fellow men in municipal matters if qualified to do so?

Gardeners' Royal Benevolent Institution.—The fiftieth annual general meeting of the subscribers to this institution will be held on the 16th of January next, when fourteen pensioners will be added to the list, and we understand that at the annual friendly dinner which will take place after the election of pensioners, the Very Rev. S. Reynolds Hole, Dean of Rochester, has kindly consented to preside. It will interest many of the friends of the institution to know that on Wednesday next the veteran secretary enters upon his seventieth year, and in January he completes the forty-sixth year of his official connection with the institution. It may be stated also that a committee has been appointed to consider the most fitting manner of celebrating the Jubilee.

United Horticultural Benefit and Provident Society.—The usual monthly meeting of the above society was held on the 12th inst., Mr. J. Wheeler in the chair. Two new members were elected, and the committee reported that the holding of the recent dinner had been the means of considerably strengthening the position of the society. On the motion of Mr. J. Hudson, seconded by Mr. G. Wheeler, it was resolved that the best thanks of the meeting be accorded to Messrs. Williams and Laing for sending and arranging in the dining hall such beautiful groups of plants; to Mr. Chard for arranging the flowers on the tables; to Messrs. Cannell, Lowe, Thompson and other friends for fruit and cut flowers; and to Miss Belval and her friends for their enjoyable musical entertainment. The rules of the society can be had on application to Mr. W. Collins, 9, Martindale Road, Balham, S.W.

The Clonmel Chrysanthemum Show, held on the 13th inst., was again a gratifying success, notwithstanding the generally unfavourable season, and the fact that almost all the local growers lost some of their finest blooms through premature damping off. Four local growers exhibited groups 60 ft. square, and all good—the best coming from Mr. Crehan, gardener to Mrs. Malcolmson, Minella; and the same exhibitor was also successful in several other classes. For twenty-four incurved blooms the highest honours fell to Raymond de la Poer, Esq., of Kilcronah, Kilkenny, who also had the best twenty-four Japanese, beating Mr. T. Phelan, of Spring Gardens, and Dr. Garner in a close competition. The best incurved bloom staged was Mr. R. de la Poer's Princess of Wales, and the best Japanese, Mr. Clibborn's flower of Ralph Brocklebank. The display of fruit was limited but good, and an interesting feature of the show was a pretty group of Orchids and other flowering plants shown by G. Gough, Esq., Birdhill.

A Raspberry and Blackberry Hybrid.—At the last meeting of the Scientific Committee, the Rev. G. Henslow drew attention to the foliage of a supposed hybrid received from Mr. Viccars Collyer, of Leicester. The plant blossomed, but bore no fruit this season. The flowers were exactly like that of the Raspberry, as well as the tomentose under surface of the leaves; but the method of forming the quinate leaf out of the ternate agreed with that of the Blackberry, as follows:—The simplest form of leaf is a single oval leaflet near the flowers. This becomes lobed at the base, and so two leaflets are given off, forming the ternate leaf. From the basal pair in the case of the Blackberry two more are given off, and thus form a quinate leaf, the lower four leaflets being nearly "palmate." In the Raspberry, however, the second pair of leaflets are given off from the terminal leaflet, just as were the primary pair; consequently the five leaflets now form a more decidedly pinnate leaf. In the hybrid in question, although in all other features it agrees with the Raspberry, yet in this one particular it resembles the Blackberry. As no fruit was produced a comparison could not be made with them.

Effect of Light on the Growth of Trees.—Professor Fernow, of the Forestry Department of the United States, in a recently issued report remarks that it is well known that light is necessary for the development of chlorophyll, and, therefore, for the life of all green plants, and especially for that of trees. The heat alone which accompanies the light is not sufficient, although the relative influence of the light and heat on the growth is still an open question, as well as the relative requirements in light of different species of trees. In the case of forest weeds, which in forestry serve as an indication of the amount of shade which the trees exert, and with that their capacity of impeding evaporation, some require full sunlight for their development, others are averse to a high degree of light. The Yew will thrive in the densest shade, while a few years overtopping kills the Larch; the Beech will grow with considerable energy under partial shade, where the Oak would only just keep alive, and the Birch would die. When planted in moist places all species are less sensitive to the withdrawal of light. In the open, Maples, Elms, Sycamores, and others grow well and make good shade trees; in a dense forest they thin out and have but scanty foliage. Conifers, such as Spruces and Firs, which preserve the foliage of several years, have perhaps the greatest capacity of growing under shade, and preserving their foliage in spite of the withdrawal of light.

The Gardeners' Orphan Fund: Concert at Chesterfield.—The gardeners of the Chesterfield district were the means of a very high-class musical entertainment being given in the Stevenson Memorial Hall, Chesterfield, on Wednesday the 14th inst., the proceeds of which are to be devoted to the above object. The hall had been beautifully decorated with flowers and autumnal foliage for the occasion, in fact, such decorations had never before been seen in Chesterfield, and as was expected, there was a large audience. The whole of the decorations were carried out by the committee, under the direction of Mr. Owen Thomas, Chatsworth, local secretary to the fund, assisted by Mr. Foster, chief Orchid grower at Chatsworth. The committee was composed as follows: Messrs. O. Thomas, H. Smale, Bloxham, Nelson, Hutton, Fletcher, Polkinghorne, Leighton, Jenkins, Harebell, Surgery, and Parkes. The Hon. and Rev. R. E. Adderley took the chair, and at the interval he remarked that he felt indebted to the promoters of the entertainment for the honour they had paid him in offering the position of chairman on that occasion. The object of the concert was a very laudable and commendable one, and it was a real pleasure to him to see such a large and delighted audience present. He never saw more beautifully effective decorations, and they reminded him of the fact that of all God's creations, flowers were ever pure and lovely. The music had, he felt sure, been appreciated as it deserved to be, and he sincerely congratulated the promoters of the concert on the general success they had achieved, and trusted the financial result would be satisfactory.

Lectures on Horticulture at the Heriot-Watt College.—On the 16th inst., Mr. John Wilson, B.Sc., gave the first of a series of lectures on horticulture at the Heriot-Watt College, Edinburgh. The desirability of establishing the class had, it seems, been under the consideration of several Scottish horticulturists for some time; but it was only recently, when Mr. D. P. Laird took the subject up, that, with the aid of the principal of the college, the matter was brought to a successful issue. The course has been instituted to provide systematic instruction in the application of certain branches of science to the practice of gardening. Each department will be treated so as to meet the requirements of gardeners and others interested in horticulture. The subjects of instruction will include the following:—(1) General principles of horticulture. (2) Seed germination, root and leaf action, influence of light and heat, soils, manures. (3) Propagation by buds, cuttings, layers, grafting, inarching; effects of stock on scion; sports or bud variation; formation of flowers and fruit. (4) General treatment of plants: planting, training, pruning and its effects. (5) Landscape gardening: formation of gardens, materials and appliances. (6) Garden structures; heating and ventilating. (7) Culture of (*a*) stove plants, (*b*) greenhouse plants, (*c*) ornamental shrubs, alpine and herbaceous plants, (*d*) fruits under glass, (*e*) hardy flowers, (*f*) culinary vegetables. (8) Improvement of plants by crossing, hybridising and selection; fertilisation; single and double flowers. (9) Town or domestic gardening, its utility in affording a healthy recreation. (10) Diseases of plants, their cure or prevention; insecticides, &c. The class meets on Friday evenings at seven o'clock, and the course will terminate on the 7th March, 1889.

At the meeting held as above intimated Mr. Wilson indicated the various heads of study embraced in the course, and the results which might be expected to be derived by students passing through it. He first briefly alluded to the practice of gardening in olden times, and passing on to consideration of the art as it now existed, he held that it might be assumed that it was as far forward as ever, and that there was a growing desire to help it still further on. The formation of the class, he said, was an indication of the tendencies of the time. Depression of trade undoubtedly had done much to affect pure gardening, but not to such an extent as to justify the commonly heard phrase that "Gardening is done." Gardening must be subject to modification through the inevitable alteration of social conditions. It was for them to accept the inevitable, and to be fully equipped to make the most they could of the altered circumstances. The lecturer then narrated the subjects of study. With regard to town or domestic gardening, he urged that a taste for horti-

culture should be stimulated amongst the working classes, and favoured the introduction of a scheme of gardening allotments. In concluding, he noticed two or three recent movements connected with horticulture, including Professor Bayley Balfour's suggestions as to lectures in the Royal Botanic Garden, to which he wished success. Mr. Dunn, Dalkeith Palace, in moving a vote of thanks to Bailie Walcot for presiding, remarked that he thought all interested in the matter had very great reason to congratulate themselves on the inauguration of the class. Mr. D. P. Laird and the chairman having acknowledged Mr. Dunn's remarks, the proceedings terminated.

THE "LITTLE NATIONALS."

If it is any satisfaction to Mr. "Leo," I am ready to admit in the handsomest manner that the population round the important centre of humanity called Chiswick is every whit as great and as respectable as that which encircles the Crystal Palace. As regards his statement that hardly one of our wise men comes from the east, I own I was inclined to rub my "little National" eyes and wonder where it was our Douglases, Headlands, Morrises, Spurlings, Startups, and Cannells come from; but that, of course, is a mere detail.

I accept in the simple unquestioning faith natural to my tender years all that Mr. "Leo" tells me of the population, the respectability and the accessibility of Chiswick, and still I confess I am not happy at the thought of being taken there. I suppose even Mr. "Leo's" partiality cannot entirely blind him to the fact that South Kensington is rather more closely and, on the whole, not less influentially populated than Chiswick. Yet what had we come to on the occasions of our last exhibitions there? At the Auricula show at three o'clock in the day when the throng of visitors should be at its height, not a soul was there visible beyond the exhibitors and those otherwise connected with the exhibition. On my own particular day it is possible that at any one time during the show a dozen persons of the outside public might have been counted present. Now, if the public could not or would not be tempted to Kensington, still less are they likely to be lured further away from town, even to the important but hitherto unsuspected centre of humanity called Chiswick.

I repeat, sir, after the soul-chilling Balclutha-like desolation of South Kensington, it was an inexpressible relief and joy to me to find myself back again at Westminster, and to see something like a crowd of pleased and happy faces about me once more. I do not pretend that the Drill Hall is the Crystal Palace, but comparisons may be not only odious but ungracious, and I think our old lady deserves the thanks, and what is more the support, of all my friends for providing us again with a place of meeting on the whole so excellent. I only hope no one will succeed in befooling her on any future occasion to try and drag us to Chiswick.—*National Carnation.*

FRUIT CULTURE FOR PROFIT.

Very much has been said on fruit culture, in and out of the horticultural press, within the last few months, and if the exhibits of fruit which have been such a pleasure to see at exhibitions were a fair sample of the bulk, I should say that the matter was "all right." After seeing such fine samples of Apples as are shown, we might safely go through any of the chief markets, and after inspecting the numerous barrels, come away satisfied that we could hold our own. But the exhibits on the show table do not represent fair market produce, and the cost, in care and other ways, that is necessary to produce such samples, would, I may say, yield but a poor return commercially.

I have frequently an opportunity of inspecting barrels of Apples in one of the best markets in England, and I would say that anyone could see the superior appearance of the foreign-grown fruit. Last year, giving us a fine summer, certainly fine samples were grown in England, so good that little was left to be desired in that respect. Still, these fruits were grown in some of the more favoured counties for that purpose. I am almost inclined to say that anywhere north of the Trent would scarcely do to commence Apple culture as a special industry. I know that in favourable spots I may not be accurate in this statement, but making the remark as a general one I believe it is so.

In some parts of the country, if any good is to be done in Apple culture, the selection of sorts will have to be *thoroughly proved.* This year, with me, Lord Suffield, Hawthornden, Cellini, Lord Grosvenor, Stirling Castle, and Grenadier have been very good, large enough in size, but very much short of the colour and finish that the more southern counties produce. These might do. Other popular sorts, such as Blenheim Orange, Cox's Orange Pippin, Ribston Pippin, Cockle Pippin, or King of the Pippins, and some other dessert sorts are of the very poorest description in this locality, so that as a paying interest with them it would be a poor look-out. This is my opinion, though I am not against Apple culture by any means.—*R. M., Cheshire.*

CRIMSON FLAG OR KAFFIR LILY.

The first of these names refers to the colour of the flowers, while the second refers to the native country of Schizostylis coccinea. Being a member of the Iris family it is of course not a Lily at all, nor do we attempt to justify the application of popular names, except for the benefit of those who are not botanical. The subject under notice, and of which we give an illustration, is a native of South Africa, and was originally introduced from the Transvaal. Two species are known, but S. coccinea is the only one in cultivation. It is so nearly hardy that when well established it will outlive the winter without protection some 200 miles north of the Tweed; and if planted under a wall and especially that of a hothouse it grows and flowers very freely. The perfection with which it will flower depends, however, on the mildness of autumn and winter, as the flowers expand at those times. It is a good plan to lift and pot them up in autumn,

Schizostylis coccinea.

introducing them to the conservatory or greenhouse, where they will assist in rendering those houses gay during the dull months. Any good garden soil will grow the plant in the northern counties, but in the dry climate of the south peat or leaf-soil is necessary to keep the ground in which they are planted cool and moist. The leaves resemble those of a Flag or narrow-leaved Iris, and the flowers are deep red, almost crimson. The clumps should be frequently divided and planted afresh in spring.

STATICE SUWOROWI.

A few plants of this hardy annual have been conspicuous in the borders here for their late-flowering qualities. Since August they have been flowering freely, and still have a few spikes of flower left. The destructive frosts of last month had no effect upon either the foliage or the flowers, a fact that renders the plant very valuable for autumn decoration. The only defect it has, is the weak branched spikes which, unless supported with twigs or small sticks, do not show up to advantage. I enclose a spike showing a tendency to produce flattened fasciated stems, due, I think, to the heavy rich soil in which the plant is growing.—*J. W. O.* [Our experience of this plant in the open ground exactly coincides with yours, and that, too, in cases where the soil was not by any means heavy, although rich enough for plant growing generally. The base of the stem is too slender to support a large branching spike, and whether planted in the open ground or grown in pots, the stems should be secured to neat stakes. When well grown there can be no question that a little attention in the way of staking is well repaid. The plant grows fairly well in pots; but the largest and best branched spikes we have seen were developed by plants grown in the open ground.—Ed.]

NOTES ON FRUITS.

Pear, Althorpe Crassane.

This has been one of the finest Pears this season. It has been equal if not superior to both Marie Louise and Louise Bonne of Jersey. Marie Louise certainly has not been of good quality with us this season, partly owing to the unfavourable summer, and, I think, partly to the blossom or embryo fruit being injured by frost, as many of them swelled unevenly in size. Althorpe Crassane is a very uninviting Pear to look at amongst the others, but when it is good it is certainly worth cultivating for the dessert in private collections. It is a fair bearer as a pyramid, from which our fruits were gathered. The fault that it has is the tendency of the fruit to crack sometimes, which prevents them keeping so well. This is certainly a Pear that is worth a place where it succeeds as well as it does here in Cheshire; possibly a cool season may suit it.—*R. M.*

Akera Apple.

Those who are fond of pretty Apples cannot fail to appreciate this new variety when it becomes better known. It was shown by three exhibitors at the recent Apple and Pear Conference held at Chiswick, and was awarded a certificate as a new and distinct kind. The exhibitors describe it as a Swedish variety, and sometimes spell the name Okera. The fruit is small or of medium size, roundish-oblong or slightly conical, and of a uniform yellow colour, or more or less heavily suffused with salmony red, sometimes banded longitudinally with this colour, and evidently very variable, even as grown in the same soil and locality. It is a dessert Apple, apparently mid-season, as it has now been ripe for some time past, and has a tender but crisp white flesh of sweet and delicate flavour. Speaking of showy or ornamental Apples, it is several times larger than Api (sometimes, though erroneously, called Lady Apple), superior to it in flavour, and although less brightly coloured, is nevertheless very pretty and distinct. Api—otherwise known as Pomme d'Api—is said to require a warm season to develop its colour; but specimens at the recent conference were by no means lacking in colour, although grown in Scotland.

Apple, Lord Burghley.

Although by no means a new Apple, this appears far less frequently on the exhibition table than its merits would warrant, considering its high quality and its late keeping properties. In these respects it may very favourably be compared to Ribston Pippin, which at the National Apple Congress, held at Chiswick in 1883, was exhibited 130 times, whereas Lord Burghley was only represented by 37 dishes. At the late Apple and Pear Conference, held at the same place, it was neither certificated nor received any mark of distinction whatever. It is roundish or slightly conical, angular towards the top, of medium size, and at present in the collection at Devonhurst, Chiswick, of a deep green, freckled with small russety spots, and heavily flushed with bronzy red on the exposed side. The flesh is yellow, firm, brisk and sweet, while the tree bears well and regularly every year. It is, therefore, a dessert Apple of great excellence, and keeps in season from December till the end of May or June. In gardens where Ribston Pippin is much given to canker, Lord Burghley well deserves a trial for late use.

Pear Doyenné de Merode.

At the recent Apple and Pear Conference held at Chiswick this Pear appeared in a few collections, and created a considerable amount of comment, especially in the case of good samples, which on the sunny or exposed side were of a bright red, almost scarlet colour. The idea seemed to be that it looked too beautiful to taste well, a fault which applies to some of the extremely pretty but inferior-flavoured French or other Continental Pears which we see in the market during September and October. As grown at Devonhurst, Chiswick, it lacks the bright colour which it assumes in more favoured sunny southern counties, but the flavour is excellent. It is about the size of Beurré Diel, and similar in colour on the shaded side, but is more regularly Pear-shaped, although similarly thick and tapers slightly to the stalk. The ground colour is pale yellow, thickly freckled with russet dots, and flushed with red on the exposed side, while the flesh is buttery, white, melting, and deliciously flavoured. The name Doyenné means "dean's pear," and the most or all of the varieties bearing this name are similar in colour, excluding the red.

GARDENING NOTES FROM IRELAND.

CHRYSANTHEMUM AND FRUIT SHOW IN DUBLIN.

THE Royal Horticultural Society of Ireland held its Winter Show of Chrysanthemums and Fruit on Thursday, the 15th inst, in the spacious Leinster Hall; but before I proceed to the business of noticing some of the many subjects exhibited, I should like to point out to the powers that be that as all those who have any connection with horticulture — exhibitors, non-exhibitors, nurserymen, and amateurs, have a direct interest in critical notices of the points of excellence of plants, fruits, flowers, and vegetables brought on to the exhibition table, it is not courteous or business-like to restrict their press invitations exclusively to a few favoured reporters on the Dublin daily papers, who have not the requisite technical knowledge to give the details required. Other societies are glad to secure the attendance at their shows of representatives of the gardening papers, but the Royal Horticultural Society of Ireland, it would seem, prefers to ignore their very existence.

As regards the show it may be said that the display of Chrysanthemums, both cut blooms and in pots, was very fine, and the competition in most of the classes was good. The best group of pot Chrysanthemums ever staged since these shows were started, was exhibited by Mr. Coghlan, gardener to Richard Pim, Esq., Stradbrook Hall, Black Rock. The conditions attached to the exhibition of groups in this class were that they should be well grown, staged for effect, and cover a space of 80 superficial feet. The prizes were a Silver Cup offered by Mrs. Gibson Black, Blackheath, Clontarf, and £2 added by the society. Mr. Coghlan won the cup with his fine lot, the second prize going to Mr. Byrne, gardener to R. P. Williams, Esq., Glaslin, Clontarf, for a well-grown lot, but on which the blooms were rather backward for giving effect. Groups were also shown by Mr. Irwin, gardener to Mrs. Tedcastle, Marlay, Rathfarnham, for which he was highly commended; Mr. Coghlan, gardener to Mrs. H. W. Close, Windsor House, Monkstown, commended; and Mr. Byrne, gardener to J. P. Stewart, Esq., Mendon, also commended. In Mr. Coghlan's group there were fine grown and well-bloomed plants of Hiver Fleuri, White Globe, Elaine, La Pureté, a hybrid Pompon; and very fine Prince of Wales, Dr. Macary, Madame C. Audiguier, Bouquet Fait, Triomphe du Nord and Flambeau. One of the other groups was noticeable chiefly for a really splendid plant of Val d'Andorre. It had fourteen remarkably fine blooms on it, any one of which was fit to show in a box of cut blooms. In the classes for six pot plants, that is for incurved, Japanese, and Pompons, the first prize in each case was withheld, and a second prize awarded to Mrs. Donelly, Auburn, Malahide.

CUT BLOOMS.

FOR stands of twenty-four incurved cut blooms, at least twelve varieties, the first prize fell to the Marchioness of Headfort, the second going to Mr. Noble, gardener to J. O. G. Pollock, Esq., Mountainstown, Navan; and in stands of twelve incurved varieties, with at least six different, the competitors were numerous and the quality of the flowers good. The first prize was won by Mr. Toby, gardener to W. Paisley Vaughan, Esq., D.L., Golden Grove, Roscrea, with a very fine box. The second prize was awarded to Mr. Crawford, gardener to Raymond de la Poer, Esq., Kilcronagh, Waterford, for an almost equally good lot. In this class Mr. Tyler, gardener to the Earl of Wicklow, Shelton Abbey, was highly commended, as also was Richard Pim, Esq., Stradbrook Hall, for another lot of nice blooms. For twenty-four recurved varieties, at least twelve different, the competition was almost nil, the first prize being withheld, the second falling to Mr. Taylor, gardener to J. L. W. Naper, Esq., D.L., Loughcrew, Oldcastle; and in the class for twelve blooms, six different, Raymond de la Poer, Esq., was first. The Japanese class was a very good one, and well contested, the first prize falling to W. Paisley Vaughan, Esq., D.L., for a lot of twenty-four splendid flowers, J. L. W. Naper, Esq., coming second, and the Marchioness of Headfort highly commended. In the class for twelve Japanese, six different, the stands were equally good, the first prize going to the Earl of Wicklow, the second to Lady Domville, Heywood, Queen's Co. (gardener, Mr. Taylor), and the third to Raymond de la Poer, Esq. In Mr. Taylor's lot I noticed some very well-done blooms of Peter the Great, Val d'Andorre, and Mons. Délaux. The classes of Anemone and Pompon Chrysanthemums appeared to attract the attention of visitors more than the others, and although the stands put up were few, the symmetrical and finished appearance of the flowers found a great many admirers.

For stands of twelve Anemone-flowered varieties, each different, Mr. De la Poer and Mr. J. L. W. Naper were first and second in the order named; and for twenty-four Pompons, at least twelve varieties, and put up in trusses of three, Mr. Scott, gardener to Langlois Lefroy, Esq., Ardmore, Bray, obtained first prize. The special prizes offered for twenty-four blooms, each different, one half to be either incurved or recurved, the other half Japanese, brought out a very strong competition, and which resulted in placing W. Paisley Vaughan, Esq., for the first prize; the Earl of Wicklow, second; Raymond de la Poer, Esq., third; highly commended, Richard Pim, Esq., and J. W. L. Naper, Esq., commended. All these stands contained flowers of fine size and good form and freshness, but owing to the crush of visitors surrounding them, it was utterly impossible to note any of them particularly. Many experienced a difficulty in viewing the groups of Chrysanthemums placed on the floor along under the galleries, and owing to the darkness of the position, the complaint was a just one. However, after the gas was turned on the case was different, but many visitors had then left.

FRUITS.

THE collections of fruit on the whole were very good, the outdoor contributions being exceedingly fine, and proved to satisfaction the perfection to which these may be brought even in so unfavourable a season as the past. The different stands of Grapes exhibited were good, and in the class for white kinds Mr. Irwin, gardener to Mrs. Tedcastle, was first with three good bunches of Muscat of Alexandria, Mr. Porter, gardener to Lord Ashtown, Woodlawn, co. Galway, being second with some good bunches of Bowood Muscat. In black Grapes the Earl of Wicklow was first and Lord Ashtown second. A very fine stand of Trebbiano white Grapes was sent in, not for competition, by Mr. Porter, and the size of the bunches attracted a good deal of attention. In all the classes for Pears and Apples the competition was strong, and, as I have already stated, were of fine size and in good condition. For a dish of baking Pears Mrs. Clarkson, St. Mary's, Rathgar, was first, Mr. Langlois Lefroy being second, and Mr. Cassells, Harold's Cross, secured the first prize for a dish of Uvedale's St. Germain. In the class for dessert Pears there were a good many competitors, the three prizes, however, being awarded to the Earl of Wicklow, Mr. J. L. W. Naper and Mr. Langlois Lefroy in the order named. Single dishes of baking Apples were fine, and Mr. Lombard, South Hill, Upper Rathmines (gardener, Mr. Tobin), came first with a splendid dish; Mr. Langlois Lefroy was second, and Mrs. H. W. Close third. For a dish of Warner's King the first prize was given to Mr. Phelan, gardener to Miss Millner, Cherbury, Booterstown, and the second to Mrs. Close; while for a dish of Peasgood's Nonsuch the Earl of Wicklow was awarded the premier prize. In the dessert classes for Apples, any variety, Mr. J. L. W. Naper was first, the Earl of Wicklow second, and Mr. Cassells third. For a dish of Ribston Pippin the first prize fell to Mr. J. L. W. Naper, the second to J. T. Poë, Esq., Riverston, Nenagh (gardener, Mr. Downes), and the third to the Earl of Wicklow. The classes for dishes of Cox's Orange Pippin brought out a strong competition, the successful prize winners being, for first prize, the Earl of Wicklow, for second, Mrs. H. J. Jury, Greenfield, Donnybrook (gardener, Mr. Mahony), and for third, Mr. J. T. Poë. In the collection of Pears, for which special prizes were offered, the Earl of Wicklow and Mr. Lombard divided the honours between them; the collection consisted of twelve varieties, four of each to a dish, the first prize going to the Earl of Wicklow, and the second to Mr. Lombard. For six varieties of dessert Pears, the prizes were again awarded in the order named above. Apple collections were also numerous, but here again the first honours went to the Earl of Wicklow for his collection of twelve varieties, six of each in a dish, Lady Domville coming second with a very fine collection, and Mr. J. L. W. Naper, third. For dessert Apples, six dishes of six each, Mr. J. F. Lombard obtained first prize with a very fine collection, the second being given to Mr. J. L. W. Naper, and the third to the Earl of Wicklow. There were also some fine dishes of Tomatos exhibited, and prizes were awarded, first, to Mr. J. L. W. Naper; second, to Lord Ashtown; and third, to the Earl of Wicklow.

NOT FOR COMPETITION.

As usual, a large number of Palms were forwarded from the gardens of the Royal Dublin Society, and these, distributed along the centre of the different stages, imparted a fine decorative appearance to the Hall, and toned down the brilliant colours of the Chrysanthemums placed along in front of them. Apart, however, from their effect in this respect, the graceful forms of the Palms always add a very pleasing feature to these horticultural exhibitions. From the gardens of J. T. Poë, Esq., Riverston, Nenagh, came a collection of that very beautiful Pompon Chrysanthemum, Madlle. Elise Dordan. On a former occasion, when Mr. Poë sent six blooms of this Chrysanthemum, nothing could exceed the admiration bestowed on it, and at the late show, visitors were quite as strong in praise of it.

I have only to further notice a fine collection of Apples staged by the Messrs. Edmondson & Co., of Dame Street, Dublin, for Messrs. Rivers & Son, Sawbridgeworth, Herts. The collection was a fine one, and was staged in very fine condition. The judges were as follows:—Of Chrysanthemums, Mr. F. W. Moore, of the Royal Botanic Gardens, Glasnevin; Mr. F. W. Burbidge, University Botanic Gardens; and Mr. Davies, Farmleigh, Castle Knock. Of fruits, Mr. W. Dick, Whitefield Lodge, Phœnix Park; Mr. D. Walsh, Mount Merrion, Stillorgan; and Mr. R. McKenna, The Chief Secretary's Gardens, Phœnix Park.—*W. D.*

THE PINE APPLE: ITS HISTORY AND CULTURE.

AT the meeting of the Manchester Horticultural Improvement Society, held on the 15th inst., Mr. M. Gleeson, gardener to the Duke of Newcastle, Clumber, Worksop, read a paper on this subject. Mr. Bruce Findlay, the president, occupied the chair, and there was a large attendance of members. Mr. Gleeson traced the history of the Pine Apple from its discovery in South America, dealing in succession with its introduction into the southern parts of North America, its cultivation in Holland, and its culture in this country. He also read extracts from the writings of a large number of authorities upon the subject, setting forth the different methods adopted by the several cultivators for bringing the Pine to the highest possible state of perfection. It was thought at one time that it required three or four years to fruit it successfully; but it had now been proved that this could be done within eighteen months. When he went to Clumber he had new houses erected, and believing in the influence of the sun in producing fine fruits, he made them as perfect sun-traps as possible. All the old writers recommended the use of strong loam, but he used one-half strong loam and one-half sandy loam, with manure and bones. He generally maintained the temperature of his houses at from 80° to 85° by day, although it sometimes reached 110°, and from 70° to 75° by night. When plants were near the glass they ought to be shaded, but the shading material should be very light. Of the different varieties of Pine Apples he gave preference to the Queen, the Smooth Cayenne, and the Charlotte Rothschild. He never attempted to grow them in ill-ventilated places, and cultivators of Pine Apples must always remember that it was by strict attention being paid to apparent trifles that success could be hoped for.

The Chairman, referring to the commercial part of the question, reminded them that large quantities of Pine Apples were being imported from St. Michael's. In 1876 the number brought to London was 35,000, and he had no doubt that now about 100,000 were annually imported into this country. The cost of producing and landing them in this country was about 5*s.* each, and they were aware that they could not get a fine Pine Apple for less than 7*s.* 6*d.* A few years ago they cost 2 or 3 guineas each. The St. Michael's Apples were not grown in the open air, and a company had been formed for producing them. There could be no doubt that an English-grown Pine Apple was superior to any kind of fruit we had under cultivation.

Mr. R. Tait stated that he had paid a visit to Clumber a few months ago, and there saw from fifty-five to sixty fine Pine Apples in one house. The two which Mr. Gleeson had placed upon the table before them were fair specimens of the others. Mr. W. B. Upjohn (honorary secretary) mentioned that at Castlehill, in Devonshire, a succession of gardeners had been most successful in the cultivation of Pine Apples, and he wondered whether the soil had anything to do with their success. At Castlehill they were growing in two

soils—peat and loam. The three varieties he liked the best were the Queen, the Smooth Cayenne, and the Montserrat. Mr. Northwood remembered seeing Pine Apples grown most successfully in peat and sand. The Chairman: I am very glad to hear Mr. Gleeson laying stress upon the character of the soil used, because there is a very distinguished member of this society who will have it that soil has nothing to do with it. Mr. A. Stansfield pointed out that the Pine Apple was a seaside plant, and was, therefore, accustomed to the brine, and he thought that in its cultivation salt, or some chemical substance resembling salt, should be employed. It was important to bear in mind the natural habits of plants, and to treat them accordingly. Mr. E. G. Hughes was convinced that some animal manure must be mixed with the soil. The flavour of fruit came entirely from the sun, and if a gardener gave his plants plenty of sun he would do more for them than by using soil from all parts of the country. They must come to the conclusion that the soil had very little to do with it. Mr. Gleeson told them that he used the best manures. The Chairman: Mr. Gleeson uses loam and manure. Mr. Hughes: Why does he mix bones with the soil? It is the cost that prevents gardeners from cultivating Pine Apples more extensively.

Mr. Gleeson, in replying to a vote of thanks, which was proposed by Mr. R. Tait and seconded by Mr. F. Robinson, said he did not agree with Mr. Stansfield in thinking that the Pine Apple was a maritime plant. It was discovered in South America by Baron Humboldt. He mixed bones with the soil because they contained lime—one of the necessary ingredients. With respect to profits, he had sent some to the Lord Mayor's banquet, and was paid 3*s.* 6*d.* per lb. for them, and he estimated that he could grow Pine Apples in one of his beds which would in eighteen months produce £80. What, he asked, could he grow that would yield more in cash?

Mr. Stansfield observed that a plant might still be a maritime subject although found growing on the top of a mountain. Geology explained why it was that they came to be on the mountains. The waves of the sea at one time swept those mountains, and it was the depression which had taken place that had caused the mountains. Botanical geography brought them face to face with numerous mysteries; but if they called in the aid of the sister science, geology, then all was accounted for and explained.

ON FORCING STRAWBERRIES.

Hardly is the bustle and activity of spring and summer over, and ere we get accustomed to the comparative quietude of autumn, than the time comes again for commencing forcing operations, and to this end preparations must at once be made. In large gardens the forcing of Strawberries is an important item in fruit culture, and where thousands of plants are annually grown for this purpose, it requires much forethought and detailed manipulation to furnish a constant supply of fruit during the early months of the year.

A house exclusively devoted to them is the best, and if such is obtainable it should be thoroughly washed, thereby ridding it of any insects or other pests common to gardens, so that a clean start may be made. The shelves should be placed as near the glass as will be found convenient for watering, so that the plants may have the benefit of all the light possible to keep them sturdy. Fresh ashes will be required for the pots to stand on, so as to allow the water to drain off quickly, as well as to keep a little moisture round the pots.

Those plants which were potted first can now be brought in, having been picked over first, and these should be succeeded by batches introduced from time to time at intervals of three or four weeks. They should be put first into a cool house, and subquently into the Strawberry houses, where a temperature of 50° to 55° at night, with a rise of 10° in the day, according to the weather, will suit them. When in bloom a drier atmosphere should be maintained to assist in the fertilisation, and thereby improve the chance of a good set; a rabbit's tail drawn over the flowers daily will also tend to like results. Thin the fruits to about five or six, according to the variety, of course retaining the strongest and most perfect in shape. To bring them on more rapidly and finish them off, a shelf in the Pine pits is an excellent position for them. Extreme precaution must be taken to prevent a check in moving them from one house to another, as the weather may be severe at the time, and a batch will soon spoil if the change be too sudden and severe.

During the short days little water only will be required, any excess being carefully avoided, but when the sun's rays are more felt, constant attention is requisite to keep them well supplied with water warmed to 60° or 65°, as neglect in this important duty is very injurious; indeed, when the plants need watering two or three times a day, it will be obvious to anyone, that those who have charge of them will need all the energy and activity at their command. Liquid manure in weak doses will be found beneficial to help the swelling, discontinuing it when the fruits are coloured.

Should green-fly appear, gently fumigate two or three nights in succession till all are killed. For early forcing and general crop the following sorts have given great satisfaction: Vicomtesse Héricart de Thury, a sure cropper,; Keen's Seedling, an old and trusty friend; and La Grosse Sucrée; while for late use, Sir Joseph Paxton still commends itself.—*F. R. S.*

THE TREE OF HEAVEN.

Thanks for the defence of this noble tree, by your correspondent, "E. W.," see p. 132. Yes, it is largely grown in our cities, but not nearly so much as it should be, as it is, without exception, the finest of all trees for the city, and no less beautiful for the country, where, as a street tree or in clumps, it gives the landscape a sub-tropical appearance, that cannot be produced with any other tree. Its adaptation to dry, gravelly soils is a great point in its favour. In this country it thrives with great vigour in our dry sandy soil, and is to our trees what the Jerusalem Artichoke is to our vegetables—growing vigorously in spite of difficulties.

The male tree with us does not form the finer object, on the contrary, the female tree when loaded with its immense clusters of orange-coloured fruits, which contrast finely with its foliage, is a tree remarkable for its rich beauty. There is a serious objection to the male tree, which the female tree is entirely free from, viz., the sickly smell of its flowers; it is because of this disagreeable feature that the Ailanthus has not been more generally cultivated. This should not be an objection, as the female trees only should be planted. These can readily be obtained by root cuttings, which grow only too freely; all that is necessary is to take a small piece of root in spring, and plant where the tree is wanted. It is preferable to take a good-sized tree from the nursery, but of the female kind only.

The Ailanthus is not only an ornamental, but a useful tree, its timber being nearly if not quite as valuable as that of the Locust, and it is a more rapid grower. On our farm there are trees with a diameter of trunk nearly 20 ins., and the trees have not been planted twenty years. Lumber from this tree is not likely to warp, check or twist. Whether it will thrive as well in your climate as ours is a question for you to answer.—*C. L. Allen, Garden City, N. Y.*

NOTES FROM SCOTLAND.

Hints for Amateurs.—Vines.—I am often sorry for amateurs when they see their pet plants failing to give anything like satisfaction, while all the means they are familiar with are being used to restore the delinquents to good behaviour, and give some tangible return for labour and time expended. Practical men, too, are often in a dilemma to know what to do when they see their Vines making good growth, fine foliage, and showing nice bunches of fruit, and when just as they are supposed to be coming to their best they begin to shank, and show in an unmistakeable manner that there is something materially wrong. The Vine border is examined, and though known to be formed with consummate care, yet the idea does not always occur that Vine roots grow rapidly outward, and in the course of a few seasons become fastened into whatever soil is beyond the border. In a dry season the roots are soon buried deeply in the sub-soil, and the change from a rich soil quickly shows the mischief which is at work far from the surface, while the original border is of no more use to the roots than if it were not there. Inert soil, especially of a sandy nature, which gives myriads of red-spider and endless other evils, is worse than a damp clay. There is not much harm in the clay itself if it is free from iron and other substances pernicious to all species of plants, but the "rusty light" material is destructive in every sense. Some enrich the surface of the border, dig in lime as a purifier, and use a host of other agencies to ward off the evil, but no good can come of it, because the source is not checked. In dealing with many such cases the writer found that where the feeders could not be allowed to extend with safety they were either lifted carefully or cut off altogether, and a wall placed between them and the dangerous ground. In no case has this method failed, but proved most satisfactory.

Peaches and Other Fruits.—It is true that it is unwise to interfere with plants when they are doing well, and "let well alone" is a useful old theory, but when roots are far underground, it is not easily ascertained how far one can let things alone, when they are so distant from one's vision. When Peaches, Apricots, Plums, and all stone fruit show a decrease of vigour it might fairly be supposed that starvation is at work. The dying back of branches, canker, and a host of evils go to prove that the tree is not getting the food necessary to support it, and the fruit or the nutriment is of a pernicious and unwholesome kind. The roots in the course of time have stretched far from the original border, and now cannot draw the necessary food from the poor land which they have penetrated; disease at once shows itself, and in due time increases. It is therefore well, with the most vigorous and fruitful trees, to examine their feeders yearly, keeping at a safe distance from the trunk, and if there is danger ahead it is better to cut off any which are in harm's way. Ram good loam, brick and plaster rubbish in front of them, clear off the surface soil, and lay over the roots a good portion of the same material mixed with some of the famous manures manufactured for the purpose. Make all firm, and it will be found that abundance of fruit on healthy trees, caused by a dense mass of fibre, will always be the result.—*Scot.*

Fruit Tree Planting.—It is often said that horticultural writers do not sufficiently go into details, and note the amenities of their practice while adducing what they consider the best course to follow, and I dare say we are far from being infallible in this respect, often forgetting that green hands are in their "'prentice" experience, and that amateurs who wish to go deeply into the minutiæ of cultural practice are left to struggle upwards as best they can. At the present season I would beg to offer a few remarks on the planting of fruit trees, as errors arise from simple causes which prompt the inexperienced to cast the blame on items in practice quite foreign to the real reason.

The following are some of the things which should be avoided:—When purchasing a tree, do not select one which has often been cut back and shows wounds and snags; these are sometimes found among collections in first-class nurseries. Rather purchase a maiden tree which has never had a knife upon it than accept such an one for nothing. If the roots be not plentiful and healthy, and much broken, cast such a tree aside as worse than useless. If the trees have been grown long on the same ground (if rich all the worse) without being lifted, and the wood gross and unequal in growth, such is not a good one to start with. In preparing the ground, first ascertain if the drainage is perfect; if not, put it right. If the position is low, plant the roots above the level ground; but if high and dry, keep them under the surface-level and apply extra mulching. Examine all roots of young trees, and if they are long and fibreless, cut them back and remove broken pieces. Place a layer of broken bricks under the roots to prevent them from growing down.—*Caledonian.*

Sacrifice of Bulbs, &c.—It is not an uncommon practice for growers of bulbs to remove them from their coverings of ashes, tan, or whatever is used, and immediately afterwards to place them in strong heat. The result from such a practice I need not say is fraught with evils, such as inferior inflorescence, or no flowers at all. Complaints are often raised against bulbs as being bad (there are a few exceptions) even when they are of the finest quality, but the cultivation has been bad, and the change to sudden strong heat is the untoward practice. It has seldom happened in my lifetime that I have had bad seeds or inferior bulbs supplied. Roman Hyacinths, which are so valuable at this season, are often quite ruined by the practice adduced; and I have already seen this season a number of bulbs which were denounced as useless, because they had grown to long weakly leaves without showing a flower spike, but having purchased some hundreds out of the same consignment as these spoilt bulbs were from, I have proved them to be all I could desire. They were potted, covered with sand, placed under a wall till grown about 1 in. or so, then placed on a shelf near the glass in a moderately warm house, and since the middle of October the supply of fine spikes of flower has been by the hundred.—*Caledonian.*

FLORICULTURE.

Chrysanthemums at Chiswick.

THE central part of the large vinery at Chiswick is occupied nearly throughout its length with a very varied collection of Chrysanthemums, representing all the autumn and winter-flowering sections of this now most popular plant. Not having been urged forward in any special way, they are very late, and will continue to produce flowers for some time to come. The Japanese section is, perhaps, most numerously represented, as it is in almost any collection, and the following are in excellent form—namely, Mathilde Cazaux, creamy white; Mons. J. Laing, crimson; Al. Dufour, deep rose-magenta; Vierge Japonaise, resembling Mdlle. Lacroix; Soleil Levant and Peter the Great, both yellow; Margot, warm rose, and free-flowering; and Mons. Holmes, crimson, early and floriferous. The collection is chiefly notable for its extent, and the number of kinds which one rarely finds in one establishment, but must seek for through a great many. La Triomphante and M. Paul Dutour are somewhat similar, and suffused with rose on a white ground, while Le Chèvrefeuille is shaded with delicate rose. L'Ile des Plaisirs, orange-crimson; M. Cochet, orange; and Source d'Or, orange-crimson, are all very pretty and attractive kinds, whether for decorative purposes or for cut flowers. Their small size is against their use as a rule for the exhibition table. Janira is something in the way of Madame de Sévin, but darker. Irene has its florets quilled for half their length, while those of Rose Céleste are quilled nearly to the tip. Rose Beauty has large heads, and spreading, somewhat twisted florets, and might prove useful for exhibition purposes on account of its size. Phœbus is a very brilliant yellow, but inclined to be open in the centre. Amy Furze is a neat flower, suffused with purple on a white ground, and is becomiug popular for exhibition purposes in the reflexed section. The latter class includes the never-failing brilliant crimson Cullingfordi.

Owing to the plants being very late, few of the incurved varieties are yet in perfection; but are represented by Princess Beatrice, silvery rose; Ruby, purple and silvery rose reverse; and Lord Alcester, the latter not exceeding 2 ft. in height. Amongst large Anemone-flowered kinds, Acquisition, Citrinus, and Laing's L'Anemone were in fine condition the other day, and the small-flowered Anemone Marguerite de Waldemar was very floriferous. St. Michael, bright yellow; Maid of Kent, white; and Prince Victor, crimson; are pretty Pompon varieties. The single white, Mary Anderson, resembles a very fine Marguerite or Paris Daisy, with overlapping florets.

THE VINEYARD AT CONSTANTIA, SOUTH AFRICA.

WHILE on a short visit to the Cape in April and May last I went to see the Government wine farms at Constantia. This place is beautifully situated beside the Table Mountain range, and lies nicely to the sun, the climate being quite perfection for Grape culture. At the time of my visit (April 10th) most of the Grapes had been gathered, for the seasons are quite reversed from ours, though plenty were to be had from later districts.

The Vines, which are mostly in bush form, though some are trained horizontally, looked extremely well—the wood strong and well ripened, and foliage fresh and vigorous. At present there are 113,000 Vines at Constantia, and another large piece of land was being trenched for planting more. The soil looked light—part of it of a reddish colour and the other portion white. One Grape I tasted—called Hanepoot (Dutch for Honeypot)—was very good, much like our Muscat of Alexandria, and very fine wine is made from this variety.

The process of wine-making has been very much improved of late years at Constantia. The Cape Government has secured the services of some continental experts, and a number of young wine-farmers reside for a time at Constantia in order to learn the proper processes in wine-making. The Grapes at this place are all pressed by machinery, while at most of the other wine farms in the colony the pressing is done by the feet of the blacks. The yield of wine at Constantia for the past season was 93 leaguers, each leaguer containing 127 gallons.

The climate seems to suit Vines to perfection, and if the Cape Government is successful in the endeavour to improve the general wine manufacture of the colony, there seems no reason why a much larger quantity of wine should not be exported than there is at present. The Phylloxera has made its appearance at the Cape, and, of course, the invasion of such a pest has been viewed with alarm. Some Grape-growers at the Cape anticipate trying the sending home of fresh Grapes, and think this may pay them. Whether such a trade will ever become large or remunerative it is not easy to say. All who have an opportunity should pay a visit to Constantia, where there is much to interest, and where, judging from my own experience, a courteous reception awaits anyone who goes armed with the necessary Government permit, which is to be obtained by calling at the colonial secretary's office, in Cape Town.

While writing, I may just mention that I was much surprised at the miserable way in which the Cape Government maintains the Botanic Gardens at Cape Town. A mere pittance is allowed for maintenance, and the manager has to sell plants and seeds to eke out the wretched sum allowed. Such a state of things is not creditable to the Cape, and should be remedied. Passing from the grand Parliament building, lately finished, to the Botanic Gardens nearly opposite, one cannot fail to be struck with the care with which every comfort and luxury have been provided for Cape legislators, and on the other hand, how meagre and even wretched are the resources available for the Botanic Gardens. This is a matter which might well be remedied with credit to the Cape, and pleasure to all who happen to call to see the Botanic Gardens, and who, at present, can only be struck with the poor support afforded them.—*J. Thomson, Clovenfords.*

THE GARDENERS OF THE FUTURE.

IN these days of keen competition it is of paramount importance that those who wish to excel in any department of human enterprise must equip themselves as thoroughly as they possibly can with all the weapons of warfare they can command, and if there is any one department to which these remarks apply more than another, it is possibly the science and practice o horticulture. It is quite lamentable to see the little interest which some young aspirants for honours in the profession take in subjects connected with it. When not actually about their ordinary avocations, the long winter evenings which they could put to good account in the acquisition of knowledge, which would be of good service to them in after life, is frittered away, if in harmless, yet worthless pursuits which serve just to pass away the time and are barren of any good results. One excuse they make, which has some amount of reason in it, is that the chances are very remote of obtaining any adequate pecuniary return for the labour and pains taken in acquiring a knowledge of botany, entomology, or chemistry; the prizes of the profession being so few. This excuse, however, is only worthy of mental sluggards, for knowledge always gives power, strength, and inward satisfaction to its possessor; and the pursuit of either of these sciences serves as mental training, quickening the powers of perception and observation, and raising the student to a higher mental level than he would otherwise attain.

The knowledge of freehand and mechanical drawing has often proved of immense service to numbers of the gardening community. All young men ought to make themselves acquainted with the art of drawing plans of gardens and glasshouses, and the principles on which they are constructed. In this work, many a hour which would otherwise prove wearisome, may be pleasantly passed away and be a great help in after years, and it may, we think, be very properly argued that, as a rule, those who make a wise use of their leisure time when young are generally the most successful in after life. In thus advocating the claims of what is termed book knowledge, we are quite alive to the fact that we have had in the past many first-class practitioners, whose book knowledge was of the most meagre description, and that book knowledge without a practical training in the various departments of garden practice will never make a good practitioner. At the same time, who will be bold enough to assert that any one of those grand old men of the past would not have stood in a more advantageous position had they had the advantage of a scientific knowledge of the many things connected with their profession? How often do we see questions asked in gardening periodicals which betray an amount of ignorance of many common things which ought to put the questioners to shame, but till the rising generation of gardeners either voluntarily equip themselves in a better manner, or the force of circumstances compels them to do so, we shall have the same evidence of inadequate knowledge cropping up.

Many in the profession, no doubt, have hindrances to contend with that are, to some extent, peculiar to it, because, as a class, many of them lead comparatively isolated lives, and are far removed from centres of light and leading, and cannot avail themselves of the classes in botany, agriculture, and other branches of learning which are held in more populous districts; but class books on these and other subjects are comparatively cheap, and a diligent student can from them make himself pretty well acquainted with any one of them. We have sometimes thought that botany, chemistry as applied to agriculture, and entomology, ought to be made prominent subjects in the elementary schools of our rural districts, because from an early familiarity with these subjects a more intelligent insight would be given into the rationale of the varions garden and farming operations. The greater intelligence of those who till the soil will lead to better returns, and with the increased remuneration that the tiller of both farm and garden will receive in the not very distant future, will make it less difficult to retain the rural population at home than it has been in the past.

To those who would improve themselves by study, we would urge the propriety of not attempting too many subjects at one time; and in making choice of one or more, it may be as well to select those which best agree with the natural bent of the student's mind, as being those in which he is most likely to excel. One great help to young beginners would be to keep a diary of garden operations, the state of the weather, the condition of crops, and how they are effected by the changeable atmospheric conditions prevailing during the varying stages of growth; the successes and failures following the various processes which pass under their observation, and their remarks on subjects connected with natural history and phenomena will be of great service to them in forming a correct opinion on all questions pertaining to their calling, and enable them to steer clear of many a quicksand.

In reference to the claims of botany and entomology, we have sometimes thought that the careful study of the latter should have the preference, because plants have been, and can be very successfully grown by those who are quite ignorant of systematic botany, who if they had an insight into the life history of the many insect plagues that are injurious to plant life, might often do much to avert the mischief they occasion, and this knowledge can hardly be obtained without a diligent study of the subject. As recreations from more serious study we would suggest chess, fretwork, and music. Low songs, trashy novels, and horseracing literature ought to be considered as beneath the dignity of the gentlemen which the gardeners of the future ought to be.—*W. B. G.* [Hear, hear, ED.]

A CHAT ABOUT CHRYSANTHEMUMS.*

MANY years ago, probably near upon a quarter of a century, the Chrysanthemum was a favourite flower in the neighbourhood of Liverpool. About that time the late Mr. Broome, of the Inner Temple Gardens, paid us a visit, and brought with him trained plants of Cedo Nulli, to show Liverpool growers how plant growing, or more correctly speaking perhaps, how the training of the Chrysanthemum was carried out in the South. For this the then existing society presented him with a handsome walking stick. We have had several teachers, if I may so term them, for although they may not have actually taught us very much, they inspired Liverpool growers with a determination to excel in the culture of this particular flower. If my memory serves me right, Mr. Hobbs, of Bristol, next came upon the scene with small but neatly-dressed flowers. In this respect they surpassed those grown with us, but we had size on our side, a feature that has characterised Liverpool flowers even up to the present time. I have said the Bristol flowers surpassed the Liverpool flowers in neatness, for dressing was not then practised by us. The very same character marked the flowers contributed at a later date (about seventeen years ago) by Mr. Rowe, of Roehampton. At this particular time I had to be content with a third place with large but undressed flowers. As I could see dressing was an essential that could no longer be ignored if the post of honour was to be gained, I set about the manufacture of my own tools; they are rough examples in comparison to what are used by growers at the preseut time, but they answered my purpose, and I still use them. About this time the late Mr. Hignett and Mr. John Wilson, of Sandfield Park, were the foremost trained-plant growers, and the

* A paper read by Mr. W. Tunnington, of Liverpool, at the Chrysanthemum Conference, Sheffield, November 16th.

late Mr. William Briggs, also of Sandfield Park, was the first to show trained plants of Japanese at the Liverpool Show. Plant training steadily improved, and here I intend to leave them, having only referred to the Japanese for the purpose of showing that no progress was made in the culture of this class before 1878. They were never exhibited as cut flowers until that year, when I staged a box of eighteen varieties that seems to have attracted particular attention.

But during all these years considerable attention was devoted to the incurved section, and every exertion seems to have been put forward by growers to secure a leading position and keep it. Steady, but sure, had been the progress made in the culture of the Chrysanthemum (especially the incurved). Since then we have marched forward at a very rapid rate. The few incidents that took place ten years ago stirred up growers all over the country. We can only perceive what rapid progress has been made when we contrast the number of growers then and now, the number of Chrysanthemum exhibitions and the money offered then and at the present time, and the difference between the flowers staged then in various parts of the country and the perfection in which they are staged now.

Before passing to the few cultural details I intend troubling you with, I may be permitted to briefly note the cause that largely brought about such a revolution in the culture of this favourite autumn flower. In 1878 ten guineas were collected from those interested in the neighbourhood of Liverpool, and offered in three prizes for twenty-four incurved blooms as an inducement to our southern friends to compete against us. This really was the outcome of a discussion of the merits of the growers, north and south. But time prevents me touching farther on that matter; suffice it to say, this offer only brought one competitor from the south, and if I may be permitted to class it as a representative one, it displayed a more marked difference than I anticipated would be the case between northern and southern growers. The flowers were very similar to those staged years before by Messrs. Hobbs & Rowe, while Liverpool flowers had increased in size and vastly improved in neatness. The spirit of rivalry that had been created could not stop; it is well it did not. It brought about the Chrysanthemum tournament induced by the liberal challenge trophy that was presented by the President of the Kingston-on-Thames Society in 1879. Though I had grown Japanese for many years, this was my first attempt for competition. At that time I may fairly claim for the north the foremost position for incurved flowers, and at the same time admit our southern friends were ahead of us with Japanese, simply because they possessed the best varieties. Great progress has been made in Liverpool, and even greater progress, perhaps, in the neighbourhood of many northern provincial towns. I do not doubt that the same marked progress has taken place in the south. I cannot help thinking that growers were not in real earnest prior to 1878, except perhaps in their own immediate neighbourhood. The bold stand of the south, and the even bolder stand of the north about that period, seems to my mind to have fanned the flagging enthusiasm of growers to do their utmost to gain the victory in the friendly struggle that was to be waged between their respective growers. My successful journey from home encouraged others, and in the following year several ventured from home for the first time, and the result has been wonderful progress in Chrysanthemum growing in the immediate vicinity, at least, of many large centres in the northern provinces—in fact, all over the country. I shall now give a few details of northern culture, or, perhaps, more correctly, my own views and practice that I have found to result satisfactorily. I shall not waste your time by minutely detailing how the plants should be treated after flowering; suffice it to say they should be placed near the glass, in a cool, airy structure to induce the production of strong sturdy cuttings.

(To be continued.)

Rhododendron, President.

PRIMROSES IN NOVEMBER.

As an indication of the mildness of the season we have received a nosegay of variously coloured Primroses from Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. They were as large, fresh, and fragrant as if they had been culled on an April morn. They had also evidently been collected from a large batch of seedlings, seeing that notwithstanding their number, they exhibited an almost co-extensive number of shades of colour as there were flowers. No doubt some of them vary according to age, but the shades of rose, lilac, mauve, purple-red, white, yellow, crimson, and violet-purple were certainly very numerous. In the vicinity of London we have also seen Primula japonica flowering with tolerable freedom, an occurrence which we consider very unusual in this species.

HYBRID GREENHOUSE RHODODENDRONS.

As amongst Roses we speak of hybrid perpetuals, so we might with equal justice speak in the same term of these Rhododendrons, for they are always in flower from one year's end to the other. At present there are about two dozen named kinds in flower in the Messrs. Veitch's Chelsea Nursery, besides unnamed seedlings coming into bloom from day to day for the first time. Fog does not affect them in the least. President, of which we give an illustration, has large deep apricot-yellow flowers, beautifully tinted with salmon towards the margin, and has crimson stamens. Another fine type is Monarch, with salmony red flowers, and an unnamed seedling with salmony apricot flowers bore twenty-three on a single truss. A canary-yellow variety of a very floriferous nature, and named Princess Christina, bore seventeen trusses of bloom fully expanded. A splendid variety is Lord Wolseley, with orange-apricot flowers of large size. Ne Plus Ultra is of a brilliant scarlet, and is the largest and best of this colour. Other choice kinds now in bloom are Perfection, warm rosy pink; Pink Perfection, beautiful and regular shape; Aphrodite, white; Jasminiflorum carminatum, crimson flowers with long tube; Maiden's Blush, blush; Favourite, large pale rose; Prince Leopold, orange, suffused crimson; Balsaminæflorum aureum, double yellow; Princess Alexandra, delicate blush; Duchess of Connaught, brilliant crimson; Princess Frederica, yellow, tinted salmon at the margins; Taylori, warm rosy pink; Ophelia, rosy pink; Queen Victoria, long yellow tube, and salmony yellow limb; and Princess Royal, blush, tinted lilac.

The Amateurs' Garden.

The Greenhouse or Conservatory.

The most prominent feature in the show house at present, is, or should be, the Chrysanthemums, and those who have not yet mastered their culture should give them a trial, as they are really very easily grown, and although they are on hand for the greater part of the year, yet they more than repay the trouble at this dull season. Plants that have been cut down and are therefore dwarf, or those that have been struck late and have not been severely disbudded, are most suitable for conservatory work generally. The object should be to keep them so low that the eye can see over them; while those that are grown for exhibition purposes are wholly unsuited for the decoration of houses unless very high in the roof. Cyclamens, Chinese Primulas, and a few of the commoner heaths are easy to grow, and should occasion no difficulty to the amateur who has devoted a little time to them, and has carefully noted their requirements at different seasons. Of course only the early sown batches will be in perfection now, but later batches should be strong enough now to throw up flower spikes. The scarlet-berried Solanums are now in perfection, and will remain so during the winter months. Those who have taken the trouble of growing on a batch of Zonal Pelargoniums, now know the value of them, as their rich colours in the dull light of November have a very telling effect.

Hyacinths.

The most advanced of these will be the Roman Hyacinth, which is botanically a variety of the common one, although for horticultural purposes very distinct. The flowers are fragrant, and for cut flower purposes it is more suitable than the larger kinds. Keep them as well as all others which may now be advancing as near the light as possible. Pot the late batches if not already done. Where it is intended to grow any in glasses the present is a suitable time to have the latter filled.

Climbers suitable for Town Gardens.

Generally speaking, deciduous kinds are most suitable for planting in and around towns, because they rid themselves of the dust and sooty deposits to a great extent by the fall of the leaf. Smooth leaved evergreen kinds are also highly suitable from the fact that rain readily washes off any deposit that may settle upon them. Evergreen climbers that are hardy enough to withstand our winters are, however, comparatively few. The most important is the Ivy, with its numerous beautiful green and variegated leaved kinds, the names of which need not be mentioned, as a selection suitable to the taste of the grower can best be made by examining any good collection. Cotoneaster Simonsii and C. microphylla are both excellent in their way, and recommend themselves by the profusion of berries they produce in winter. Ayrshire Roses are also evergreen, or almost so, and several species of Jasmine, including Jasminum officinale, J. revolutum, J. nudiflorum, and several others appear evergreen on account of the colour of their numerous twiggy branches. They are really deciduous, however, but none the less ornamental on that account. The Fiery Thorn (Cratægus pyracantha) is truly evergreen, and a handsome object at present on account of its brilliantly-coloured berries, which are produced in great profusion. Aristolochia Sipho, or the Dutchman's Pipe Plant, is too seldom seen in town or other gardens, and should be more extensively grown. The Japan Quince (Cydonia japonica) should be planted for the sake of its handsome scarlet or crimson flowers in spring. The Virginian Creeper and its congener, Vitis tricuspidata, better known under the name of Ampelopsis Veitchii, should not, on any pretence, be overlooked, on account of the brilliant colours of its fading leaves in autumn.

Preparation of the Shrubbery Border.

It is a mistake to plant shrubs as it is to plant almost anything else in beds, borders, or otherwise, where the ground has had no previous preparation. This, however, is more often done than the present age of progress and advancement in horticultural matters would warrant. Amateur as well as professional planters too often consider it enough to make a small hole sufficient to admit the roots of the tree or shrub to be planted, and after having crowded the roots into it, and buried them, the operation is considered completed. The result is, if the ground is of a poor nature or the sub-soil is a heavy clay, the plant succeeds, it may be for a time, but afterwards becomes stunted, pale green, ragged, and altogether unhealthy. Where no particular kind of soil is necessary, the first consideration is the laying out or marking off the ground to be planted, if that has not already been done. Then the whole should be trenched at least to the depth of two feet, and the sub-soil beneath that thoroughly loosened up and the more especially if it is of a clayey nature. In this the roots of the subjects planted will be able to ramble at will, and other conditions being equal, the results cannot fail to be satisfactory.

SYON HOUSE.

Passengers going along the river Thames, or on its banks, have a fine view of the old and massive-looking mansion belonging to the Duke of Northumberland. Except in the immediate neighbourhood, however, a view cannot be obtained of it from any other quarter, owing to its being surrounded by massive old trees in which we are specially interested. It is a square building covering a great space of ground, and the side fronting the river is surmounted with the figure of a lion rampant, and which is very conspicuous, even at a distance. The walls of the rooms on this side are richly panelled, while those of the state rooms facing Isleworth are hung with tapestry. The house dates back for 300 years or more, and was then used as a monastery.

The Glasshouses.

The conservatory is a huge building with the central division square, and surmounted by a large dome. A long curved wing on either side of this makes the whole appear of a semi-circular shape. Being divided off into several compartments it accommodates both stove and greenhouse plants. The central dome is occupied by the gigantic Bamboo recently described by us, so that it is here unnecessary to go into detail. Amongst other large plants in the central division are some fine plants of Musa ensete; Pachira, better known as Carolinia; and specimens of a Giant Cactus—namely, Cereus pentagonus, with stems 30 ft. to 40 ft. high, and breaking their way through the glass roof. Huge banks of Camellias and various New Holland plants occupy the further end on either side of the building. The curious blue and yellow flowers of Strelitzia regina bear a striking resemblance to a bird's head. Some of the massive pieces of Todea barbara used at the Colonial Exhibition have found their way here.

Some of the smaller plant houses are occupied with the more useful decorative subjects, such as Gardenias, Crotons, Dracænas, Palms, Ferns. Others contain Heaths, Epacris, Cyclamens, Pelargoniums, Orchids, and Hymenocallis macrostephana, which has been well and extensively grown at Syon House for many years. Amongst Orchids the Calanthes have made excellent growth.

Forcing is very extensively carried on, and low pits or houses are devoted to the culture of Cucumbers, Melons, Figs, Peaches, Grapes, Bananas, Strawberries, Tomatos, French Beans, and other subjects. Of Strawberries, 4,000 plants are potted up, including the best kinds for the purpose. Auguste Nicaise was notable for the healthy dark green colour of the foliage. Indeed, all the kinds looked well with the exception of Sir Joseph Paxton, which appeared weakly by comparison with the others. Two houses are devoted to the culture of Musa Cavendishi for its fruit. Each plant is grown with its roots in a separate brick-built tub, so that when one has fruited, it is cut down, the soil and the old plant removed, and a sucker put in its place. Growth is unsatisfactory unless the old roots are removed. At the time of our visit, one of the large vineries was occupied with Madresfield Court, Muscat of Alexandria, Black Hamburgh, and Trebbiano, all in fine condition. Another division was occupied with Lady Downes, finely finished with a handsome blackish blue bloom. Mr. Withes, the worthy successor to the late Mr. Woodbridge, said that the Lady Downes would last till March in good condition, till used up. Here, as in other departments, a succession has to be kept up, and the early vinery was started some time ago.

Trees and Shrubs.

Syon House has long been noted for its fine collection of trees, and especially for their great size and age. The monarchial old Cedars of Lebanon date back for about 300 years, and some of them cover a great extent of ground. Limes, Elms, and Morus nigra are also of this date. The latter was planted in 1548, when Syon House was an Abbey, and if not the first is at least one of the first trees of the Mulberry introduced to this country. The original trunk, after becoming prostrate, had taken fresh root and has again made healthy growth. A Gleditschia triacanthos, about 50 ft. high, with a broad spreading head and a gnarled trunk, would be about 150 to 200 years old. On the western side of the house is an avenue of very tall Limes, planted in a double row on each side.

Eastward from the house are some massive and interesting old trees, the ages of which would be difficult to determine. The Horse Chestnuts have huge, twisted-looking trunks, while the Yellow Buck's-eye (Pavia flava) is smaller and about 50 ft. high. A large number of trees of the deciduous Cypress (Taxodium distichum) are studded about the ground, but the most interesting is a fine specimen on the borders of the lake, and which has thrown up a large number of curious excrescences from the roots, necessitated by the swampy nature of the ground, in order that the roots may have access to air. The rich reddish brown colour of the decaying foliage was magnificent in autumn. The largest tree of Acer creticum probably in this country, may be seen at Syon House, and although only about 30 ft. high, spreads over a considerable extent of ground. A fine tree of Sophora japonica, with a gnarled trunk, stands about 70 ft. high; and near by it is a tree of Fraxinus excelsior heterophylla, about 70 ft. or 80 ft. high, and no doubt one of the finest specimens of the kind in the country. A singularity occurs in a tree of Acer monspessulanum, which has a hole right through the base of the bole of the tree as though it consisted of two grown together, the two pieces being covered with bark all round. Other deciduous trees in this part of the ground are Populus alba, P. a. canescens, 80 ft. high; and P. nigra, all with great gnarled trunks; Alnus glutinosa laciniata, 80 ft. high, with about the same spread of branches; Catalpa syringæfolia, 50 ft.; Juglans nigra, about 90 ft.; Virgilia lutea, 50 ft. to 60 ft.; the yellow-berried Holly (Ilex aquifolium flavum), 40 ft.; the Tulip Tree, 70 ft.; and Fraxinus lentiscifolia, 50 ft. The Vallonea Oak (Quercus Ægilops), the acorns of which constitute an article of commerce for tanning purposes, forms a tree about 30 ft. high.

To the westward of the house the collection is equally rich, and the size of the trees generally speaks to the fertile nature of the soil, which is of an alluvial kind, doubtless laid down by the river in past ages. Close by the Isleworth gate of the grounds, the Lombardy Poplar (Populus nigra pyramidalis) towers up to a height of more than 100 ft., and not far from it is a spreading healthy specimen of the Constantinople Nut Tree (Corylus Colurna), about 40 ft. high. The Sassafras Tree (Sassafras officinalis), notable for the variation of its leaves, is 18 ft. high. Old Yews are fairly red with fruit, perfectly ripe and beautifully coloured, testifying to the suitability of the climate notwithstanding the sunless character of last summer. Stuartia virginica, 18 ft. high, and the Snowdrop Tree (Halesia tetraptera) had flowered well, as is evidenced by the seedless fruit still hanging on them. Large trees of the red and the Willow-leaved Oaks, as well as the Sweet Gum (Liquidambar styraciflua), are trees not so often seen in parks or pleasure grounds as they might be. Of the Cork Oak (Quercus Suber) some of the trees are 40 ft. high, while others have a trunk about 2 ft. in diameter. A fine tree of the Indian Holly (Ilex dipyrena) stands about 25 ft. high. Conifers are also represented by Sequoia gigantea, 50 ft. high; Picea Englemanni glauca, the Maidenhair Tree (Ginkgo biloba), Retinospora plumosa, 18 ft.; and a variety of the Mountain Pine (Pinus pumilio Mughus), about 18 ft. high, but covering a great extent of ground.

Before taking leave of Syon House we would fain testify to the generosity of His Grace towards the employés in the garden, inasmuch as he supplies the means for having them taught on two evenings every week. The young men can choose any subject they like for study, and the local schoolmaster is employed to impart the instruction. This is an example which might well be followed by employers in many other establishments.

Veitch's Main-crop Onion.—I can fully endorse the remarks of "F.," p. 163, anent this Onion, which has proved the best variety with me this season. The bulbs are very fine, many of them exceeding 12 ins. in circumference, and from all appearance they will prove good keepers. Your correspondent admits that those he saw were not properly thinned. This, of course, is a very important matter if fine bulbs are required; in fact, I would advise a rather severe thinning than otherwise, and much prefer to making another sowing, where less thinning is resorted to, so as to obtain a good number of picklers, as these are in great demand in most places.—*J. S. T.*

GARDENING MISCELLANY.

The Mulberry in the Old Testament.

"C. S." of Castle Menzies, is too hasty in remarking on p. 183 (Nov. 17th), that if "R. D." studied his Bible only half as much as he does plant lore he would not have said there is no reference to the Mulberry in the Old Testament. "R. D." is quite right, it is "C. S." who is deficient in true Biblical knowledge. "R. D." is no doubt well acquainted with all the facts of the case, as set forth in Mr. Leo. Grindon's admirable and exhaustive volume, *Scripture Botany*, pp. 122 and 252, which volume "C. S." would do well to consult before venturing upon any other such rash assertion. He evidently does not know the difference between the Bible and erroneous renderings in the English version. The word Mulberry is one of the class to which belong Apple, Mallow, Chestnut, Hemlock, Elm, and some other botanical names found in the Authorised version. It represents a mere guess of the translators, and plainly denotes something very different. The Hebrew term, Mr. Grindon points out, is *bekha'im*, and so far from designating the Mulberry, signifies in all likelihood one of the Poplars, the trembling leaves of which tree exactly suit the requirements of the narrative, which Mulberry leaves would in no case do. The "Revised" thinks that perhaps Balsam Trees (whatever is meant by this appellation) may be intended by *bekha'im*, thus leaving the question open. Everything, however, both historical and botanical, is opposed to the idea of the Mulberry. People who are interested in the question should refer to the volume above mentioned, especially if they think, as "C. S." does, that they know all about a matter, when in reality they know nothing.—*Scrutineer.*

Boussingaultia baselloides.

MANY growers possess this plant, but although they succeed very well as a rule in getting it to grow, it seldom flowers. Like all other fleshy-leaved and tuberous subjects it delights in a dry, sunny aspect, and to be planted in light sandy well-drained loam. After growth has been completed it should be partly ripened off by withholding water to induce it to flower, which it does late in autumn as a rule. The flowers are small, white, agreeably scented, and closely arranged on long, slender, axillary racemes towards the tips of the slender branches. Owing to the fleshy character of the leaves, sprays, if cut, remain in a fresh condition for a long time. Ultimately the little star-like flowers drop off from their pedicels, with which they are jointed, or they become black. The species under notice is a native of South America, and develops not only a tuberous root-stock, but fleshy, brittle tubers in the axils of the leaves. We had specimens of it from Mr. Merriden, The Gardens, Camberwell House, Camberwell, who has succeeded in flowering it.

Rhododendron dahuricum.

CONSIDERING that this plant is a native of Siberia, it is rather surprising that its flowering season should extend over our winter and into spring, as it is stated from December to March. This would, no doubt, depend largely upon the character and mildness of the winter. But what is more, it has commenced much earlier this year, as we noticed it flowering in September at Glenbervie, Kincardineshire, and that too after the past dull and sunless summer, so that its much greater earliness would not seem to depend upon the amount of sunshine. The greatest quantity of bloom is, however, produced in March, which would seem to be its most natural season of flowering. The stray flowers that occur at other times are dependent upon the temporary mildness of the weather, which induces some of the buds, which are in a very advanced state, to expand. The typical form of the plant is deciduous, or very nearly so; but there is a form in cultivation, namely, R. d. sempervirens, which retains its leaves all the winter. Both like a good quantity of peat in the soil.

The Mountain Bladder Fern.

ALTHOUGH this beautiful Fern (the Cystopteris montana of botanists) enjoys a wide distribution in the mountains of the northern hemisphere, it is nevertheless a rare plant, and is confined to a few places on the Grampian and Breadalbane ranges of mountains in Scotland. When discovered by botanists or collectors generally, it is a pity to grub it up ruthlessly, and so hasten the extermination of one of the rarest of British Ferns. It would be better that small specimens only should be taken and increased by cultural skill, so that cultivators throughout the country who desire to add it to their collections may do so by encouraging its dissemination from specimens already in cultivation and propagated by artificial means. At East Duddingston Lodge, Joppa, near Edinburgh, four lights of a frame are occupied by this Fern alone, the original specimens of which were collected in Perthshire about twenty years ago. A compost has been made up for it, and in this it is planted and allowed to ramble at will, which it does with much greater readiness than our other natives on account of its strong, rambling, underground, rhizomatous stems.

Callicarpa purpurea.

SEVERAL species of Callicarpa have been introduced from time to time, and are or were in cultivation; but the most popular and most frequently cultivated is that under notice, and which was introduced from India in 1822. Although a member of the Verbena family, it has small insignificant flowers, perfectly unlike those of a Verbena, a Clerodendron or an Oxera. The generic name refers to the beauty of the fruit, and for that alone is it worth cultivating. The small rosy violet berries are borne in small axillary clusters along the greater part of the length of the stem, and remain in beautiful condition during the winter months. A compost of peat and loam in equal parts, with a quantity of silver sand, and a temperature ranging from 60° to 70°, or even higher with sun-heat in summer, are all that the plant requires to grow it to perfection. There is a fine well-berried specimen at Tower House, Chiswick.

Veronica lycopodioides.

WE have in this New Zealand species a very striking instance of an entire dissimilarity between the juvenile and adult leaves, as seen in a few species of this genus, as well as in many other widely separated families of plants occurring in different parts of the world, and all dependent upon the external conditions to which they are subjected for the forms their leaves assume, or their absence altogether. In the latter case the stem, or some modification of it, performs the function of leaves. In the juvenile or seedling state of the species under notice the leaves are very numerous, densely arranged, subulate or linear, and greatly resembling those of the common hair moss (Polytricum commune). In the adult state, however, the leaves become thick, leathery, very much broader than long, and densely overlap one another in four rows, giving the plant a Lycopod-like appearance. These forms we noticed recently in the Royal Botanic Gardens, Edinburgh.

Ardisia mamillata.

A GREAT advantage of this plant is that it can be finely fruited in two years' time from seed. The plant grows so slowly that its propagation and dissemination would take a long time to accomplish, provided the readier means just mentioned could not be resorted to. We noticed a large batch of seedlings in the nurseries of Messrs. James Veitch & Sons, Chelsea, and which do not exceed 4 ins. in height, although finely berried. They form shapely little plants very suitable for decorative and conservatory purposes, although they are yet but two years old. The leaves are not less curious than the plant is ornamental, and are densely covered all over the upper surface with little tuberous elevations, which support a long, whitish, coarse, or bristly hair. The plant is altogether unlike others under cultivation, and derives its name from the upper surface of the leaves being covered with the little protuberances just mentioned.

Lobelia syphilitica alba.

A VERY effective plant is the white form of L. syphilitica when grown in company with other hardy Lobelias. Like the typical plant, it is far more vigorous and ornamental when grown as a bog plant. Not the least point in its favour is the late flowering habit; a few shoots sent you show this character. The plants from which they were cut were raised from seed in the spring.—*J. W. O.* [Should it prove constant, the white forms of L. syphilitica (specimens of which reached us) will be a decided acquisition to this section of hardy Lobelias, because quite an uncommon colour here, notwithstanding that there is no lack of white varieties amongst the summer bedding kinds, which are all varieties of L. erinus. If you increase it by sowing seeds, you will have ample opportunity of improving upon the variety by selection.—ED.]

Birds and the Fruit Crops.

I DO not wish to enter into a controversy on this subject, but I am rather curious to see how it can be made out that more destruction must necessarily be caused to fruit in a wet season than in a dry one, as is attempted to be shown by your correspondent "Scarecrow" (p. 183). Of course, the remarks made are quite plausible enough, but taking into consideration the birds mentioned in my note as doing the damage, the remarks are not applicable to them. Of the three birds the sparrow is the only one that can be an insectivorous as well as a grain-feeding bird; and then no damage is done by it at the fruit-ripening season, as I never observed them touch a fruit, although busy searching amongst the foliage for grubs and insects during that time. With reference to blackbirds and thrushes, of which I have had a pretty lengthened experience and good chances of observation, their natural food consists of worms, grubs of all kinds, snails, &c., but I may truly say that I never yet observed either of them engaged in hunting or catching insects. These are the two principal offenders in taking the fruit, and the want of an insect supply cannot be the reason for their doing so. "Scarecrow" cannot have the advantage of a country life for bird observations, or his first sentence would have been expressed somewhat differently; indeed, it seems to be rather paradoxical in its application to the birds mentioned.—*R. Stevens, Paston.*

Begonia Octavia.

YOUR correspondent, Mr. J. Horsfield, is mistaken in describing Begonia Octavia as a novelty. It was raised by M. Malet, Plessis Piquet, near Paris, and sent into commerce five or six years ago, and is, like most of his seedlings, dwarf and very full, but too small for a specimen. It will not flower in the autumn in the London fogs.—*Alpha.*

ORCHID NOTES AND GLEANINGS.

CATTLEYA BOWRINGIANA.

HAVING seen the note that appeared in your issue for November 3rd (p. 152) in reference to a spike of sixteen flowers on a plant of this lovely Orchid in the gardens of Captain Maxwell, Terregles, Dumfries, perhaps I may be allowed to say that amongst the many good things to be seen in the Orchid houses of J. F. Bannatyne, Esq., Summerville, Limerick, there is also a plant of the above with the like number of flowers on a single spike, which would lead one to imagine that some of your readers might have had even a larger number. It would be very interesting to learn if such is the case. Mr. E. Dumper, the well-known gardener at Summerville, thinks very highly of it, not only on account of its free-flowering habit, but for its beautiful rose-coloured flowers, which are appreciated by all who see them.—*S. C.*

DOUBLE FLOWER OF VANDA CŒRULEA.

A SINGULAR and striking instance of doubling in this Orchid has just been sent us by Mr. E. Dumper, Summerville Gardens, Limerick. It consists of two flowers with the pedicels and ovaries completely grown together or amalgamated, and in the absence of the segments it could not readily be determined that any fusion had taken place at all. There were ten segments, and ten ridges on the ovary corresponding to them. These segments did not, however, represent a mere separation of parts, as there were two distinct columns, but completely grown together by their contiguous sides up to the base of the two anther caps, which were quite free. The whole flower resembled a pale lavender Clematis bloom with numerous segments, such as we see in many improved garden varieties. Five of the segments were almost white, except on the back, and resembled sepals, while there were three petals and two lips. Even the yellow and blue spot seen at the base of the lip of the normal flower was represented. The flower measured just over 4 ins. in diameter when spread out.

A NEW YELLOW ODONTOGLOSSUM CRISPUM.

SEVERAL yellow varieties of this popular Odontoglossum have received distinctive names from time to time, but the varieties with a yellow ground, although not so numerous as those with a rose or white ground, yet nevertheless vary considerably in the spotting, and in the relative breadth of the segments. A variety has cropped up in the collection at Devonhurst, Chiswick, in which the ground colour is of a uniform, pale, but

distinct yellow, with a dark blotch below the middle of the three sepals. It would come near to O. c. flaveolum, but differs slightly in the spotting, especially with regard to the lip. The latter organ is bifid at the apex, and has the broad base with the multifid crest of the type, which makes it quite distinct from the O. c. Andersonianum type, in which the crest consists of a few segments. The sepals and petals are, however, comparatively narrow, a fault which seems prevalent in all yellow varieties, where we seldom or never get the round flowers and broad overlapping segments so characteristic of the best white forms.

LIPPARIS SPICATA.

MANY of the species of Lipparis may be described as pretty, but they never will become favourites with the general cultivator on account of the small size of the flowers. In this instance the sepals and petals are pale yellow, while the lip is darker, and the flowers are arranged in a close raceme, having in the aggregate a pretty appearance, resembling in a great measure some of the species of Platyclinis. They are also agreeably fragrant, and the spikes arise from neat pseudo-bulbs amply furnished with foliage of a pleasing light green colour. The species merits cultivation, and is acceptable at this season. It is flowering very freely at Gunnersbury Park, Acton.

THE GARDENERS' CALENDAR.

THE STOVE.

POINSETTIAS.—Sunshine is very intermittent and of short duration at this season of the year, therefore should all the more attention be given to such plants as are making growth or flowering. Keep Poinsettias as near the light as possible, and do not force the main batches too hard, otherwise the bracts will be small, thin in texture, and of short duration when taken to [illegible] house. Weak liquid manure may still be [illegible]nd will add considerably to the size of the bracts [illegible] become fully developed. Late batches will not [illegible]jured if kept in a temperature not lower than 55°.

[illegible]ROTONS.—With these as with many other stove [illegible]ants it is necessary to be more on the alert for insect [illegible]nemies than at most other seasons, seeing that the atmosphere of the house is kept on the dry side during the dull months of late autumn and winter. Thrip, red-spider, and mealy bug are their inveterate enemies, but may [illegible]ily be kept in subjection by occasionally spongin[illegible] leaves, at the same time using some inse[illegible] The glossy smoothness of the leaves [illegible] favour the operation. In selecting plants [illegible]d other decorative purposes, be careful to [illegible]e whose leaves are well ripened, otherwise [illegible]ble to suffer considerable damage by being [illegible]om the congenial atmosphere of the stove. [illegible]nay still be put into the propagating pit to [illegible]ey are wanted.

[illegible]NG THE GLASS.—In and around the metro[illegible]ell as other large towns where smoke or fog [illegible]uring the winter months, all plant houses, [illegible]ally the stoves and houses that contain plants i[illegible] or less active state, should have the glass th[illegible]y washed down, if not at regular intervals at least [illegible]r a period of fog or smoke, to remove the soot that [illegible]ts and hinders the ingress of light. Leaves of thin texture, even if evergreen, are more liable to suffer injury from want of light than leathery-leaved kinds, although in the latter case the injury is even more permanent. Where water can be applied by means of a hose the work can be done more efficiently than when it has to be performed by manual labour. A hair brush, or even a mop on a long pole, may be used for rubbing the glass of the roof, and with water applied will make the glass clear and bright as far as the exterior is concerned.

AZALEAS.—The most easily forced Azaleas are A. narcissiflora, A. indica alba, and A. punctulata. If they have been previously forced they start with more readiness than if they are forced for the first time. Of course the reason is evident. Forced plants ripen their young wood for next year's work at a much earlier period. The first named variety scarcely requires forcing. A. amœna and the Carmichael strain of Azaleas, with larger flowers than the former, are also most useful from this time onward, and supply pleasing rose, rosy purple, and other shades.

THE FORCING HOUSES.

PEACHES.—It is of great advantage to the trees in the early houses if they are brought on gradually rather than if the house is shut up and at once subjected to a high temperature, therefore the earliest house may now be closed and kept at a temperature of from 40° to 50° by night, and rising by day, particularly with sun-heat. If the weather is mild there will be little difficulty in keeping up this temperature without fire-heat, provided fermenting material is used in the house. In case of severe weather, however, the water may be turned into the hot-water pipes. Syringe the trees twice daily in fine weather, say about 9 a.m., and again early in the afternoon, damping down the paths and borders at the same time. If dull and wet weather prevail, the syringing will be sufficient.

THE KITCHEN GARDEN.

FRUIT TREES.—All newly moved trees of large size should have a stake put to them to prevent swaying about by severe gales of wind, to which we are subject during the winter months, until the ground has settled and young roots have taken fresh hold. This is the more necessary since all fruit trees, especially in heavy soil, should be planted with their roots near the surface.

SEAKALE AND RHUBARB.—Roots or rather crowns of these intended for forcing should be lifted while yet there is no danger of the ground being frozen, and laid in thickly in soil in a shed where they can be covered over with straw or bracken to keep away frost. The best of the thongs or long fleshy roots of Seakale should be preserved, and laid in small heaps well covered with soil, and out of reach of frost, until required for making fresh plantations.

CHRYSANTHEMUM SHOWS.

The National, at Sheffield.—*Nov. 16th & 17th.*

WE regret to record the fact that the first visit of the National Chrysanthemum Society to the provinces, whatever it may prove to be financially, was from an exhibition point of view a complete failure. The why or the wherefore we cannot attempt to explain; some attributed the breakdown to the "flukey" season; others to timidity on the part of local competitors who anticipated defeat at the hands of the crack southern growers, and thus let the prizes go begging—only one southern grower entering into the competition; while others again went so far as to say that there is no enthusiasm among Sheffield Chrysanthemum growers now. Whatever the cause may have been, the fact remains—and in common with all other members of the society we greatly deplore it—that there were only three competitors for the leading prize, the 15-guinea Cup and £10, all of whom came from a distance, that there was no competition at all for the society's medals, and what there was in the local classes was mainly of a very poor character.

The leading features of the show, which was held in the Exchange, adjoining the Maunche Hotel, and an excellent building for the purpose, were the three representative collections shown for the Cup; some exceedingly good semicircular groups of decorative plants; a glorious collection of cut blooms of zonal Pelargoniums and Chrysanthemums from Messrs. Cannell & Sons, Swanley; a capital group of stove and greenhouse plants from Messrs. Fisher, Son, & Sibray; an excellent collection of cut blooms of Chrysanthemums from Messrs. Davis & Jones, of Camberwell; and an extensive assortment of Kent-grown Apples and Pears from Messrs. G. Bunyard & Co., Maidstone.

The three competitors in the principal class were Mr. Parker, Impney Hall Gardens, Droitwitch; Mr. W. Packman, gardener to C. Shea, Esq., Foots Cray, Kent; and Mr. J. B. Morton, Mowden Bridge, Darlington, and when the judges came to examine the collections they found that owing to the ambiguous wording of the schedule there were grounds for the disqualification of each collection, which was subsequently done, and the prizes awarded on their merits. In this way Mr. Parker won easily, having a very strong lot of blooms, Mr. Packman taking the second prize and Mr. Morton the third with very creditable collections. Mr. Parker also had the best thirty-six Japanese, and the best single blooms in the incurved and Japanese sections—the former being a deep massive bloom of Lord Alcester, and the latter a splendid example of Avalanche. The principal local growers were Mr. Walker, gardener to B. P. Broomhead, Esq., Broomhall Field, and Mr. Pidsley, gardener to Mrs. H. Wilson, Westbrook, who had the best trained plants, and secured awards also in several of the cut-bloom classes. The groups of decorative plants shown by Mr. Collier, gardener to John Eaton, Esq., Sharrons Bank, and Mr. Pidsley were exceedingly good and close in point of merit—the former, however, securing first honours by reason of his greater warmth of colour, which is an important point in any collection shown in dreary November. There were several classes for Primulas, Roman Hyacinths, Epiphyllums, &c., but they contained nothing calling for comment.

The only Certificate awarded was to the new clear bright yellow Japanese, named Sunflower, a fine bloom of which was sent by Mr. E. Beckett, Aldenham Park Gardens, Elstree.

In the evening of the first day a conference of Chrysanthemum growers was held in one of the large rooms of the Maunche Hotel, and which proved to be the redeeming feature of the gathering. Mr. John Wright was called upon to take the chair, and there was a capital attendance to hear papers read by Mr. Tunnington, a veteran Liverpool grower, and Mr. E. Molyneaux, of Swanmore Park, Bishops Waltham. Of Mr. Tunnington's paper, entitled "A Chat about Chrysanthemums," a portion will be found in another column. Mr. Molyneaux chose for his subject "The Influence of Wood Ripening on Buds and Bloom," and this we hope to publish in our next issue. A brisk discussion of a most interesting character followed the reading of both papers, and hearty votes of thanks were accorded to Mr. Tunnington, Mr. Molyneaux, and the chairman before the meeting broke up.

Lambeth and Southwark.—*Nov. 13th and 14th.*

THE Lambeth amateurs again shifted their quarters, and upon this occasion secured a much more prominent room to hold their annual exhibition, viz., The Horns Assembly Rooms, Kennington, which is well adapted for a Chrysanthemum show. A very creditable exhibition was made, and great credit is due to the executive for the way in which the exhibits were arranged; groups of Chrysanthemums were shown all round the room, and a long table down the centre with a shorter one across the end served to hold all the cut flowers, which if not of enormous size, such as we are used to seeing at the Aquarium or Crystal Palace, were very neat blooms. The most attractive feature of the show was the vases of Pompon Chrysanthemums, arranged down the centre of the table, huge bunches of flowers and foliage, the majority of them being arranged with considerable skill and good taste. The prizes for these were awarded to Mr. Berry, Mr. T. F. Davison, and Mr. A. J. Knight, in the order named. For a group of Chrysanthemums occupying 40 sq. ft., Mr. J. Hole was an excellent first with some fine large blooms, Mr. W. E. Berry second (his flowers were small, but the group was well arranged) and Mr. W. Butler third. Class sixteen, a group of foliage and Chrysanthemums, was closely contested, there being little to choose between the first and second prize groups; the awards went to Mr. W. Butler and Mr. J. W. Addison in the order named.

The classes for twelve and six incurved varieties were well contested, the leading prizes going to Messrs. W. L. Tracy, J. F. Davison, J. W. Addison, C. J. Guerard, and W. Berry. In the Japanese classes some very fine blooms were staged of Edouard Audiguier, Dr. Besaucèle, M. J. Laing, Balmoreau, Comte de Germiny, and M. Wm. Holmes, the prizes being awarded to Messrs. H. Sharpe, H. Ellis, J. W. Addison, and J. F. Davison.

Mr. W. Tracy and Mr. F. R. Williams were leading prize winners in the various classes for trained plants. Mr. R. Whilley and Mr. J. J. Hillier also staged very fine collections of incurved Japanese Anemones and Pompon blooms.

Amongst the miscellaneous exhibits were a fine group of Chrysanthemums by Messrs. Davis & Jones, of Lilford Road Nurseries, Camberwell; a bank of foliage by Messrs. J. Laing & Son, Forest Hill, and an attractive collection of horticultural sundries by Mr. Benjamin Field, of New Kent Road.

York.—*November 14th to 16th.*

THE members of the Ancient Society of York Florists, the origin of which can be traced back for more than a century, have great reason to congratulate themselves on the success of their last show, which marked a decided advance on previous efforts. The society gave upwards of £100 in prizes, which were sufficient to bring out a larger number of entries from local growers, and also to tempt several exhibitors from a distance to enter the lists. The Lord Mayor's Cup for a group of Chrysanthemums and fine foliaged plants 100 ft. square, was won by Mr. T. M. Weddall, and for a smaller group, Mr. A. Milnthorpe secured the premier award. In the cut-flower classes, Mr. W. B. Richardson staged the best thirty-six incurved and Japanese, twenty-four incurved and

Japanese, twelve Japanese and twelve incurved; and Miss Seward secured several awards in other classes. There was also a fine display of fruits and vegetables in the miscellaneous, as well as the competitive classes.

At the luncheon held on the first day, Mr. Garnett, who responded for the judges, said it must be very gratifying to the city of York to be able to have such a show as was seen there that day, and to be in possession of such a building to hold it in. It had been suggested that as the National Chrysanthemum Society was holding provincial shows, it would be a graceful thing of the York Society to invite the National Society to hold its next exhibition at York. He was sure no better town could be found in which to hold such a show. Mr. Lazenby, the energetic secretary, subsequently intimated that a deputation would visit the Sheffield show for the purpose of inviting the National Society to hold their show in York next year.

Bromley District.—*November 14th and 15th.*

THE seventh annual exhibition of this society was held in the Drill Hall, Bromley, and a beautiful display from the surrounding district was got together. There was a falling off in the groups owing to the severe competition of last year, but cut flowers and fruit were good, while the trained specimens were better than any previously shown.

For a collection of cut-back Chrysanthemums in pots Mr. Seymour, gardener to E. Norman, Esq., Bromley Common, took the first prize. The plants were dwarf, with plenty of blooms, but of medium size. He was followed by Mr. Walton, gardener to F. Lloyd, Esq., Bromley. The best six dwarf-trained specimens were shown by Mr. Sharland, gardener to L. Wigram, Esq., Bickley. Some of the best flowered of his plants were Rose Christine and Peter the Great; he was followed by Mr. Coates, gardener to Mrs. Walters, Bickley. Mr. Bates, gardener to Mrs. Borton, Bickley, had the best six standard Chrysanthemums in neatly-trained well-flowered specimens; Mr. Blackburn, gardener to J. Scott, Esq., Elmstead Grange, Chislehurst, was second. Mr. Lewis, gardener to J. W. Bennett, Esq., Bromley Common, had the best three trained specimens, and Mr. J. Humphrey, gardener to Major Tulloch, Bickley, had the second. The best single trained specimen was shown by Mr. Lewis, and the second by Mr. Coates.

Amongst cut flowers Mr. Blackburn was the only exhibitor of forty-eight blooms in the open class. Some of his best incurved blooms consisted of Queen of England, Alfred Salter, Jeanne d'Arc, and Princess of Wales, while Japanese blooms included Ralph Brocklebank, Val d'Andorre and Mr. J. M. Pigny. The other classes were open only to those within four miles of Bromley Town Hall. Mr. Pascoe, gardener to Captain Torrens, Hayes, took the first prize and a Cup for thirty-six blooms, half each of incurved and Japanese; his best blooms included Empress of India, E. Molyneux, and Soleil Levant. Mr. R. Leadbetter and Mr. Lewis were second and third respectively. Mr. Blackburn had the best twelve incurved blooms, and Mr. Pascoe followed. There were eleven entries for six incurved blooms, and Mr. Blackburn took the first prize, as well as the first for twelve Japanese, for six Japanese, and for twelve large-flowering Anemones. Mr. Barnes, gardener to A. Bovill, Esq., Grove Park, took the second prize for six incurved blooms. Mr. Adlam, gardener to W. S. Milnes, Esq., Grove Park, was second for twelve and six Japanese blooms; while Mr. R. Leadbetter was second for twelve large Anemones. Mr. Pascoe had the best twelve and the best six Pompons, being followed by Mr. Barham, gardener to W. Edwards, Esq., Keston, and Mr. Leadbetter respectively. Mr. South, gardener to T. Howard, Esq., Bickley, was first for a stand of one Japanese variety, showing Val d'Andorre; Mr. Stent, gardener to J. Scott, Esq., Bickley, was second. The first and second prizes for those who had never previously won a prize for Chrysanthemums at Bromley, went to Mr. J. Cocksedge, gardener to G. Wilmore, Esq., Chislehurst, and Mr. Barnes respectively. Mr. Blackburn had the best reflexed blooms, and Mr. Leadbetter came in second.

The first prize for twelve table plants went to Mr. Coates; while Mr. Lyddiard, gardener to C. Norman, Esq., Bromley Common, took second. Mr. Blackburn and Mr. Sharland were first and second for six table plants. There was good competition in the classes for Primulas, and Mr. Massey, gardener to H. Taylor, Esq., Bickley, carried off the first prize for twelve plants, and Mr. Pascoe was second. Mr. Adlam and Mr. Sharland took first and second respectively for six Primulas. Mr. Massey showed the best twelve zonal Pelargoniums, three trusses of each, and was followed by Mr. Stent. The first and second prize-winners for six varieties were Mr. Sharland and Mr. Bates respectively.

The prizes offered for fruit brought out what made an attractive table of Grapes, Apples, and Pears. The best bunches of black Grapes were Gros Maroc, finely finished and shown by Mr. Blackburn; Mr. Filkins, gardener to G. Buchanan, Esq., Keston, was second. Mr. Lyddiard had the best white Grapes in Muscat of Alexandria, and the best three dishes of fruit, including Muscat of Alexandria Grapes; Mr. G. Neighbour, gardener to E. Wythes, Esq., Bickley Hall, was second for the three dishes. Mr. Cooper, gardener to M. Yeatman, Esq., Bromley, had the best four dishes of dessert Apples, including King of the Pippins and Blenheim Orange; Mr. Neighbour was second here; but took first for kitchen Apples, and was followed by Mr. Sharland. Mr. Pascoe had the best dessert Pears; and Mr. Neighbour took the second prize.

Special prizes for hand bouquets of Chrysanthemums were offered, and Mr. Lyddiard had the best, while Mr. Neighbour was second. Prizes for the best arranged centre piece were offered by J. Scott, Junr., Esq., Elmstead Grange, and Mrs. Mitchell, Chislehurst, was first, followed by Miss Constance Charlesworth, Bickley. A prize for the best eighteen blooms, distinct varieties of Chrysanthemums, was offered by the proprietors of this Journal, and Mr. J. Humphrey was the winner.

Kent County.—*November 14th and 15th.*

THE first show of this society was held on the above dates; and it may be said, that it has made a good start so far as the show itself was concerned. A beautiful display was made in the large hall at the Rink, Blackheath, the cut blooms, as usual, occupying the centre tables, while the groups were arranged along the sides of the building. The first prize group of Chrysanthemums was that of Mr. T. Dobson, gardener to F. P. Preston, Esq., South Bank, Blackheath, and showed a good admixture of colour with plenty of bloom; Mr. J. Hudd, gardener to F. W. Prior, Esq., Gordon House, Blackheath, was second. Prizes were offered for groups of Chrysanthemums arranged with foliage plants, and Mr. J. Hudd took the first with a group in which the Chrysanthemums were quite subdued with Palms, Crotons, Ferns, &c.; Mr. Payne, gardener to — Williams, Esq., was second; and Mr. S. Wheadon, gardener to James Park, Esq., third. Cut flowers in the open classes were a strong feature of the exhibition. Mr. W. Packman, gardener to C. E. Shea, Esq., The Elms, Foot's Cray, Kent, took the first prize for twenty-four Japanese, with a splendid stand, including Ralph Brocklebank, Avalanche, Florence Percy, Boule d'Or, and others; Mr. R. Leadbetter, gardener to A. G. Hubbuck, Esq., Elmstead Lodge, Chislehurst, was second. Mr. H. Shoesmith, gardener to M. Hodgson, Esq., Croydon, had the best stand of eighteen incurved blooms, including Queen of England, Lord Alcester, Mrs. Heale, Barbara, &c.; Mr. W. Packman was second. Mr. J. Pannell, gardener to McDonald Smith, Esq., Caterham, Surrey, took the first prize for twelve Japanese, and Mr. H. Shoesmith the second. The best twelve incurved came from Mr. Pannell; and Mr. J. Mitchell, gardener to Mrs. Arbuthnot, Bexley, Kent, was second. Mr. W. Packman and Mr. J. Hudd respectively took the first and second prizes for twelve reflexed kinds. Mr. F. Moore, gardener to W. C. Pickersgill, Esq., Blendon Hall, Bexley, had the best Japanese Anemones and the best Pompons. The best stand of white Japanese consisted of Avalanche, shown by Mr. W. Packman, who also had the first prize for a dark variety, showing Ralph Brocklebank. Lord Alcester was the best incurved variety, and was shown by Mr. H. Shoesmith; Mr. J. Mullins, gardener to W. Strang, Esq., Lee Terrace, Blackheath, being second. Besides those offered for groups of Chrysanthemums with foliage, prizes were also offered for cut blooms, to be competed for by gentlemen's gardeners only. For eighteen Japanese varieties, Mr. W. Packman was again the successful exhibitor with a grand lot of blooms, including Boule d'Or, Marsa, J. Délaux, Gloriosum, Florence Percy, &c.; Mr. R. Leadbetter again followed. Mr. H. Shoesmith had the best twelve incurved sorts, with fine blooms of Queen of England, Golden Empress of India, Princess of Wales, &c. Mr. J. Hudd was second, but took the first prize for twelve Japanese. Mr. J. Mullins had the best six incurved varieties. In the amateurs' classes, Henry Briscoe Ironside, Esq., Foots Cray, Kent, had the best twelve Japanese varieties and the best twelve mixed blooms. Special prizes were offered by the president for the best twenty-four blooms, eight each of Japanese, incurved and reflexed. There were five entries, and Mr. W. Packman was again the first prize winner in a large class; he was followed by Mr. F. Moore and Mr. J. Mitchell respectively. Special prizes were offered by Messrs. Davis & Jones, Camberwell, and Mr. H. Shoesmith took the first prizes for blooms of Mrs. Norman Davis, and Charles Gibson; Mr. W. Packman had the best Miss Annie Lowe; Mr. J. Hudd the best Carew Underwood, and Henry Briscoe, Esq., the best Carew Underwood in the amateurs' classes. Mr. J. Mullins had the first prize for table plants; Mr. E. Nunn, gardener to J. Soames, Esq., Greenwich Park, was first for Primulas; and Mr. J. Hudd had the best Heaths.

Occupying a table near the door of the hall was a large collection of Apples, exhibited by Messrs. John Laing & Sons, Forest Hill, including fine samples of Cox's Pomona, Warner's King, Alexander, and Loddington's Seedling. They had also a group of Chrysanthemums, in which Cullingfordi and Mons. Bernard were prominent. The group was flanked with Palms, Crotons, &c., at each end. Messrs. Davis & Jones exhibited a very large collection of Chrysanthemums arranged in three undulating groups, with Palms, Crotons, &c., along the front. They also showed two stands of cut flowers of Chrysanthemum Edward Audiguier, a stand of Mrs. Wm. Walters, one of the new Violet Tomlin, and one of Japanese Anemone Miss Annie Lowe.

Hammersmith.—*November 15th.*

THE Hammersmith and District Horticultural Society held its first show four years ago in the small St. Peter's schoolroom, Hammersmith. It has now grown to such an extent as to require larger space for its exhibitions, and the show on this occasion was held in the Athenæum, Goldhawk Road, which was well filled with good groups of Chrysanthemums, cut flowers, fruit and vegetables. The show was very much enhanced by a superb collection or group of Orchids from F. G. Tautz, Esq. (Mr. Cowley, gardener), Studley House, Goldhawk Road; they were nicely arranged in a groundwork of Ferns and Palms, and included a very choice assortment. A collection of fruit and vegetables also came, not for competition, from Colonel Cowan, Barnes (Mr. Martin, gardener); also eight dishes of Pears from Mr. Nichols, Goldhawk Road, and table plants from Mr. Davis. The show was a very good one, the competition being keen in most of the classes. Specially worthy of mention was the first-prize group of plants, shown by Mr. Lampard, gardener to T. Mason, Esq., Albion House, St. Peter's Square. The plants were well grown, with good foliage and flowers, and very neatly arranged. In the evening the prizes were presented to the successful exhibitors by Sir Trevor Lawrence, Bart., M.P., who made some very encouraging and eulogistic observations during the proceedings.

Chiswick.—*November 16th.*

THIS annual exhibition of Chrysanthemums was held as usual in the Vestry Hall, Chiswick. As a local show it continues to be of increasing importance, and compares very favourably with that of other exhibitions of the kind in or around the district, both with regard to groups of plants and cut flowers.

Messrs. W. Fromow & Sons, Chiswick Nursery, had certainly the finest group of Chrysanthemums, which were dwarf, well-flowered, and exhibited a good admixture of the different kinds. Mr. F. Mears, gardener to J. T. Thoruycroft, Esq., Chiswick, was second; and Mr. W. Davis, gardener to H. G. Lake, Esq., Chiswick, was third with good groups. Mr. A. W. Wright, gardener to E. H. Watts, Esq., Devonhurst, Chiswick, had the best three trained large-flowering specimens, one of which, Mons. Tarin, was heavily flowered. He had also the best trained single specimen in Mdlle. Lacroix; Mr. T. Picking, gardener to J. Pullman, Esq., Chiswick, was second. A Silver Medal was offered by Messrs. Wood & Son, Wood Green, for the best twelve untrained plants, and this was taken by Messrs. Fromow & Sons. F. G. Tautz, Esq., offered prizes for the best stove or greenhouse plant, and Mr. C. Cowley took the first, and Mr. A. Wright the second, both showing Cypripedium insigne. Mr. C. J. Waite, gardener to Colonel the Hon. W. P. Talbot, took the first prize for table plants; and Mr. W. Palmer, gardener to W. F. Hulme Dick, Esq.,

Thames Ditton, took the second. The prizes were offered by B. Hardy, Esq. Prizes were offered by Messrs. Fromow & Sons for Primulas; and Mr. C. J. Waite was first; Mr. Huckleby, gardener to B. Hardy, Esq., was second.

In the cut-flower classes Mrs. S. A. Lee offered prizes for twenty-four blooms: Mr. E. Coombs, gardener to W. Furze, Esq., Teddington, took the first, his Empress of India and Boule d'Or being fine; Mr. C. J. Waite was second. Prizes were offered by W. E. Tautz, Esq., for twelve and six Japanese, and Mr. J. Munro, gardener to E. J. D. Paul, Esq., Twickenham, had the best twelve, while Mr. W. Palmer had the best six. J. R. Starling, Esq., offered prizes for twelve incurved varieties, and the first was carried off by E. Sanderson, Esq., St. Mary's Road, Willesden; Mr. E. Coombs was second. Mr. C. J. Waite had the best six reflexed varieties, and was followed by Mr. E. Coombs. E. Sanderson, Esq., had the best incurved of one kind; while Messrs. Fromow & Sons had the best Japanese of one kind. The best single Chrysanthemums were shown by Mr. E. Chadwick, gardener to E. M. Nelson, Esq., Hanger Hill, Ealing; and he had the best bouquet, while Mr. A. Wright was a good second. The best six varieties of Pompons were shown by Mr. E. Coombs. Mr. C. J. Waite took all the first prizes for fruit; Mr. J. Hudson, gardener to H. J. Atkinson, Esq., Gunnersbury House, being second for Apples; Mr. A. Wright second for Pears; and Mr. C. Padley, gardener to R. L. Cosh, Esq., Chiswick, was second for Grapes. Mr. C. J. Waite had the best collection of vegetables, his Cauliflowers being especially fine. He also took the first prize for Carrots offered by Messrs. Sutton & Sons, Reading, and the first for Primulas, offered by the same firm.

A fine group of Chrysanthemums was shown in the miscellaneous class by Mr. May, gardener to the Marquis of Bute. A splendidly-coloured group of Crotons was shown by Messrs. W. Fromow & Sons, and they had also a group of Orchids, including Odontoglossums, Cypripediums, &c. Mr. C. Cowley, gardener to F. G. Tautz, Esq., showed a group of Cypripedium insigne. Messrs. Charles Lee & Son, Hammersmith, showed a large collection of Apples and Pears, including Stirling Castle, Warner's King, &c., amongst the former, and Beurré Clairgeau and Beurré Diel amongst the latter. Alicante, Gros Colmar, and Alnwick Seedling Grapes were shown by the Royal Horticultural Society.

QUESTIONS AND ANSWERS.

California.—Could any of your readers tell me what is the average wage paid to gardeners in California, and generally say what encouragement is there for an English or Scotch gardener to go out?—*J. S., Aberdeen.*

Autumn-flowering Bulb.—*C. Calder:* The plant you refer to was no doubt Colchicum autumnale, and not a Crocus at all. The flowers are similar in shape but larger, with long pale purple segments. The corms naturally flower in September, and may often be seen in the windows of seedsmen or bulb merchants, flowering without being in either soil or water. The leaves are produced during autumn and winter, dying down in summer, after which the plants rest till August or September, when flowers are thrown up unaccompanied by leaves. When lifted and exhibited as you mention, the flowers are developed at the expense of the corms, which will therefore suffer exhaustion to some extent. If, however, they are afterwards planted, they may, and often do, flower the succeeding autumn, but the flowers are not so large.

Ribston Pippin Apple.—*Henry Catto:* There is probably something wrong with the roots of your trees. They have either got down into an uncongenial sub-soil, which may either be badly drained, or is thin and gravelly. In either of these cases the trees would be less productive than they were wont to be. We should advise you to lift them, and see in what state the roots are, or whether the soil is in bad condition. In planting, keep the roots near the surface, and in covering them up, supply a good quantity of fresh soil. Turves from an old pasture are very suitable, or in their absence good fibrous soil of any kind will give them a fresh start. Cut away or dress damaged roots with a sharp knife. Mulch with good farmyard manure, and finally stake the trees. A heavy rather than a light soil generally gives the best results with this excellent old kind; and in your northern locality, better quality produce would be obtained from wall trees than from standards or pyramids.

Grub on Cauliflower Roots.—*Al. Buckland:* The grubs affecting your Cauliflowers are the larvæ of the Cabbage Gall Weevil (Centorrynchus sulcicollis), a small and brightly coloured beetle. It is difficult to exterminate when prevalent in some gardens, and seems more destructive in some seasons than others; although it must be remembered that clubbing in Cabbages and allied plants is often due to a fungus, namely, Plasmodiophora Brassicæ. At planting time see that the roots are not already affected, and if so remove the gall containing the white grub. As a preventative mix equal parts of soot and slaked lime, and after inserting the plants with a trowel scatter a little of the mixture into the hole before filling it up. You may also try carbolic acid, mixing an ounce with two gallons of soap suds, and adding sufficient loam or clay till the mixture becomes pasty. Dip the roots of your plants in the mixture before planting, and it will tend greatly to keep the insect at bay.

The Tree Tomato.—*J. R. K.:* Your experience is similar to that of many other growers who have undertaken the cultivation of the so-called tree Tomato (Cyphomandra betacea). It is allied to the true Tomato certainly, but being a shrubby plant it will not flower or fruit the first year from seed. It might do so if raised from cuttings, but it will not bear in any abundance till it attains some 4 ft. or 5 ft. high, and becomes woody; nor should it be hard cut down in winter, otherwise it will grow strong, producing large leaves, but will not flower. It is a native of south Brazil, and although it likes a rather high temperature in the seedling or early stages, it will grow and fruit freely enough in a greenhouse temperature, when it attains some size. If afforded plenty of room, it will ultimately attain a height of 12 ft. to 14 ft.

Nitrate of Soda.—*J. King:* Yes; although this is frequently employed for farm crops, especially cereals, it may also be applied with profit to various garden crops. It is a powerful manure, and should be evenly and very thinly scattered over the soil just when the crops are becoming established and ready to utilise it. Being extremely soluble in water, and easily washed out of the soil by rains, it should not be applied when the soil is dug either in the autumn or winter. The valuable part consists of the nitrogen it contains, and its effects are therefore similar to those of ammonia. It takes effect rapidly, but cannot be considered in any sense a lasting manure.

Edelweiss.—*A. Brooks:* Damp rather than frost is the cause of this plant being difficult to preserve in our climate, as it is a native of Alpine districts, where it is kept at rest by extreme cold, when it would also be comparatively dry. Whether you plant it out of doors, or preserve it in pots in a cold frame, your endeavour should be to keep it dry, cool, and at rest. In light sandy soil it sometimes stands the winter very well out of doors without any special preparation, but it will generally succeed better with its roots inserted amongst stones on rockwork.

Tea Roses for Rose House.—*H. Wallis:* For pot culture, Niphetos (white), Catherine Mermet (flesh-coloured), Devoniensis (pale yellow), Safrano (pale buff), Souvenir d'un Ami (salmon), Madame Lambard (salmony red and very fine in bud), Innocente Pirola (creamy white), Comtesse de Nadaillac (rose flesh), and Isabella Sprunt (sulphur-yellow), are all excellent kinds, affording great variety, and admirably adapted for forcing. A larger number might be named, but the above will be quite sufficient to commence with. Where plenty of space can be afforded, the following are suitable kinds for training to wires near the glass, namely, Cheshunt Hybrid (cherry-carmine), Climbing Devoniensis (yellow), Gloire de Dijon (yellow, shaded salmon), and the Noisette Maréchal Niel (the best of all yellows).

Names of Plants.—*E. Searles:* 1, Dracæna terminalis; 2, Croton angustifolium, probably; 3, Pandanus graminifolius; 4, Eulalia japonica variegata. *J. T.:* With so many hundreds of varieties in cultivation it is quite impossible for us to name Chrysanthemums, and especially poorly grown ones. Sorry we cannot oblige you. *Constant Subscriber, Malvern:* Not Catshead, but Costard; one of the oldest English Apples. *Ioco:* 1, Autumn Bergamot; 2, Beurré Bosc; 3, Chaumontelle. *A. S.:* Doyenné du Comice Pear, and Apple Northern Greening. *W. C.:* Your Apple looks like the Herefordshire cider variety, Foxwhelp, but we cannot be certain of it from a single specimen. *J. T. P.:* Doyenné Gris.

Communications Received.—G. C. (many thanks).—R. M.—M. T. M.—C. G.—R. B. L.—E. R. C.—J. H. W.—S. C.—F. C.—B. L.—Sold.

TRADE CATALOGUES RECEIVED.

Thames Bank Iron Co., Upper Ground Street, S.E.—Horticultural Boilers, Hot-water Pipes, and all kinds of Fittings, Sanitary Castings, &c.

LONDON SEED TRADE.

November 20th.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report Clover seeds firm, but with very little business doing. New Spring Tares are offering, but find no buyers, as sellers ask high prices. Mustard and Rape are dearer. Canary, Hemp, and Linseed steady. Fine samples of Blue Peas realise higher prices.

COVENT GARDEN MARKET.

November 21st.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½-sieve	2 0	4 6	Pine-apples, St. Michaels, each	2 0	7 0
Cobs .. per 100 lbs.	100 0		Pine-apples, Eng., lb.	1 6	2 0
Grapes ....per lb.	0 8	2 6	Peaches.....per doz	2 0	8 0
Melons	1 0	2 0			

Canadian and Nova Scotia Apples, per barrel, 10s. to 22s.

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ..per dozen	2 0	3 0
Beet, per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 3
Cabbages .... per doz.	1 6		Onions, per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley, per bunch	0 6	
Cauliflowers, English, per dozen	3 0	4 0	Radishes, per dozen	1 6	
Celery, per bundle	2 0		Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 0	1 3
Herbs, per bunch	0 2	0 4	Turnips, per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys. 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0	Foliage Plants, various, each	2 0	10 0
Arum Lilies..per doz.	9 0	18 0	Ficus elastica each	1 6	7 0
Chrysanthemums, per dozen	4 0	9 0	Fuchsia, per doz.	3 0	6 0
— large plants ..each	2 0	5 0	Marguerites per doz.	6 0	12 0
Cockscomb, per dozen			Palms in variety, each	2 6	21 0
Coleus .....per doz.	2 0	4 0	Pelargoniums, scarlet, per dozen	2 0	6 0
Cyclamen ..per doz.	12 0	18 0	Primula sinensis, per doz.	4 0	6 0
Cyperus, ..per dozen	4 0	12 0	Roman Hyacinths, per doz.	9 0	12 0
Dracæna term., doz.	30 0	60 0	Solanums....per doz.	9 0	15 0
— viridis, per dozen	12 0	24 0			
Evergreens, in var., per dozen	6 0	24 0			
Ferns, in var., per doz.	4 0	18 0			

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Asters, doz. bunches	6 0	9 0	Mignonette, 12 bun.	2 0	4 0
Azaleas ....12 sprays	1 0	2 0	Paper White Narciss, 12 sprays	0 9	1 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 spys.	1 0	1 6
Camellias, 12 blooms	3 0	4 0	— scarlet, 12 sprays	0 4	0 9
Carnations, 12 blooms	1 0	2 0	Primula, double, bun.	0 9	1 0
Chrysanthemums, 12 blooms	1 0	4 0	Roman Hyacinths, 12 sprays	1 0	1 6
— 12 bunches	4 0	12 0	Roses, Tea, per dozen	0 6	1 6
Cornflower, 12 bunch.			— Red .....per doz.	0 6	1 0
Cyclamen..12 blooms	0 6	1 0	— Saffrano ..per doz.	1 0	1 6
Eucharis, per dozen	3 0	6 0	Stephanotis, 12 sprays	6 0	8 0
Gardenias, 12 blooms.	2 0	4 0	Tuberoses, per dozen.	0 6	1 0
Heliotropes, 12 sprays	0 6	1 0	Violets ..12 bunches	1 0	1 6
Lapageria, 12 blooms	2 0	4 0	— Parme, French, 12 bunches	3 6	5 0
Lilium longiflorum, 12 blooms	5 0	9 0	— dark French, bun.	1 6	2 6
Marguerites, 12 bun.	3 0	6 0			

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Next Week's Engagements.

MONDAY, December 3rd.—National Chrysanthemum Society: Meeting of General Committee at 7 p.m. Bulb Sales at Stevens', and Protheroe & Morris's Rooms.

TUESDAY, December 4th.—

WEDNESDAY, December 5th.—National Chrysanthemum Society: Meeting of Floral Committee. Bulb Sale at Stevens' Rooms.

THURSDAY, December 6th.—Bulb Sale at Protheroe & Morris's Rooms.

FRIDAY, December 7th.—Sale of valuable Cypripediums at Protheroe & Morris's Rooms.

SATURDAY, December 8th.—Sales of Bulbs at Protheroe & Morris's, and Stevens' Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, DECEMBER 1, 1888.

CURRENT TOPICS.

"SMOKY JENNETS."—Additional interest has been lent to any inquiry which may be instituted into the origin of Pear nomenclature, by the sad story so recently told in the Worcester Assize Court, of a brutal murder enacted beneath a "Smoky Jennet" Pear tree. A very aged crippled man, as deaf as crippled, and of the full term of three score and ten years, seems to have conceived a passion for his neighbour's "Smoky Jennets." Starting out at early morn to his work, he made his way to his neighbour's garden in quest of the Pears. This neighbour, named Willis, a gardener himself, had got up specially early to gather his "Jennets," and seems to have found his old neighbour plundering the Pears. A tussle seems to have ensued, during which the unfortunate gardener received a death-blow from the depredator, for he was soon afterwards found lying at his own door in a dying state.

It was a sad ingathering for him, for instead of reaping his harvest of Pears he became, all too soon, but a unit in the great human harvest which falls perpetually to the grim thing—Death! The assailant was a shoemaker, and in his house, when arrested on the morning of the murder, was found a quantity of the Pears. The evidence seemed to satisfy the jury and the judge, and thus, because tempted by a few Pears, this old man was sentenced to death. Dismissing the tragedy from further reference, we are now anxious to learn what sort of Pear is this so-called "Smoky Jennet." That it is of the very earliest would seem to be evident, as the fruits were regarded as ripe in the month of July, probably towards its end. There are very few Pears which ripen so early, very few indeed did so ripen this year, whilst earliest of all commonly known in gardens is Doyenné d'Eté, but even that is more generally an August than a July Pear. But there seems to be evidence that the "Smoky Jennet" is little known, even in the district of Droitwich; indeed, is almost exclusive to the murdered man's garden. That fact leads to the inference that the "Smoky Jennet" is of purely local origin. To what circumstance it owes so odd an appellation we should like to learn. Can any of our Worcester readers help us to obtain the information?

MARGUERITES.—Without doubt the Marguerite, so-called, whether French or of any other origin, has proved to be the most popular of domestic decorative flowers. The true Marguerite of the French, Chrysanthemum frutescens, still holds a high place in the estimation of flower-lovers; and hardy single Chrysanthemums of various kinds, either of British or of foreign species, find shoals of admirers. We now hear a cry raised for classes for single forms of the winter-blooming Chrysanthemum, which the multitude will also class as Marguerites; and without doubt very beautiful they are. Our florists, perhaps, do not care so much for them, but bouquetists and floral-decorators know their value fully. The single—and in many cases wonderfully coloured single—forms of the perennial Pyrethrum, also termed Marguerites by many persons—ladies especially—are exceedingly fine; and later in the season the larger forms of the perennial Aster come under the same common appellation.

The later autumn gives us two hardy flowers, which have specially good qualifications to the term Marguerite, Pyrethrum uliginosum, and Chrysanthemum maximum. The latter is the earlier bloomer, and the more enduring; the former, perhaps, the more pleasing, but the flowering season does not so long endure. We have seen within the past few days the giant Daisy, C. maximum, blooming almost profusely from late growths and side shoots, whilst the flower-stems of the Pyrethrum have been dead and removed some two or three weeks. To have Marguerites blooming in such purity and beauty out-doors at the end of November, when all other ordinary hardy plants, with the exception of some late Chrysanthemums, are long past flowering, shows that C. maximum is a most meritorious plant, and well worthy of wide cultivation. Practically it is evergreen, for the new growth is made before the old stems are cut away.

THE RECENT GALES.—What we may regard as the usual equinoctial gales have recently visited us, perhaps a little later than usual, and happily so, as when the trees are denuded of their leaves they offer less resistance to the wild fury of the storm, and less mischief is wrought amongst heads and branches. The thinning out of dead wood which results is very beneficial, and if for the time productive of untidiness and possibly some danger, the thinning renders little need for further alarm for some time to come. But whilst the big established trees—the noble vegetable giants—of our land may have come to little harm, newly planted trees and shrubs have been sorely tried.

Planting as early in the winter as possible seems to be good practice, having regard to the excellent work done by the roots ere really hard weather sets in, but it is just possible that if some gain is found in this early root action, it may often be very seriously counterbalanced by the effects of November hurricanes, unless ample precaution has been taken to have all newly planted things well secured. That may be a matter of difficulty where the planting is an extensive one, but should be without excuse when the planting is of but moderate dimensions. Still, it is worth considering whether it may not be, on the whole, wiser to allow the planting, especially if a considerable one, to stand over until December is in and the autumnal gales are past, and thus save the trees from much dislocation. Fierce wind storms usually bring to the gardener considerable trouble, and too often much damage; but we hope so far the recent high winds have expended their force in harmless directions.

National Chrysanthemum Society.—A meeting of the general committee of this society will be held on Monday evening next, at Anderton's Hotel, Fleet Street, at 7 p.m. The annual dinner and presentation of prizes will take place at the same hotel on December 13th., when the president, E. Sanderson, Esq., will take the chair. Special efforts are being made to render the proceedings of the evening as enjoyable as possible, and to this end a selection of music, under the direction of Dr. J. H. Haskins, will be performed by Miss Mary Belval, Miss Ethel Winn, Mr. John Bartlett, and Mr. Franklin Clive. Mr. Holmes will be greatly obliged if those intending to be present will make application for tickets not later than December 10th.

Marguerites for Autumn Flowering.—Writing from Clerwood Gardens, Corstorphine, near Edinburgh, on the 23rd inst., Mr. William Rushton remarks that he has Marguerites still in profuse flower in the open air, and that considering the cold stormy weather and the lateness of the season, too much cannot be said in their praise. His plants were put out the first week in June, in front of some shrubs facing north and north-east, and they have been a sheet of bloom ever since.

The Scarlet-berried Elder.—The same correspondent also states with reference to this plant, noticed by us at p. 183, that there is a large plant at Clerwood which fruits very freely every year.

The Weather, the Harvest, and the Garden Crops in Scotland.—The mild weather we have been enjoying in the south seems to be pretty general all over the island. Mr. A. Cruickshank, Glenbervie, Kincardineshire, writes that the harvest has just been completed in his locality. The crop has been a bountiful one, and has been stacked in good order, after a very protracted harvest season. Last week he gathered Peas and cut Cauliflowers in very good condition; the case of the latter is not very remarkable, but seldom can Peas be gathered out of doors on November 24th, even in the generally more favoured south. The supply, he remarked, will continue till the end of the month. His district is a late one, yet he commenced to gather on June 23rd. Even now the Peas are firm and well-flavoured, considering the late period of the year, as we can testify from the sample sent us. The variety is Maclean's Best of All, the pods of which are about 3 ins. or 3½ ins. in length, and well filled. A less cheering note comes from an old gardener in Dumfrieshire, who, writing early in the week, remarks that "the season now drawing to a close has been the worst in my gardening life. People who have lived through it ought to be immortal."

A New Race of Winter-flowering Begonias.—Writing to the *Gardeners' Chronicle*, M. Lemoine, of Nancy, says:—"I beg to send you a photograph taken from a specimen of a new race of autumn-flowering tuberous Begonias, which may, perhaps, have some interest to you. It is the result of a cross which I made some years ago between the white-flowered

Begonia octopetala and some of the finest of the tuberous section. As you may judge from the photograph, the result is a magnificent one, and the new race, 'octopetala-Lemoinea' is one of the handsomest which I have ever raised. The root is somewhat irregularly lengthened, black, intermediate in shape between the long root in B. octopetala and the spherical corm of a tuberous Begonia. The herbaceous stem is very short, so that the leaves seem to be radical; these are broad, undulated, of a glossy green, with round hairy stalks. The plant bears from six to eight erect flower stalks, thick and hairy, about 2 ft. high, and each supporting from five to seven flowers, which open at the same time. The individual blooms, male and female, attain the size of 3 ins. or more across, and are composed of six to eight large oval petals which give them somewhat of the shape of Anemone japonica or Anemone fulgens. A nearly complete range of colours, from pure white to scarlet, with various shades of pink and carmine, is to be found in this new class, which produces a beautiful show of blooms at a season when the brightness of the tuberous Begonia is over. The photograph was taken on November 10th in my nursery, from a variety with pink flowers, one-sixth natural size.

The Vitality of Seeds.—A little pamphlet relating to the vitality of seeds found in the wrappings of Egyptian mummies has been sent us by Mr. John Philipson. It is practically a renewal of the much-debated controversy on the germinative power of mummy Wheat after having lain dormant for 2,000 or 3,000 years. Mr. Philipson has collected a considerable amount of information on the subject, and read it as a paper before the Newcastle Society of Antiquaries. There seems to be little doubt that seeds will retain their germinating power much longer under certain conditions than under those of an unfavourable nature, but even after the numerous careful experiments that have been made there will still be doubt in the minds of many that seeds can live under any conditions for such an extraordinary length of time. The writer lays stress on the validity of the testimony given by the experimenters, whose good faith is unimpeachable, their trials being conducted with the greatest care. He, however, treats the subject with great fairness, and places against his evidence the opinions of a great number of highly eminent botanical authorities, who deny the probability of mummy Wheat germinating after the lapse of so many centuries.

Suggested International Chrysanthemum Show in Edinburgh, 1889.—At the formal opening of the Chrysanthemum show in Edinburgh on the 20th inst., Councillor Colston said it was an interesting fact in the history of the city that the first Chrysanthemum show in Scotland was held in the experimental gardens in Inverleith Row, which were many years ago added to the Royal Botanic Garden. He also remarked that there was a fashion in flowers as well as in ladies' bonnets—in shape, in colour, and in quality. The Camellia was formerly the favourite flower among the ladies. Now it was the Chrysanthemum, and the more fantastic it was the more was it admired. Mr. W. Thomson, Clovenfords, in moving a vote of thanks to Councillor Colston for opening the show, said he had reason to believe that the year 1889 would be held as the centenary of the introduction of the Chrysanthemum into Europe, and great exhibitions would be held in England and elsewhere. They had had the honour in Scotland of holding the first International Horticultural Exhibition ever held in Europe, and he did not see why they should not next year hold a great International Chrysanthemum Show. If it could be arranged that the Town Council of Edinburgh would award a cup with the city arms for a collection of Chrysanthemums, he believed other gentlemen would follow suit, and such an exhibition of Chrysanthemums would be got up as probably never was seen in the country. Councillor Colston, in acknowledging the motion, said that if a proper representation were made to the Lord Provost, Magistrates, and Town Council on the subject of the cup, they would not be backward in considering it.

FERNS WITH TINTED AND VARIEGATED FRONDS.

Although all Ferns may be truthfully described as beautiful or interesting, there are yet some which have a distinct peculiarity at a certain period of their growth that makes them extremely attractive—notably the lovely tints of crimson and shades of crimson and rose colour that the young fronds assume before they develop to maturity; while in other kinds the variegation of the fronds is an attractive feature, independent of their formation. These Ferns when grown and grouped about in a general collection will invariably give relief to the sombre green that prevails in a Fernery proper, the lovely tints of some of the Maidenhair Ferns, the exotic Blechnums, the Lomarias and Doodias, with the white and yellow variegation of some of the stronger and more robust sorts, adding a pleasing relief for the eyes to dwell upon.

The Adiantums.

Amongst the Ferns that give us a preponderance of rosy-coloured tints, the Adiantums claim the largest share. They give us coloration from quite dwarf subjects up to plants 3 ft. in height, which is a great consideration when arranging for effect, either in a group in pots, or otherwise in making an effective arrangement by planting on rockwork under glass. To dispel any illusion that might occur to one not conversant with these things, I may as well state that these Ferns with tinted and variegated fronds are confined to the exotic and what are termed hardy exotic or greenhouse Ferns. All require the protection of a greenhouse or frame in order to cultivate them properly, and some even require a stove temperature, but may be placed with advantage in a cooler structure during the summer and autumn months if care be taken to see that they are removed to the stove before the autumn is too far advanced. For the convenience of those who are not accustomed to these things, I will mark with an asterisk the kinds that really require stove heat, so that they may be avoided if no stove house is kept. If we take the dwarfer section of the Adiantums first, we find

A. Legrandi to be a very dense and close-growing species, producing what are commonly called double fronds, that is, the pinnæ and pinnulets are so closely set that they overlap each other very much, giving a very dense and compact appearance to the frond, which rarely exceeds 6 ins. in height, and comes up from the crown quite a bright rosy red colour, gradually changing to dark green; when grown in heat it does not colour near so well, and consequently should be kept in a cool fernery. The pinnules of this species are very fine, and put one in mind somewhat of the well-known A. graciliimum, but for the fact that they are so close set on the short stubby frond, which gives to the plant a very dense appearance.

A. tinctum and *A. rubellum* are two beautiful tinted kinds, throwing up fronds about 1 ft. in height, which at first assume a rosy tinge ultimately becoming green; both kinds are rather lax in habit, and have a pretty effect when used with the more upright-growing kinds, such as A. Veitchii, which has a very erect and brittle frond, but which assumes a rich tint of delicate rose colour upon the young fronds, changing with age to a silvery green or glaucous tinge over the surface of the mature frond. A. colpodes will often come with the young fronds quite tinged with pink. I have noticed it more especially this past summer to be so; its habit of growth is very loose, and consequently is more suitable for basket-work, ledges, or rockwork.

A. Flemingii, a fine stove maidenhair, making long fronds with closely set pinnæ, somewhat resembling A. concinnum in style of frond, but a much darker green, and likewise more erect, will at some seasons of the year produce its young fronds of a bright rose colour, but the species is not to be depended upon to do it; neither is A. Farleyense*, which will occasionally produce its young fronds with quite a pink tinge, but no dependence can be placed upon their doing so.

For rich colour in the young fronds, the following may be depended upon to give entire satisfaction to the cultivator who may delight in watching these forms of nature change from their rich tints of youth to the sombre green or silvery green of mature age. First and foremost is

A. tetraphyllum gracile, a compact-growing kind, with a rich crimson tint on the young fronds when first developed, and continues till they are fully expanded; the fronds are bipinnate, and arch elegantly over at the top of the frond, which, when fully mature, are of a dark green colour.

A. cultratum has the young fronds a deep crimson when first developing, and ultimately change to a silvery green. A very pleasing and telling species, especially when both young and old fronds are on the plant at the same time.

*A. macrophyllum**, an old and well-known stove Fern, produces fronds very stiff and erect, the young fronds being very attractive from their rich tints. A very handsome Fern when well grown.

*A. Hendersoni** is a truly noble Fern, putting one in mind of a tall plant of Pteris umbrosa, with the coloured fronds of Pteris tricolor, It makes fronds fully 2 ft. in length, the young ones being a bronzy crimson colour. A very distinct and desirable Adiantum.—*W. G.*

(To be continued.)

THE CHRYSANTHEMUM.

Influence of Wood Ripening on Buds and Blooms.*

The ripening of the wood of Chrysanthemums is a very important matter in the growth of these plants for the production of high-class blooms; indeed, without perfectly ripened wood it is impossible to have blooms of the finest quality in all respects. Let it be understood that what I mean by perfectly ripened wood, is wood that is ripened sufficiently by natural means as the result of correct treatment throughout. Sun is essential for the maturation of plants in all stages of their growth; but in some seasons and districts there may be too much of it, and in others not enough, and we must make the best of both circumstances. Wood-ripening does not consist in merely hardening the wood, but storing it with nutriment for the blooms. Forcing the ripening, so to say, by drought or in other ways, contracts the sap vessels unduly, impeding the free flow of nourishment for the blooms at a critical time, and those persons who practise such methods in cultivation act erroneously and fail to produce the best blooms.

Seasons vary so much that the locality in which growers reside is a very important factor in the production of good or bad blooms. Circumstances occur over which cultivators have no control, which prevent them showing the ability they may be admitted to possess. They cannot, for instance, excel during a cold wet summer in a low damp district. The higher and drier the locality the harder the wood, and the greater the disposition of the plants to set buds prematurely. This is a difficulty some have to contend with, myself among the number. Where buds are persistently formed long before the time we wish to see them, much valuable time is lost in the growth of the plants in their various stages during the time the buds are forming. Moreover, high and dry localities predispose to narrow petals, and rather small but solid blooms; while reverse conditions are promotive of broader petals and larger blooms. Where the locality is high, the air, although much rain may be registered, is drier than in the lowlands, and it is this dry air that precipitates bud formation that gives so much trouble to some growers. The proper time to "take" buds of some varieties is upset altogether under such conditions. They form either too early or too late for producing the finest blooms.

Then the question of dew is important. During a hot and dry summer, as in 1887, the absence of dews in high-lying districts is much felt. Dew invigorates, and its scarcity or absence has been the cause of many small blooms. We can regulate and control moisture in the soil, but have practically no power over it in the atmosphere. We may do our best and may do some good, but after all the most we can do is but little in providing compensation for what we may consider the shortcomings of Nature.

When the growth of plants is soft and gross, the latter particularly, and the wood pale green instead of brown in colour, a want of ripeness is evident. Such plants produce blooms large in diameter, but they are usually lacking in depth and solidity of the petals. This is more noticeable in the incurved section than in the Japanese family. Blooms which are composed of extra broad florets are seldom if ever as solid as medium-sized blooms, having narrower petals; neither can the former be considered of such high quality as those deeper in build, and consequently more firm and more likely to stand fresh a longer time. Blooms having unusually broad florets often show decided roughness and irregularity, and the dresser is not able to present such blooms in the same highly finished condition as when the petals are narrower and the blooms more solid.

The present season is considered to have been a bad one for the growth of large high-class blooms, especially in the incurved section. This is borne out by the examples which have been staged at various exhibitions. It cannot be said they have been of the highest quality, or as they have been shown in some past seasons. Some stands have been extra heavy in the size of blooms, owing to the immense breadth of their florets, but many of the blooms lacked depth in proportion with diameter, consequently they were not so solid as they would have been had the blooms been deeper in proportion to their breadth. After a summer like the past one, we expect to see large blooms which lack solidity and closeness of the petals—a condition which is owing mainly to the unripened state of the

* A paper read at Sheffield on November 16th by Mr. E. Molyneux.

wood. I am not in favour of extra large blooms of the incurved section, which are only large in one way—diameter, for the reasons stated—they lack depth and solidity. My idea of an incurved bloom is one not great in diameter alone but deep and firm in build, consequently of a better shape. Such blooms are never seen with extra broad petals, but they carry what is known as a good "shoulder," being rather more orange-shaped. Such blooms as I have described are the result of perfectly ripened wood and are seldom met with after a season like the past. Where prizes are offered for the premier incurved bloom in a show, this honour generally falls to a specimen of the character indicated, and not to a flower which has merely two points in its favour—extra width of bloom and broadness of florets. Blooms which are generally chosen for this honour are usually remarkable for solidity and high finish, which two latter qualities cannot be obtained from blooms which have extra broad and thin florets. The ripened character of the wood is the all-important factor in the production of blooms of the highest possible standard of excellence, and the complete maturation we seek is obtained, as far as seasons allow, by careful treatment from the beginning.

The method of culture I advise as the most likely to obtain the desired end is that of growing the plants from the first stage on to the culminating point in a regular steady manner—not by starts and stops, such as applying water regularly for a time, then neglecting the plants for a few days. Regular attention to potting is important, or before they become so root-bound many roots must be broken in the process, causing a check to the steady progressive growth that is so desirable in plants for producing the finest blooms. Crowding the plants in their younger stages of growth is most hurtful, and antagonistic to the development of vigorous wood and foliage. Sufficient space should always be allowed the plants. When in their summer quarters they should be arranged in an open position where the sun can shine directly on them, but the position should be protected from north, east, and south-westerly winds, which are often so destructive early in the season when the plants are first placed out of doors. Many plants have been so injured by a loss of their lower leaves during May that they have never recovered the desired strength. South-westerly winds, which are prevalent during the end of August and the early part of September, often do much damage to the buds and leaves where the plants are much exposed. The flower-buds and their peduncles are at that time so tender that the skin may be much injured by being whipped about, so to speak, that a check occurs to the development of the blooms owing to the tissues being broken, thus checking the full and regular flow of sap.

Some growers set too much store on plants with extra thick stems and gross green leaves. These are, perhaps, pleasant to look upon during the summer by the uninitiated, but when the test of good culture comes to be looked for, blooms possessing the desirable characteristics are generally missing. Very exuberant plants produce blooms devoid of solidity and other essentials as a rule.

It is possible to have the plants in some seasons ripened too much in dry localities. The summer of 1887 was a most trying one to contend with in high and dry districts, where not a drop of rain fell for eleven weeks, and scarcely any dew during a greater part of that time. The remedy in this case is that of shading the pots from the sun during the hottest parts of the day, by boards set on edge in front of them, by Fern, coco-nut fibre, or mats. Such means keep the roots in a cooler state than they otherwise would be with the sun shining directly on the pots most of the day. In the absence of shade to the pots the roots on the sunny side are almost sure to be killed, and we all know what that means. Plants in low-lying districts invariably produce the broadest florets and the largest but not the best wearing blooms. The advantage of those which are more solid in character is often exemplified when the two kinds have stood two days at a show and borne the heat of crowded rooms. Those which are firm remain so longer than those which are more or less loose. These latter quickly show an "eye," which proves their weakness and non-sustaining form.

Flower-buds are generally produced upon plants at a more regular time in the various stages of growth when the plants are steadily, hence more properly, ripened than when they are not, except in very high and dry localities, where they ripen their growth too early, causing premature bud formation; this must be counteracted as much as possible, though it cannot always be prevented. Growers in the extreme southern counties often experience too early bud formation, caused by a too early ripening of the wood which their northern brethren are strangers to. This generally occurs with the whole of the Queen family, the plants forming flower-buds at times between the end of March and the same time in April, causing a serious interruption in their future growth, and preventing the formation of buds at the time most desirable for the district in which the grower resides.—*E. Molyneux.*

HART'S-TONGUE FERNS.

THE various forms of the Hart's-tongue (Scolopendrium vulgare) are all evergreen and exceedingly numerous in gardens, but many of them, although most interesting, are more curious than beautiful. We, however, give an illustration of the typical form by way of contrast

SCOLOPENDRIUM VULGARE.

with the crisped variety (Scolopendrium vulgare crispum), which is one of the handsomest forms that can be grown. Both may be used as window plants in winter, or to enliven the greenhouse when flowering plants are scarce. Both are strictly evergreen, even when grown out of doors, provided they are fairly well sheltered; but as in the case of many other British

SCOLOPENDRIUM VULGARE CRISPUM.

species, they appear to greater advantage when sheltered in a fernery, greenhouse, or some similar place. In the wild type the long strap-shaped fronds are flat; but in the crisped variety, as our illustration shows, they are beautifully and regularly undulated, which gives them a crisped appearance. This handsome variety carries great weight with it, if well grown, when exhibited in a collection of British Ferns. When grown in pots in a window or greenhouse, the Hart's-tongue must not be neglected in the matter of water, even in winter, or it will lose its fronds.

LATE-FLOWERING ASTERS.

CONSIDERING the many beautiful perennial Asters that have been grown in British gardens for many years, it is surprising and to be regretted that hardy plant lovers have not been more energetic in their selection of the best types, so as to remove the stigma which has been too unjustly heaped on Asters as a weedy class of plants. The same opprobium might be cast on any other large genus presenting a great variety of characters. There are many really weedy Asters it is true; but the most unfortunate circumstance in the case is that they have been widely disseminated to the exclusion of the finer kinds. This, no doubt, arises from the freedom with which they throw up suckers, and the facility with which they can be propagated by division when admirers ask for pieces, or exchanges are made with herbaceous plants. Most of the larger-flowered and more refined kinds increase very slowly, and do not lend themselves readily to division, but are meritorious enough to warrant the trouble of propagating them by cuttings.

The undermentioned are select, flower late in autumn till cut down by frost, and should be in every collection, especially where large quantities of cut blooms are required at a minimum cost of production. Now is an excellent season to plant them before the ground gets cooled down by the frosts of winter, as by so doing they get well established beforehand, and being well and deeply rooted before the drought of summer commences they are able to make better growth and produce a greater profusion of large flowers. Any good garden soil will suit them, but they should be well fed at the autumn or winter digging with farm-yard or old hot-bed manure. In selecting a situation for them, choose a sheltered one, as they are liable to be blown about and much destroyed by the fierce equinoctial gales in autumn, just when at their best.

Aster Amellus commences to flower early, but continues to send up flowers so late in autumn that it may well be mentioned here, because it is one of the best, most popular, and bears flowers about 2 ins. in diameter, and of a bright violet-purple. The plant grows from 15 ins. to 18 ins. high, and is compact and bushy. A. A. bessarabicus when obtained true has larger and darker coloured flowers. The typical form of A. acris grows about 2 ft. or 3 ft. high, and bears terminal dense panicles of long rayed bright blue flowers; it is very compact, and a most conspicuous object in autumn wherever grown. A dwarf variety is common in gardens, and often considered the type of the species. A narrow-leaved form, A. A. angustifolius, is also very pretty and dwarf. Goldilocks, or A. Linosyris, also known as Linosyris vulgaris, or Chrysocoma Linosyris, has leafy stems somewhat resembling flax, and bears terminal corymbs of golden yellow, rayless flower heads.

Of A. Novi-Belgii there are many forms in gardens under a great multiplicity of names. The more typical kinds are tall, ranging from 4 ft. to 6 ft. high, and are admirably adapted for the back row of an herbaceous border, the shrubbery, or the wild garden. There are moreover, several very fine forms, varying from pale to dark blue, with large flower heads, while others are of a rosy or lilac-purple. The dwarf forms are, however, more choice, but difficult to obtain by name, owing to the numerous synonyms by which they are hampered in gardens. A. N.-B. lævigatus grows about 18 ins. in height, and bears terminal panicles of warm rosy flowers in great profusion; and is generally grown under the name of minimus. A. N.-B. densus, better known under the name of A. lævis, is equally, if not more floriferous, and produces dense terminal panicles of bright blue flower heads having a very cheerful appearance. It generally ranges from 2 ft. to 2½ ft. in height. A. N.-B. grandiflorus, also known as A. longifolius grandiflorus, grows from 4 ft. to 5 ft. in height, and develops terminal panicles 1 ft. to 2 ft. long, of large blue flowers shaded with purple, and is certainly worth cultivating.

Akin to the last is a group coming under A. Novæ-Angliæ, a tall, robust, very choice, late-flowering kind, with purple flowers. A choice variety is A. N.-A. pulchellus, with large purplish blue flowers, and dwarfer habit than the type. A. N.-A. roseus is a rose-coloured form. A. Drummondi has cordate or heart-shaped leaves, and is very distinct in that respect, but bears a great profusion of small white flowers, changing to blue, and ultimately with a purple disk. The stems are 4 ft. to 5 ft. high, and 2 ft. or 3 ft. of their length consists of a much-branched inflorescence. Somewhat similar is A. Shortii, with lanceolate-ovate leaves, and a heart-shaped base; but the stems stand only about a yard high and bear a great profusion of larger pale lavender flowers.

A very distinct and attractive Aster is A. amethystinus, with rather small but pretty bright amethyst-blue flowers crowded towards the apex of the lateral branches. The typical form flowers rather early, and is superior to a variety which flowers very late, and is sometimes grown under the name of A. pilosus. There is considerable resemblance at first sight between A. ericoides and A. multiflorus; but the former is distinguished by its linear, lanceolate, small heath-like leaves, and numerous small white flowers which are not however crowded. The plants are very bushy and generally grow about 3 ft. high. A. multiflorus has much longer leaves, is rather taller and bears panicles of densely crowded, small, but pretty white flowers. More popular and more frequently grown than either of the two last is A. versicolor, which varies somewhat as to height when well established, but specimens about 18 ins. high bear a profusion of good average-sized white flowers, which however soon change to pale purple. There are several forms of A. diffusus, but that known as A. d. horizontalis is the dwarfest and prettiest. It seldom or never exceeds 2½ ft. in height, and produces short lateral branches, bearing on their upper sides a wreath-like arrangement of small white flowers, with a lively purple disk. It is widely disseminated in gardens and much appreciated.

GARDENING NOTES FROM IRELAND.

MARLEY.

EVEN as far back as the beginning of the present century, Marley, now the residence of R. Tedcastle, Esq., was famous in Ireland as a gardening establishment, and it is to me a very great pleasure to be in the position, instead of having to record a falling off in the management of some of these fine old places, to assert that they are still kept up to the point of modern gardening requirements. This is the case with Marley, and although the fine white Muscat Grapes exhibited at the late show, and which obtained a first prize, led me to expect to find things well done, I confess to finding them even better than I anticipated. The demesne is picturesquely situated at the base of the Dublin Mountains, and being finely wooded, must be in summer time, when the timber is carrying its "leafy screen," a most charming place. Although I am sometimes tempted to travel outside "gardening notes" to comment on the arboreal surroundings of places I visit, and although I might do so now, I shall limit my observations to matters strictly horticultural. The extent of the garden is over four Irish acres, and it is surrounded by a high wall faced with brick, on which are trained numerous fruit trees. The ground is further divided by two walls running across it and parallel to each other, thus forming it into three divisions or separate gardens.

THE VINERIES.

ON the south side of one of these cross walls there formerly existed a range of vineries and plant houses, but these have been superseded by structures of a lighter and more modern character. The centre of this range is occupied by a conservatory, in which are numerous flowering subjects, part of the back and roof of the house being covered with a splendid plant in full flower of Tacsonia van Volxemii. To the right and left of this house are the two vineries, in the first of which are hanging at the present time fine crops of Gros Colmar, Black Alicante, Lady Downes, Gros Maroc, Trebbiano, Muscat of Alexandria, Mrs. Pince, Black Muscat, and Muscat Hamburgh. With the exception of Mrs. Pince, all the above have given satisfaction, and judged by the crop I saw hanging, they are well calculated to do so. The Gros Colmar, White Muscat of Alexandria, and Black Alicante were exceedingly fine in berry and colour, and gave unmistakeable evidence of the knowledge and care bestowed on their management. Nearly all the Vines grown here are worked on Black Hamburgh stocks, and although planted inside, can also run in well-prepared outside borders. The other vinery, which is nearly ready for early work, has among other sorts Black Hamburgh, Madresfield Court, Dr. Hogg, and Duke of Buccleuch.

THE PEACH HOUSE.

THIS is also a comparatively new structure, with a south-east aspect, having a run of nearly 180 ft. in length, and 13 ft. in depth. The roof is a span one, and the trees are planted back and front. On parts of the front trellis there were still growing some fine large Tomatos; while the whole available space on the borders was filled with a lot of pot Chrysanthemums.

MELON HOUSE, &c.

THIS range of glass is 60 ft. long, and is marked off into three divisions, one being a Melon house, a second having Stephanotis floribunda trained along the roof, and with pits filled with an assortment of decorative plants, while the third has on its roof Plumbago capensis and a plant of Maréchal Niel Rose. Here also there were two fine plants of Lælia anceps, both growing in 10-in. pots, one having nineteen and the other fourteen flower-spikes, and looking to be in robust health. Freesia Leichtlinii and F. refracta alba were doing finely, and from their stout growth must give at the present time a good return of their very pretty flowers.

CHRYSANTHEMUMS.

As Mr. Irwin, the gardener here (to whom I have to express my thanks for the agreeable way in which he received me), was an exhibitor of a group of Chrysanthemums at the late show, I was much surprised to find that many of his plants now in bloom, some fully and others partially, were a long way better than those he brought out. This, and the experience with other collections as well, goes to prove that growers generally would have been better met had the show held in Dublin been a week or ten days later. Grown as the Chrysanthemums here are, rather for general excellence than for excessively large blooms, Mr. Irwin's collection contains numerous examples of fresh-foliaged, stoutly-grown, and splendidly-bloomed plants. His Madame C. Andiguier was as perfect a plant as one could wish to see, and his examples of Lord Beaconsfield, Dr. Macary, Edwin Molyneux, Comte de Germiny, Mdlle. Lacroix, Val d'Andorre, Elaine, Mrs. Marsham, Avalanche, and other varieties of Japanese were all very well done. The gem of the whole collection, however, was a magnificent plant of Maiden's Blush. This stood about 5 ft. high, was fully feathered with large healthy foliage from the pot upwards, and had about forty fully expanded blooms, any one of which was fit to go among a box of cut blooms for exhibition. There are plants here representing nearly all varieties of Chrysanthemums, and the extent to which they are grown can be imagined, when it is stated that one of the vineries and the Peach house already described, was filled with them, as well as a considerable number used in the decoration of the conservatory.

OUTDOOR CULTIVATION.

BESIDES the large extent of wall fruit trees grown, there is also a number of bush and pyramidal fruit trees planted out. All of these, with the exception of Plum trees, do well. Running along the whole length of the vinery range, is a border in which a fine collection of Roses is grown, some of which were still showing buds and open blooms. This border, I should mention, is separated by a broad walk from the Vine border, on which latter apparently nothing is allowed to grow. There are some borders set apart for various herbaceous flowering plants, in the corner of one of which I noticed, thus early, a large clump of Christmas Rose (Helleborus niger) throwing up numerous flowers. There is growing here, over one of the entrance gates into the gardens, a large plant of Clematis lanuginosa, having on it at the present time some hundreds of expanded flowers, and quantities of unopened ones. It presents a fine appearance just now, and I notice it as being somewhat out of the usual season for flowering of this plant, it being said to be one of those varieties which generally flower at the beginning of the summer months.

CINERARIAS AND HERBACEOUS CALCEOLARIAS.

WHILE many gardeners have had to complain of many of these plants damping off, I found a very fine lot of healthy plants here. They were still occupying cold frames, and which, judging from their appearance, were neither water nor air-tight, but even so the plants were both healthy and sturdy-looking.

THE WATER SUPPLY.

NO doubt a good water supply to a garden is one of the chief means by which success can be arrived at in its management, and it may interest some of your readers to know how it is obtained here. It is done very simply by gravitation from a river that runs at a much higher level than the dwelling-house or gardens. Pipes have been laid, through which, by the action of this natural law, the water is forced to any point on the place. The only equipment necessary for watering or syringing in the houses, or outside, is a sufficient length of hose, and plenty of this is provided. When an arrangement of this sort is made for a water supply, and when the fact is added to this that the supply is an unfailing one, we may conclude that one very serious trouble is removed from the path of the gardener, and one with which so many have to contend.

MONSTER LEEKS.

IN my report of the Dublin Horticultural show, given last week, I forgot to refer to some remarkable specimens of Leeks, exhibited, not for competition, by Mr. McLeod, gardener to the Marquis of Headfort. The variety is known as the "Lyon Leek," and although they could be said to have attained only about half their growth, still they were enormous. With a little more growth and a more perfect blanching, these Lyon Leeks would indeed be a marvellous vegetable production.

THE SOUTH OF IRELAND AND THE CULTURE OF EARLY FRUITS AND VEGETABLES.

MR. W. B. HARTLAND'S reference at p. 178 to some previous remarks of mine, I consider a "little too previous." I never intended, nor do I believe Mr. Hall did, to apply his views or his action to any place but the south of Ireland as a field for the extended culture of early fruits and vegetables, and as it would appear, "flowers" also. Now I never for a moment doubted that the climate of the South of Ireland is able to do all that is claimed for it, and I should be quite as pleased as Mr. Hartland to see an industry of this kind established and thriving there, but I object to persons saying that this movement, if successful, would raise Ireland from the prevailing poverty and lethargy under which it labours. I have no objection to see the matter properly tried out, and if Mr. Hall is fairly supported, I am satisfied that, so far as the growing for an early market goes, he will be successful; but his difficulty will be in securing a market, and getting his supplies there at a cost that will leave him a margin for profit. Mr. Hartland talks of a ready market in Glasgow and Edinburgh, but that would very much depend upon circumstances over which growers would have no control. One bit of fact, however, is worth any amount of speculation, and his assertion that "20,000" workers along the Lee "would not be able" to give these places "enough" is not supported by what usually occurs in those markets. Why, it frequently happens that in the early spring months shippers of vegetables from Dublin to Glasgow are not able to realise enough profit after paying charges to encourage them to send over more than one consignment. If all that Mr. Hartland claims can be done now, it speaks badly for southern enterprise that it was not found out long ago and acted on. In such a community surely a few individuals, knowing the splendid advantages they possessed in soil, climate and labour, could be found to start a business now said to be likely to prove so remunerative. However, "better late than never," and I sincerely trust that Mr. Hall will be able to show to Cork capitalists the mine of wealth they have hitherto neglected and left up to the present unworked.—*W. D.*

MANNINGHAM, BRADFORD.

ALTHOUGH the collection of Orchids grown by George Firth, Esq., at Manningham, Bradford, has been comparatively recently got together, the plants are in the best possible condition, and seem to be quite happy and at home—a fact which reflects much credit on Mr. Collier, the gardener.

The Phalænopsis house contains a splendid lot of about 350 plants in great variety. Amongst them are P. amabilis, P. Schilleriana, P. Stuartiana bella, a grand variety named by Professor Reichenbach, and a fine plant of the only white P. Schilleriana in Europe, having six leaves and measuring 18 ins. across the plant. P. grandiflora, P. g. aurea gloriosa, with leaves measuring 12 ins. by 7 ins.—the finest in the country; P. rosea, P. leuchorrhoda, P. Mariæ, P. Sanderiana, P. violacea, and P. Luddemanniana are all in fine health, and nearly approaching the vigour of those of Mr. Partington at Cheshunt.

They are chiefly grown in baskets on a wooden trellis, and others are suspended doing equally well. They enjoy a nice circulation of air let in through a pit on to the hot-water pipes. Mr. Collier is also careful to avoid having the atmosphere overcharged with moisture at the present dull season. He also tops the flower spikes of P. amabilis and P. grandiflora, by means of which he gets them to flower later in spring, when the blooms are larger.

Angræcums are also grown in the same house, including A. citratum, A. Ellisii, A. sesquipedale, and a host of others. Here also are the Vandas, including V. Parishi Marriottiana and V. suavis, with seven leads 4½ ft. high, well-furnished with healthy leaves to the base, the picture of health and good culture. It bears seven spikes of flowers, some over and some in full bloom. To these may be added V. suavis Veitchii and V. tricolor, also well done. The remaining part of the house is filled with choice Cypripediums, such as C. Morganiæ, C. hirsutissimum and C. bellatulum roseum, the latter the only plant known in the country. At the end are some beautifully grown plants of Odontoglossum Roezlii, plunged and luxuriating in moss on a shelf. A plant of Epidendrum Wallisii shows five spikes of flower on one lead like a Dendrobium.

The Cattleya house contains a fine lot of specimen well-grown plants, showing plenty of sheaths, and includes C. Brymeriana, C. Mendelii, C. M. Firthii, and C. Gaskelliana, many of the selected varieties being equal to C. exoniensis. There are also good representatives of C. Gaskelliana alba, C. Mossiæ, C. M. Claptonensis, C. Trianæ, C. T. alba, Lælia anceps, L. a. alba, L. a. Dawsoni, well-grown L. purpurata, L. elegans, and L. e. prasiata, of which there are two grand plants. Of the seasonable species, L. albida and L. autumnalis are in flower. At the side of the Cattleya house are Odontoglossum citrosmum, O. c. roseum, O. c. album, and a fine plant of Cœlogyne Massangeana, producing six flower-spikes. C. cristata is represented by the beautiful C. c. Lemoineana and C. c. maxima. The choicer Oncidiums include

O. crispum, O. Forbesii, O. Marshallianum, O. varicosum, and O. tigrinum, most of them being now in season.

The Odontoglossum house contains about 600 plants of O. crispum (O. Alexandræ), luxuriating with plenty of top and bottom air on night and day. Some of those that have flowered are fine spotted varieties. Other kinds grown here are O. Andersonianum, O. Chestertoni, O. Wilckeanum, O. Ruckeri, a nice lot of O. Rossii majus, and O. Cervantesii. At the warmest end of the house were some nice pieces of Oncidium macranthum undulatum, Odontoglossum Edwardsi, O. Uro-Skinneri, and a few grand pieces of the winter-flowering Epidendrum vitellinum majus, with about ten spikes each, bearing from twenty-two to thirty buds. They are certainly beautiful.

The Dendrobium house is kept cool at present, and contains some admirable specimens of cultivation. D. Wardianum exhibits eight growths, each 4 ft. long, and producing twenty-six trusses of flowers on a stem. Other choice representative species are D. crassinode, D. Devonianum, D. thyrsiflorum, D. Ainsworthii splendens, D. nobile, D. primulinum, D. suavissimum, D. Farmeri, D. Jamesianum, and D. Brymerianum. Another house contains some fine plants of Cymbidium Lowii, C. eburneum, and Sobralia xantholeuca, 3 ft. across. An evergreen Amaryllis, named George Firth, of gay colour at this dull season, stood out bold in comparison with Mrs. W. Lee and Mrs. Garfield.

One house is occupied with well-grown Chrysanthemums, while another contains a splendid lot of hybrid greenhouse Rhododendrons, such as Countess of Haddington, Dalhousianum, Duchess of Connaught, Duchess of Teck, Duchess of Edinburgh, Fragrantissima, Jasminiflorum, Graveolens, Lady Alice Fitzwilliam, Prince Leopold, and a host of others. In another house are Azaleas, Camellias, a large number of Clivias (Himantophyllums), and greenhouse plants in general.

Fruit is also well grown here, and must afford great pleasure to Mr. Firth and his most respected gardener, Mr. Collier, who seems to handle everything under his charge with great ability.—*F. C.*

THE QUINCE.

The Quince must be a very ancient fruit, for it was consecrated to Venus, and was looked upon by the Grecian lovers as a love token. "According to Athenæus, the chariot of the Goddess of Love was not only filled with Myrtles and Roses, but also with Quinces, and in many ancient effigies of the goddess, she is represented with a Quince in her hand. By a decree of Solon, which gave to an ancient popular custom the countenance of the law, a Grecian bride, before seeking the nuptial couch, had to eat a Quince." So writes Mr. R. Folkard, and this is certainly a distinct proof of its great antiquity. From the large size of the fruit, and its splendid colour, it is not at all improbable that it should be considered the golden fruit of the Hesperides, for Galesio, in his treatise on the Orange, has shown that the Orange tree was unknown to the Greeks, and that it did not naturally grow in those parts where the gardens of the Hesperides were placed by them. If it was the golden fruit of the Quince that made Hercules attack the guardian dragon, let us hope that he was not greatly disappointed if he ventured to taste one of them. There are Grecian statues of Hercules holding a Quince in his hand.

The Quince is Cydonia vulgaris. The tree is of low growth, much branched, and frequently contorted. The fruit varies in shape and size in the different varieties, and is generally globular, oblong, or ovate. It has a peculiar and rather disagreeable smell, and somewhat austere taste. Fruit, such as that of the Quince, so attractive to the eye, so massive and golden, could scarcely fail to be observed in the very earliest historical times. Mr. Leo H. Grindon observes that "the original seat, there is no reason to doubt, was the north of Persia, where it still grows spontaneously in the woods, extending to the shores of the Caspian, the region to the south of the Caucasus, and to Anatolea. That it moved westwards at an exceedingly early period may be considered certain. There is good ground for believing that the ancient Hebrews were acquainted with it, and with the ancient Greeks and Romans it was very plainly a favourite."

It would perhaps be difficult to say when the Quince was introduced to this country. It is mentioned by Tusser as cultivated in England in 1753. In the south of France, and particularly on the borders of the Garonne, the Quince is said to be very extensively grown; and the peasants prepare from it a marmalade, which they call cotignac. The French, who more than any other nation have paid great attention to the cultivation of the Quince, and were the first to adopt the practice of grafting Pears upon it, call the Quince tree *Coignassier*, probably, according to authorities, because the disagreeable odour of the fruit required that it should be placed in the corner (*coin*) of the orchard or garden. Miss Wood, in her *Letters of Royal and Illustrious Ladies*, relates an amusing anecdote of the fondness for it of the fickle and never-satisfied Henry VIII. In 1539 the new Queen, Ann of Cleves, desired to engage a maid of honour. Lady Lisle, seeking to propitiate His Majesty in favour of her daughter Katherine, made him a present of some Damson cheese, and some of this identical Quince jam (*cotignac*). Whether the object was attained or not we are left in doubt. So acceptable, however, to the royal epicure were Lady Lisle's sweetmeats, that Anne Bassett, by whose hands they had been conveyed, writes offhand: "The King doth so like the conserves you sent him that his Grace commandeth me to send to you for more, and that as soon as may be."

Eight varieties of Quince were mentioned in the fruit catalogue of the London Horticultural Society. The three usually grown are the Pear-shaped, or that which is more commonly grown, the Apple-shaped, and the Portugal. In their fruit catalogue, Messrs. G. Bunyard & Co., of Maidstone, enumerate two others—viz., Champion, a new Apple-shaped variety of American origin, much recommended there, and Reay's Mammoth, but no description is given. The Quince will grow in almost any soil, but prefers one of a rich, somewhat light, and rather moist nature; heavy clays and light sandy soils appear ill-suited to its growth. To ripen the fruit properly, a situation not shaded by tall trees, and open to the sun on the south-east or west side, is necessary; but in any case, and particularly in cold and backward localities, a southern aspect is highly desirable. It is propagated by layers and cuttings; budding and grafting are not often employed as a means of increase.

The chief employment of the Quince in our own country is to enliven Apple pie and Apple pudding. When Apples are flat, or of poor kinds, a Quince sliced and diffused in the pie has a wonderfully quickening effect, superior even to that of lemon peel.

Turner, in his *British Physician*, says that the juice of raw Quince is accounted an antidote against deadly poisons. To dream of Quinces is stated to be favourable to the dreamer, denoting speedy release from troubles, sickness, &c.—*R. D.*

CHRYSANTHEMUM NOTES.

Queries on "Cutting Back."

Where perfect quality, largest size and best developed characteristics of a Chrysanthemum bloom are required, of course only one way of cultivation is open—the crown bud method. In such a collection the majority of the blooms produced are almost too high to appreciate on the plants, unless in exceptional houses; only in the cut state do we fully appreciate the beauties of the blooms. One of your correspondents makes mention of "Avalanche, 2½ ft. high, with three good blooms.' How treated? What I wish to ask is this, Does the "cutting back" process, as a general system, furnish us with a method whereby we may, to some degree, attain that greatly-desired consummation—flowers approaching exhibition blooms on dwarf plants? What a marked difference there is in almost each variety of Chrysanthemum! Mrs. Rundle will retain its globe-shaped incurved bloom almost to the smallest lateral, while with so many—*e.g.*, Empress of India—as you descend the scale of cultivation the globe form of flower is lost, or flatness succeeds. A paper from a skilled practitioner in cutting back plants, would be, I think, of much value, giving us especially the size pot for final potting and the number of shoots retained. I should much like to see some measurements of blooms also grown by this method. Lastly, Is "cutting back" adopted to any extent for the 4 ft. class at the Royal Aquarium, and is it likely to cut out "bushes" where few flowers, large flowers, and good flowers are required on dwarf plants for decoration.—*Francis Mead, N.B.*

NOTES FROM SCOTLAND.

Vegetable Notes.—It is calculated that the average temperature of the west is two degrees higher than that of the east of Scotland, and with the additional advantage of a very mild November, the kitchen-garden produce has been exceptionally plentiful. Besides other seasonable vegetables, Spinach, Coleworts, and Gilbert's Chou de Burghley have afforded an abundant supply, and useful small heads of Cauliflower have also been obtainable. A prolonged supply of the latter vegetable is in some seasons secured by cutting all serviceable heads on the appearance of frost, and placing them in a cellar or other available out-house, in soil, to be used as required; but it is seldom that they can be had fresh from the open quarter so far into the heart of November as is the case this year. A plantation of the Early London, made about the end of July, often gives a useful succession to Veitch's Autumn Giant, and also proves a valuable auxiliary to autumn Broccoli when the latter grows strongly, and is therefore slow in coming into use.

Globe Artichokes.—The cool, wet summer has been favourable for these, judging from the vigorous growth of a plantation made in May. The plants, though small and unsatisfactory in appearance, made a good start, the weather being warm and showery for some time after they were put in. They began to bear late in the season, and are still throwing up heads, thus giving promise of an abundant crop next season.

Hardy Bedding Plants.—Two beds situated at each end of a range of glass structures, continued gay till the middle of November. They were planted with Countess of Kintore Violas, dotted with small groups of Scabious and Veronica Andersoni variegata, with a margin of Dactylis glomerata variegata. A good dressing of manure was worked into the soil just before planting the Violas. Plants similarly hardy are worthy of the attention of those who have but little space to afford for bedding plants under glass.—*Western.*

Potatos and Peas.—We asked for information last season regarding Vicar of Laleham and Beauty of Hebron Potatos (which was kindly given), and the crop, cultivated by the writer, grew into abundance of fine tubers, of handsome form, and the quality is excellent, especially of the former. These two kinds we intend to grow more extensively in future. Early Potatos (with the exception of some kinds of Kidneys which were *planted on the surface* of the ground) were watery and the quality not good; but those which ripened during September and October were of good quality in every respect. The Village Blacksmith, which does so well in some parts, were unusually small this season; the wet weather may have affected them. Last year they were almost too large, and many were hollow in the centre. Creole or Cobbler has been very good this season; but the finest flavoured kind we have tried, among many samples, was the old Fortyfold; on dry land it always holds its own against all comers, is a capital cropper, but liable to disease. By far the most productive kind I have seen is grown in a Fifeshire garden (previously referred to), and is named Sutton's Abundance; this variety is very highly spoken of by the grower. A distinct Pea of extra flavour and good cropper was growing in the same garden referred to above. A wonderful Pea, about 3 ft. high, bearing an enormous crop of finely filled pods, was also seen growing in Mr. Downie's Beechhill Nursery; its name is Amateur, and such a sight during the first week in November cannot be easily forgotten.—*Caledonian.*

Scutellaria Mocciniana.—The excellence of this plant for winter decoration is surely not so well known as it should be, as it is seldom seen in the best managed stoves; the brilliance of the flowers during the early winter months makes them no mean objects, especially when associated with Gesneras, dwarf-grown plants of Jacaranda mimosæfolia, Cyperus alternifolius variegatis and other choice plants with fine foliage. Scutellarias are excellent for cutting, and when placed singly in a glass with a few pieces of Fern, such as Davallias (of sorts) and Adiantums, the effect is very beautiful. They are easily propagated, and grow well in a frame during summer, with heat from fermenting material, which all plants of this class luxuriate in, and if kept free from the enemy mealy-bug, fine plants can be raised in one season.—*Caledonian.*

Rochea falcata.—Many of the old plants familiar to us in our youthful days are now seldom seen, yet when these are well cultivated they have numerous admirers. Lately I visited a nursery and saw Rochea falcata, which brought to my remembrance the splendid displays I had seen of this very showy plant when I was employed as a "green hand" in a leading florist's establishment in Chelsea. The easy culture of such a plant and its distinct bright colour should render it a special favourite among greenhouse flowering plants. Associated with the Kalosanthus, so familiar on exhibition tables, it was always admired, and as a market plant it could scarcely be excelled, and was bought up readily at a good price. Not having seen it for years past till visiting the nursery referred to, I had much pleasure in purchasing a stock, which arrived in good condition.—*Caledonian.*

FLORICULTURE.

Floreat Tulipa!

THERE is a sound as of a stir of inquiry for the florists' Tulip, and more beds of this glorious old flower will be planted this autumn by new hands or old grown young again than there have been of late years. This and the hope of a Tulip show in the south, form, I trust, good signs of a revival of Tulip culture. It is now the height of the planting season, although the pious old date of Lord Mayor's Day is past. As a peg on which to hang the empty hat of a weak memory, that ancient fixture is a fair one; but more Tulips are planted after than before the civic New Year's Day.

However, the longer the bulbs are now kept above ground, the more impatient they visibly become, and greater is the risk of injuring them in tender places. Young fibres are very prominent within their setting upon the radical plate of the bulb (like cutting teeth in tender gums), and to tread on a man's only corn is as nothing compared to the wrong done to a Tulip bulb by pressing its root crown against some pebble, or other indigestible hard substance in the soil. The Tulip has no power to produce more fibres than are now in waiting, neither is it able, as some bulbs are, to form laterals on any; and hence it is evident that the life of not one rootlet should be injured. The young leaf, which is usually in sight in October, should also meet with no tombstone of an obstacle on its upward way. It is the main or "guard-leaf," and if deflected or delayed, it will be crippled in development—a check for which not all the other leaves upon the stem can compensate.

Bulbs kept dark, dry, cool and airy will wait until Christmas, but I would rather plant them in October than December. It will make no difference in the time of flowering, but blooms from the earlier planted bulbs are likely to be finer. The later planted catch them up, but it is at the usual expense of being in haste. Tulip sprouts of leaf are not able to grow more than 1 in. or so without the aid of fibres, and a novice might suppose that as the top shoot does not much lengthen by delay, all is well; but it is the waiting fibres that suffer first and most, and perhaps unseen. Death by starvation carries first that vital point, and the root crown turns black, after which a small bulb perishes utterly, and even a strong one does no more than leave behind it in place a little Phœnix of a bulb, rising from the ashes of its parent, and three or four years short of flowering size.

Any new collection commencing this season from most probably different growers, will present to the beginner a curious sight at coming up time. Some leaves will be showing above ground much before others, and the little bed will appear patchy. This will not be due to anything peculiar to varieties themselves, but to the different time at which bulbs from different collections are ripe and wont to appear. For instance, any from my friend Mr. Barlow appear with me as much later as those are earlier which I send him. This, however, is nowhere repeated a second year. The new comers afterwards fall in exactly with the time kept by the collection they have recently joined.

None of our florist flowers give so little trouble as the Tulip, though I am no advocate for the doubtful charm of having to take no thought for and pains about a flower. People come here and often say, "All these flowers must be a great deal of trouble!" One can only reply, What is anything in the world worth without it? I would not say that the lazy man would do even the Tulips well; but in its culture he may enjoy two long vacations. Between June and November, the taking up and planting, and between November and January, the planting and appearance, the bulbs are off his hands, provided that they have been stored away in dark, cool, dry, and airy quarters, where mouse and rat cannot devour, and have been planted in a bed that is well drained.

The Tulip likes a firm, deep, heavy soil, and if this is exposed to all weathers, it should have been dug deeply over for Tulips during the summer, and left to settle naturally and well. I trench mine over every year, but later, because the Tulip-house, with glass sides added, is used in summer for Peach and Nectarine trees in pots; but the soil is never too wet in October to tread to firmness for Tulips. Sydney Smith, once consulting his doctor, was advised "to take a walk upon an empty stomach," and he replied, "Whose?" The question was beyond all medical skill; but anyone is welcome to walk over my empty Tulip bed, though I always do it myself.

As for enrichments, the Tulip needs not to be surfeited by such coarse foods as the greedy Rose and the gluttonous Chrysanthemum eat away with. It is a generous but sweet feeder, and to offend its nature by obtruding patent fertilisers where it is astonished to find these in such quantity and condition, is but to court, sooner or later, the reaction of a break down. Like the Auricula, the Tulip is not to be thrown away after a brief service of a year, or span of a few. It has to be kept in a health which will last, and that is a natural, robust, and not exaggerated health.

I only top-dress the beds annually, after planting, with some 2 ins. of perfectly friable compost from an aged heap of leaves and stable litter, which is not dug in till the autumn following. A sprinkling of salt over the beds in August, if they be unoccupied, is also good for Tulips. They are generally planted at a depth of about 2 ins. from the top of the bulb, and if the rows are 8 ins. apart, and the "places" across the bed 6 ins., two bulbs may be planted in each of the places. Offsets do better in a bed by themselves, as they have only one leaf, and that should enjoy all the light and air possible.—*F. D. Horner, Burton-in-Lonsdale.*

A CHAT ABOUT CHRYSANTHEMUMS.

(*Concluded from p.* 197.)

The Best Time to Strike Cuttings.

This is a point on which a variety of opinions exist. My experience has led me to divide the plants into two sections, and treat them differently. In this matter I have found that Japanese require a longer season of growth than the incurved section, except a few varieties, such as Barbara, Eve, Mabel Ward, &c., which should be rooted with the Japanese; those we strike in December, and the incurved by the end of January or any time during February. I have always succeeded in obtaining better flowers with broader florets by late than early striking. This applies especially to the Empress and Queen family.

Striking the Cuttings.

All the growers about Liverpool do not strike their cuttings on the same principle. Some insert them in cold frames, some place them thickly together in pots, place them on a shelf, and are not particular about them flagging and so on. I make up a slight hotbed in a vinery about to be started, with leaves and a small quantity of manure. Particular care is taken that the heat is only of the gentlest description in order to prevent the cuttings from flagging, and at the same time assist them to root in less than half the time than would be the case by cool treatment. Weak growers are rooted singly in small pots, and also those intended for trained specimens. Others are rooted together in 5-in. or 6-in pots. By the time the plants are rooted, hotbeds are made for them in cold frames of the same description as for rooting them, when they are potted singly and plunged. They become established by the time the beds cool down, which avoids checking the young plants. Weak plants, as well as those for trained standards, are potted on and encouraged by a little bottom heat. Under this treatment they gain strength and make rapid progress. The object to be attained is strong but sturdy growth from the time the plants are hardened to cool frame treatment to the time they are placed outside in May. This is achieved by giving abundance of air and the removal of the lights as the season advances when the weather is favourable. The weather must guide the cultivator whether he is to place the plants outside early in May or towards the end of that month. A sheltered spot should be found for them, or a temporary protection should be given to them in case of late frosts or cold cutting winds. Every care, however, must be taken of them at this stage, for they are easily injured. I have seen the leaves blown off them, and plants subjected to such cruel treatment seldom recover.

Potting.

Before potting is commenced we place, in the position the plants are intended to occupy, old boards, 1 yard apart, on which we stand the plants, pot to pot, until July, when they are placed 6 ins. or 9 ins. apart, according to the number of shoots that the plants are allowed to carry. The plants are placed in their flowering pots during May as they are turned outside. We have found 9-in. and 10-in. pots most suitable, and if larger are used two plants may be placed in them with good results. In draining the pots oyster shells are preferred to crocks, whole ones at the base, and for the top they are broken up moderately fine. Over this a good pinch of soot is scattered to keep out worms and act as a stimulant to the plant. In potting, the soil that I shall recommend should be pressed firmly into the pots. When potting is finished room should be left in the pot for at least the addition of 2 ins. of soil.

The Soil.

We use turf green from the field chopped about the size of an egg. To this is added one 8-in. potful of soot, the same quantity of pounded oyster shells, the same quantity of bonemeal, and a small quantity of leaf soil to each barrowful of sod.

The May Bud.

There appears to be a good deal of misconception about the May bud. In my opinion it is the result of a check or early striking, and I scarcely remember an example of this when the old stools have been cared for and the plants struck at the time suggested. My advice is, Avoid this bud. In nine cases out of ten it throws the bud that should appear from the middle of July wrong. If the plants show this tendency, help them out of it as quickly as possible by removing the points of the plants, and select three or four shoots to carry one bloom each. In the case of doubtful kinds that occasionally go blind, stop them in May, and run up five or six shoots, and when you have secured the right time buds and observe them swelling, thin out the shoots to three or four. If we do not stop them we always run up more shoots than we intend to retain—that is, from the natural break in July. We stop some and grow others without, and then seldom fail to secure a good flower at the time it is wanted.

Feeding.

We feed very little before the bud is secured. What we are in the habit of using is liquid from the farmyard diluted with water and a little soot dusted on the surface of the soil during showery weather. A few years ago we had in the garden a cesspool, the contents of which liberally diluted with water I found an invaluable food for the Chrysanthemum. To those who have not used it my advice is give it a trial. At one time we had practically only natural liquids, but nowadays we can make liquid from such a variety of special manures, or dust them on the surface of the soil, and most, if not all, of them are useful for a change.

Taking the Bud.

I have said I am a little later than most growers in securing buds. For the incurved I do not care to take them before the last week in August, or the first three weeks in September, though some of the Japanese might be taken earlier. The aim of the cultivator should be to secure them during the latter dates. When plants have been pinched in their earlier stages some of the shoots will show before others, although on the same plant. This can be regulated to a very large extent in July; for instance, if they should show early in that month allow them to grow on until the middle of that month. They must then be pushed to make the next growth by clearing out all lateral growths from the axils of the leaves. At this stage examine the remaining shoots on the plant, and if small growths have commenced showing in the axils of the leaves rest assured that a bud is forming. My plan is to clear out all growths as in the preceding case, take out the point of the plant, and do for it what it would otherwise do for itself. But if left alone it would come in too late to be of service for showing.

Staking and Tying.

This may be passed over, for nearly each cultivator has a slightly different method, and all answer the purpose, so long as the plants are not broken and each shoot is secured separately, so that light and air can reach them on all sides. One other matter of importance is, that we allow all the shoots of our plants to sway loose 18 ins. above the tie, which saves many points from breaking. Some say birds will break the shoots if they alight upon them, but in over twenty years I have observed a solitary robin on these plants, and the shoot it rested on did not break. It is mostly caused by wind and rain, when the plants are tied too near the top.

Ripening the Wood.

I do not attach much importance to this; all that I have ever found to be necessary is to stand the plants sufficiently far apart so that light and air can play all round them. The ripening of the wood depends largely upon the time the bud is taken. Ripening commences to take place rapidly after bud formation and the leaves below it have fully expanded. If the buds are taken too early in August the wood in some seasons ripens too much, and the result is a flat flower

and a multitude of narrow petals. Over-ripened wood is, in my opinion, the cause of smaller flowers in the south, and narrower petals than we are in the habit of producing.

TOP-DRESSING.

I advised room in the pots for 2 ins. of soil, and this space is to be filled up with rich material as a top-dressing for the plants. This is an important matter. It keeps the roots in full activity, and they are therefore capable of taking up food much more freely than they could possibly do if the roots became sluggish. We top-dress to the extent of exceeding the limit of the pot by placing pieces of turf above the rim. The soil when the flowers are expanding should be full of active roots. This keeps the lower foliage in a healthy condition to the last. Here lies the secret of large flowers possessing depth, solidity, and breadth of petal.

AFTER HOUSING.

Now begins one of the most critical periods in the plant's life, and many plants go wrong from the day they are housed. Many a young grower has had all that could be desired in the way of plants, and evil results have followed a continuation of the treatment the plants received outside. The same strong feeding must not be continued for a time. The plants sulk after losing what they delight in—namely, night dews. If bright weather continues considerably more moisture is evaporated from the foliage, and any failure in making up for these deficiencies will prove detrimental to the plants. Syringe them thoroughly two or three times a day, according to the weather. When they are accustomed to their new quarters we feed again on the same principle as before housing, and continue to do so until the flowers are ready for cutting. We fumigate with tobacco-smoke after housing, for neither plants nor flowers will thrive if fly exist upon them.

I shall pass over the subject of dressing, for enough has been written about it, in fact, sufficient to frighten a young beginner. My advice is to grow the flower fully out, as however good the dresser may be he cannot make a good bloom out of a bad one.

KEEPING THE BLOOMS.

After they are expanded, put them into a dark outhouse as dry as possible. Once I had occasion to place some plants in a certain shed, and there was some lime in a corner that was just falling. This I always thought had assisted in keeping them by absorbing the moisture in the atmosphere. The flowers kept three weeks, and were staged in good condition afterwards. I give this for what it is worth, and think it well worth trying. My last advice is, beware of fogs if real success is to be attained, for in one night they will undo the work of the whole season.

IMPATIENS HAWKERI.

THERE are several reasons probably why this plant has never become so popular as Impatiens Sultani, not the least being that it is more difficult to propagate than the latter, which can be increased as readily by seeds as by cuttings. It is true that a much shorter time has elapsed since the introduction of I. Hawkeri than in the other case, but it must be remembered how quickly I. Sultani made its appearance in almost every garden of any extent soon after it was introduced.

Now, however, less care is bestowed on the cultivation of I. Sultani, and we get accustomed to seeing very indifferent specimens of it. So it is with hundreds of new plants that get introduced, and are afterwards neglected, simply because they cease to form any novelty. I hope I. Hawkeri will not thus be suffered to fall into neglect, for at present it is a noble-looking subject amongst a general collection of stove plants. No cultivator may expect to get the same dense and springy habit as occurs in I. Sultani naturally; but by giving the plant a full and free exposure to light at all times, except when the sun is strongest in summer, it forms stiff and short-jointed growths, which will always commend themselves for their deep metallic lustre, which is altogether wanting in I. Sultani.

Then again extremely large plants are not particularly desirable at the present day, owing to the large quantities and the great amount of variety that is required for decorative purposes, whether in the conservatory (which at many places is attached to the house) or in the house itself. Under the circumstances, then, frequent recourse should be had to propagation, which may be done almost any season when the light is good. Cuttings are what I employ, as it does not seem to produce seed, at least without artificial aid. A few plants of different ages will meet the requirements of most establishments, so that when a few cuttings can readily be spared they should be inserted singly in thumb pots, preferably close to the sides, in light, very sandy soil, and immediately placed in a propagating pit or frame. The soft juicy shoots which will be inserted as cuttings are very impatient of a dry atmosphere, and no time should therefore be lost in transferring them to the moist atmosphere of a propagating pit.

Some growers seem to have difficulty with young plants, which die off as if attacked by some disease, but the effect seems to be due rather to unfavourable conditions after they are rooted. In shifting on young plants a more substantial compost should be given, which, however, should be rich and open. It is not desirable to give large shifts, as the plants flower better when their roots are rather confined; and who can gainsay the beauty of the large deep carmine flowers of this handsome species?—*T. Turner, West Hill.*

IMPATIENS HAWKERI.

HARDY PRIMROSES.

LIVING literally amidst hardy Primroses, and having here and there allied forms of Polyanthuses by hundreds, I hardly imagined that the fact of these beautiful hardy flowers blooming so freely just now merited special notice. When Primroses are blooming profusely, one is apt, with use, to imagine that they are in bloom elsewhere just as freely, and treat the matter as of no interest. However, I take it that such is not the case, and that so far from these beautiful flowers being in bloom universally, they are not even grown universally, in fact, are rarely found in gardens. More is the pity, especially in such a season as the present, when these flowers are to be found at the end of November almost as abundantly produced as in the month of March.

The flowers have of late, owing to open mild weather, lack of frosts and heavy rains, been wondrously pure and clean, rivalling the best products of the spring. They are exceptionally fine, as owing to the cool damp nature of the summer the plants made strong leafage and crowns; indeed, they have done wonderfully well. There is one thing, however, worthy of notice, the finest of growth and bloom is obtained from plants raised last autumn, kept in frames all the winter, and planted out in the spring. The flowers in many respects show considerable variation, not only in self colours but also in markings, and I have one which I hope to exhibit at the Drill Hall next meeting, which is the most charming I have ever seen.—*A.D., Bedfont.*

The Amateurs' Garden.

Flowers to Succeed the Chrysanthemums.

Many amateurs have difficulty in finding suitable subjects to render their greenhouses gay after the Chrysanthemums pass out of bloom. There are many things that, with a little attention, might be grown on by the amateur himself provided he can spare the necessary time for potting, watering, and ventilating, according to the requirements of the season. Even those who have been unable to devote that attention to their plants may still be able to make their houses look gay at a trifling cost from the florist's window. If a gentle warmth be maintained in the greenhouse, a lengthened display can be kept up by a few each of Chinese Primulas, Cyclamens, white Marguerites (Paris Daisies, as they are called, which are varieties of Chrysanthemum frutescens), and scarlet-berried Solanums. Trumpet Lilies (also popularly termed Callas), together with Roman Hyacinths, Violets, Bouvardias in great variety, Cytisus racemosus, with its long racemes of yellow Pea flowers, and the commonest of all cultivated Heaths—namely, Erica hyemalis—may be kept in a healthy flowering condition with a small amount of trouble.

Then there are numerous very beautiful shrubs, variegated or otherwise, that can easily be grown in the open garden with the smallest amount of trouble possible during the summer; and when the show house begins to look shabby after the Chrysanthemums are over, nothing could be more easy then to lift the best variegated and the most bushy specimens, pot them up, and transfer them to the greenhouse. Amongst the numerous forms of Euonymus are E. japonicus aureo-marginatus, E. j. latifolius albus, E. j. latifolius-aureus, and a dwarfer kind named E. radicans variegatus. The hardest and most difficult thing about these plants is their names, as they are hardy, of the easiest culture, and very beautifully variegated. Then there are Aucubas, with their glossy evergreen leaves splashed with golden blotches, and furnished with handsome red berries all the winter. They may be grown in the open garden with the Euonymus during summer, and potted up in winter while in fruit. Both plants may be propagated by means of cuttings in the open ground—the Euonymus in summer and the Aucubas in autumn and winter.

Hardy Heaths.

Lovers of hardy flowers, and possessing only small gardens, would no doubt be tempted to grow some of the hardy Heaths if they knew how easily it might be done. In gardens where they are grown and well looked after, they in many places get trimmed in annually after the flowering period to keep them in small compass; but the so-called pruning is unnecessary and may be dispensed with. The object in mentioning it is to show that any quantity of sprays may be cut from the plants while in bloom. They naturally grow in peat, and although some of them, such as Erica herbacea, will thrive and flower magnificently in moderately moist soil, lightened up with sandy material, yet in making up a bed specially for them a good quantity of peat should be used if obtainable, especially in the warm dry climate of southern counties. Besides the above Heath, Erica ciliaris, E. tetralix, E. cinerea and some of its fine dark or white varieties, E. vagans and E. v. alba, are all beautiful and easily grown. The common Heaths, Calluna vulgaris, C. v. alba, white, C. v. Alportii, deep purple, and C. v. flore pleno, double-flowered, should find a place wherever hardy flowers are cultivated.

Shrubs for Villa Gardens.

When there is such great variety at command it is surprising to find the shrubberies in villa gardens, especially in towns, filled with the common Cherry Laurel or the common Privet, both of which are useful in their way, but they are too extensively employed. The oval-leaved Privet (Ligustrum ovalifolium) is much better; but the Chinese species (L. sinense) and the Japanese kind (L. japonicum) are better than either. The Tree of Heaven (Ailanthus glandulosa) becomes a tall tree in time, but by hard pruning it may be kept down to the dimensions of a shrub where space cannot be afforded, and feathery-like leaves a yard in length will be produced every year. Rhus typhina has similar and finer, although smaller leaves than the Tree of Heaven, but both of them, as well as Rhus glabra laciniata, are admirably adapted for town gardens. They are deciduous, but evergreen subjects are the numerous forms of Euonymus japonicus, Aucuba japonica, Yucca gloriosa, and Y. g. recurvifolia. The two latter are handsome subjects when in flower, which they do as well in the villa garden as in that of the nobleman, and afford a very distinct type of vegetation all the year round. Amongst deciduous flowering shrubs, the common Lilac, with its white variety at least, the Persian Lilac, also Spiræa ariæfolia, S. Douglasii, and the pretty profuse-flowering Ceanothus Gloire de Versailles, with its myriads of tiny deep sky-blue flowers, should obtain a place. If single Roses are desired for the shrubbery, no better than Rosa rugosa, and its white variety, R. r. alba, could be used.

NOVEMBER FLOWERS AT CHELSEA.

No matter whatever time of the year, nor however dull the season, we always find a varied display of many classes of plants in the nurseries of Messrs. J. Veitch & Sons, Chelsea. Surrounded as they are by houses, and in the midst of fog and smoke, there is much to contend against, and a great deal to baffle the skill of the grower, so that the success is all the more creditable when attained amidst such surroundings.

Orchids.

The rockwork recently constructed in one of the houses here is now gay with a great variety of Orchids, including a fine piece of Cymbidium Mastersii in full bloom, long drooping sprays of Oncidium crispum and O. prætextum, whose chocolate-brown and yellow flowers contrast finely with the pure white Lycaste Skinneri alba, the spotted Maxillaria picta, or the Dove Orchid (Peristeria elata), with flower-stems over a yard in height. The rosy purple flowers of Barkeria Lindleyana are also as cheerful as the bearded Cœlogyne barbata is curious. In other houses one meets with the showy flowers of Odontoglossum grande, the spotted O. nebulosum and the deliciously-scented Trichosma suavis. The striped and barred Ansellia africana also vies with the striped and highly fragrant Oncidium tigrinum. The chaste Dendrobium endocharis is also a sweet thing, and Oncidium cheirophorum is by no means to be despised, either for the small size of its yellow flowers or their odour. O. serratum is a twining species in the way of O. macranthum, but having very different flowers. Miltonia Roezlii smells like a China Rose, and keeps good company with Phalænopsis amabilis and P. rosea. A large number of Cypripediums are flowering freely, including C. œnanthum superbum, C. Schroderæ and C. Leeanum superbum.

Begonias.

The winter-flowering John Heal is still in perfection; indeed, its rosy carmine flowers borne in erect trusses are better than ever. A few bright sunny days effect wonders with this fine hybrid. Adonis is about 12 ins. high, with much larger rosy carmine flowers tinted with scarlet, and borne on long drooping flower stems clear above the foliage. The latest of this section, Winter Gem, having brilliant crimson-carmine flowers, is now in full bloom; it is of extremely dwarf habit. Autumn Rose is a hybrid between B. insignis as the seed parent, and B. socotrana, and bears pretty rosy flowers on erect trusses. B. Gloire de Jouy is of the B. incarnata type, and has drooping white or blush-tinted flowers, and spotted foliage. John Heal does not drop its flowers, and might be used for cutting purposes, the blooms lasting a long time in a fresh condition.

Chrysanthemums.

A house is devoted to these popular autumn flowers, and besides containing all the leading kinds, we also noticed a large number of new Japanese sorts, including Mrs. F. Thompson, very large white, suffused and striped purple; President Hyde, deep yellow; Sokota, deep yellow, with broad florets; William Elliott, rich velvety crimson-purple; Mabel Douglas, brilliant yellow, of the Source d'Or type; Miss Clara Harris, pink with white centre; Lady Cave, white with narrow florets and very pretty; and Mrs. Langtry, large, pure white with long tubular florets.

Bouvardias and Greenhouse Plants.

In the show house is a large assortment of Heaths, Roman Hyacinths, Chinese Primulas, Marguerites, Chrysanthemums, Solanums, and other subjects; while in another house is a fine strain of large-flowered Cyclamens in all the leading colours. Tree Carnations include Miss Joliffe, pink; Van Houtte, scarlet; Zouave, crimson; Sir C. Wilson, deep red; and others. Bouvardias are extremely gay, and none more so than the brilliant scarlet President Cleveland. The white Vreelandi is very floriferous, as well as the pink Priory Beauty, the double white Alfred Neuner, double pink President Garfield, and all the other leading varieties in this useful class of plants.

Gardening Miscellany.

Lemoine's Hardy Hybrid Gladioli.

I had no idea until I read the note in your columns respecting the flowering of six-month-old seedlings of these plants in Mr. C. B. Powell's garden, that they would flower in so very early a stage of their existence, but the fact that they do so adds greatly to their value. The only other bulbous plants with which I am acquainted that bloom so soon from seed are the hybrid forms of Montbretia crocosmiæflora, which I have myself bloomed within nine months of their being sown.—*W. E. Gumbleton.*

Adiantum Williamsii.

The Golden Maidenhair. This is not only a beautiful but an exceedingly useful Fern, and one that should be grown extensively in every gardening establishment where cut Fern and furnishing is in great demand. It is a very free-growing greenhouse species. It was introduced from Peru, I believe, in the year 1887, where it was found growing on the mountains at an elevation of 10,000 ft., and even higher; it is, therefore, almost hardy. The fronds are of a light green colour, the under sides golden, and grow from 1 ft. to 2 ft. high, of a graceful pendulous habit, which renders them particularly useful and of great value for cutting purposes, as the fronds when used for making up vases give them a light airy appearance, and they keep fresh much longer than Adiantum cuneatum. As a Fern for room decoration it has a great deal to recommend it, for provided it gets proper attention in regard to water, it will stand the dry atmosphere of the drawing-room for a length of time. It is also a splendid Fern for exhibition purposes, and a small plant, if treated liberally and given an intermediate temperature, will quickly make a specimen. I noted a very fine plant at Summerville the other day (over 6 ft. through), which Mr. Dumper informed me was in a 6-in. pot five years ago.—*S. C.* [This plant was illustrated in our second volume, p. 361.—Ed.]

Monochætum ensiferum.

Many old-fashioned greenhouse subjects, besides those popularly termed New Holland plants, are much neglected, which, if well grown, would impart a cheerful aspect to the greenhouse or cool conservatory, and lend much interest to the more commonly cultivated subjects. The plant under notice is an instance in question. Some twenty-three species are known to science, natives of temperate and warm temperate countries of North and South America. Several of them have been introduced from time to time, but do not seem to become widely distributed in this country, or they afterwards drop out of cultivation. M. ensiferum forms dwarf bushy plants from 12 ins. to 18 ins. in height, and continues to produce flowers of good average size for many weeks during the winter months. The four petals are of a bright rose colour, set off with crimson stamens in the centre, which are kneed and furnished with curious yellow appendages; this is frequent and very characteristic of the family of Melastomads, to which the plant under notice belongs. A large quantity of this and some other kinds may be seen in the nurseries of Messrs. J. Veitch & Sons, Chelsea.

Trevesia eminens.

As a table decorative plant this might be more frequently cultivated than at present. It belongs to the same family as the Ivies and Aralias, and is not distantly allied to the latter. It bears considerable resemblance to Aralia Kerchoveana, a native of the South Sea Islands. The latter has nine to eleven leaflets arranged on the digitate plan—that is, the leaflets are separated to the base, forming in the aggregate a nearly circular leaf. That of Trevesia eminens is also nearly circular, but they are cut down into nine or eleven segments, all joined for a short distance at the base, and serrated along the margins. They are borne on moderately long petioles, so that they assume a gracefully arching position, making the plant suitable for decorative purposes. Being a native of the Philippines it requires stove temperature, and when of moderate size it forms a very distinct subject in a collection of stove plants. It is believed by some to be merely a form of the Hand Plant (T. palmata), where the segments become suddenly cut down to the mid-ribs, leaving a bare space on the latter, which are again connected by a web of tissue at the base, giving the whole leaf a very curious appearance.

Tillandsia Duvaliana.

THIS pretty Bromeliaceous plant is, perhaps, better known under the name of Vriesia Duvalii, and is similar in general appearance to T. psittacina and T. brachystachys. It seems intermediate, in fact, between the two, and has the same neat tufted or vasiform habit, with short closely set leaves. The flower spikes are well borne above the foliage, and bear about twelve or eighteen flowers in a dense two-ranked spike. They are supported by large clasping or boat-shaped bracts of a bright scarlet almost crimson colour. The tubular flowers are yellow with a green apex, and although they add considerably to the general appearance of the plant, the bracts are the more conspicuous; and at the same time the more lasting part of the inflorescence. We noticed flowering specimens the other day in the nurseries of Messrs. J. Veitch & Sons, Chelsea.

Æschynanthus speciosus.

THIS is one of the finest species in cultivation, and is, at the same time, one of the most distinct. It is more adapted for pot culture than such species as Æ. Lobbianus, Æ. pulcher, and Æ. marmoratus, because the stems are far less inclined to throw out roots, and being stouter there is no difficulty in forming it into a bushy erect specimen. The flowers are large, curved, tubular, and produced in clusters at or near the apex of the shoots. The lower part of the tube is bright yellow, while the upper portion is rich orange-scarlet with very dark blotches in the throat. The leaves are of a thick and leathery character, smooth, and easily kept clean. Being a native of Java, it requires a stove temperature, but lasting a long time in perfect condition, it amply repays its house room at this season of the year. We noticed it flowering finely in Messrs. J. Veitch & Sons' Chelsea nursery.

Two New Nepenthes.

AMONGST the numerous Nepenthes which are now to be seen in excellent condition in the nurseries of Messrs. J. Veitch & Sons, Chelsea, are two new ones of great merit. N. Dicksoniana is a hybrid between N. Rafflesiana as the seed parent, and N. Veitchii as the pollen parent. The result is a plant bearing pitchers already 10 ins. long, independently of the lid, having the colours similar to N. Rafflesiana, but with a more equal distribution of brownish crimson on a pea-green ground. The elongated and cylindrical pitcher takes after N. Veitchii, but is wider; and the effect of the pollen parent is even more strongly seen in the broad annulus or collar of the pitcher, which is corrugated or ridged, and striped with yellow and crimson. The other new kind is N. rufescens, a hybrid between N. zeylanica rubra and N. Courtii, the latter being the pollen parent. At present the pitchers are from 6 ins. to 8 ins. long, are cylindrical, much narrowed at the neck, and heavily suffused with brownish red. Pitchers are produced in great abundance, and have in the aggregate a pretty effect.

Columnea Kalbreyeriana.

IN general appearance this plant resembles Alloplectus peltatus, another Gesneraceous plant, and is entirely different from Columnea scandens, which is probably the most common of all the cultivated species. The species under notice is of shrubby, and, in the young state at least, of upright habit, and presents a rather striking and unusual appearance amongst a general collection of stove plants. The leaves are remarkably unequal in size, and the longer one of each pair is directed to one side, so that the plant, so to speak, is one-sided. They also attain a length of from 12 ins. to 14 ins., and assume the same position as some of the long-leaved Anthuriums. The upper surface is of a deep olive-green, while the under-surface is of a uniform deep claret-red. The flowers are produced in short racemes from the stems, but are almost wholly hidden by the foliage. The large ovate segments of the calyx are pale yellow and toothed at the margins, while the corolla is darker and striped with red internally. It was introduced only about six years ago, and a plant is now flowering in the stove at Kew.

A Gynantherous Wallflower.

A SINGULAR monstrosity, as far as the flowers are concerned, occurs in the form of the common Wallflower (Cheiranthus Cheiri), grown in the Royal Botanic Gardens, Edinburgh, where the curator, Mr. Lindsay, preserves botanical curiosities of scientific interest. The whole flower is perfectly green and inconspicuous, and if not closely inspected would appear simply to be unexpanded flower buds, whereas, in fact, they cannot open. The calyx is reduced to narrow stripes or is almost obliterated, while the small green petals and the stamens are united to the pistil—that is, the young seed pod. From this it will be evident that for ordinary decorative purposes it is quite useless, but as a botanical curiosity or as a singular instance of teratology it is very interesting.

ORCHID NOTES AND GLEANINGS.

AERIDES SUAVISSIMUM.

FLOWERING as it does at this dull time, there is much to warrant the general cultivation of this fine species. The flowers are deliciously fragrant, as the specific name implies, and produced on long, drooping, sometimes branching racemes. The structure is similar to that of A. odoratum, where the three-lobed lip is closely pressed against the column. The colours of the different parts are very distinct from those of most species in cultivation—a fact which adds greatly to the value of the species. The spreading sepals and petals are white, more or less suffused or merely tipped with lilac, while the lip is of a beautiful pale yellow colour, thickly studded all over with small purple dots. The spur is tipped with rose. A fine plant has been flowering in the nurseries of Messrs. J. Veitch & Sons, Chelsea, for some time.

CURIOUS FREAK OF ODONTOGLOSSUM CRISPUM.

A VERY singular specimen of this Orchid has been sent us by Mr. R. C. Fraser, gardener to R. B. White, Esq., Arddarroch, Garelochhead, Dumbartonshire. On close examination it seems to have resulted from the complete amalgamation of two flowers, in which some of the parts are suppressed. Instead of three sepals there are four, the extra one being placed immediately under where the lip should normally be; but in this instance there are two lips right and left of the median line. They are rather small in comparison with the other parts of the flower, but are well formed with the exception of the crest, which is a little deficient on the right hand side of both lips. We should look upon all these as a separation of parts usually adnate; but the column also presents the appearance of being double on the anterior face, where there is a median ridge along its whole length, and terminating in a structure placed in close juxtaposition to the normal rostellum, which bears a gland, a pedicel and perfect pollinia. The projection in question is another rostellum, bearing a dark brown gland and a pedicel, but no pollinia. The two glands abut on one another with their under faces. All the flowers and buds on the spike are the same.

A MINIATURE CATASETUM.

COMPARED with other species in cultivation, Catasetum Granettianum is indeed a veritable pigmy amongst Catasetums, and will form a suitable subject for culture in small baskets, which may be hung up out of the way of the curious who wish to investigate the mysteries of these singular flowers, and so hastening the decay or fading of the blooms by the removal of the pollinia. The species in question is a native of Brazil, and has small pseudo-bulbs and leaves, with flower-stems to match, about 3 ins. or 4 ins. in length, and three to four-flowered. The blooms are, however, comparatively large, having deep chocolate-coloured sepals and petals, nearly regularly barred transversely with yellow. The lip, as usual in this genus, is very singularly shaped. With the exception of some violet-tinted spots at the base, it is white, crested and fringed at the sides near the base, and again at the apex, recalling, in a measure, what is to be seen in C. scurra, although the latter is considerably larger in all its parts. A plant may be seen flowering in the Orchid house at Kew.

LÆLIA ANCEPS ALBA.

AMONGST the many good things in flower in Mr. Gaskell's collection of Orchids, at Woolton Wood, Liverpool, is Lælia anceps alba, and a real gem it is. The flowers are of the same shape, size, and substance as the typical L. anceps, but pure white, with the exception of the labellum, which is yellowish green. It is a charming, distinct, fairy-like plant, and is sure to become popular.—*Rusticus.*

THE GARDENERS' CALENDAR.

THE GREENHOUSE.

FLOWERS IN SEASON.—Where a gay appearance has to be maintained at this dull season, there is now no lack of material with which to do it, provided means have been taken to cultivate a few of the various subjects at the grower's command. Chrysanthemums will still constitute a prominent feature of the house, together with Heaths, Epacris, Chinese Primulas, Cyclamens, and zonal Pelargoniums, the brilliancy of the newer types of which is only exceeded by their great variety. Marguerites are also flowering freely, as also are Bouvardias, including the brilliant, free-flowering, and robust-growing President Cleveland. Other subjects are Roman Hyacinths, hybrid greenhouse Rhododendrons, Cytisus racemosus, Echeveria retusa, Azaleas, Sericographis Ghiesbreghtii, Ageratum mexicanum album, Eupatorium odoratum, and others.

CINERARIAS.—The batch intended to flower in May should receive their final shift. A good size for large plants is 8½ ins., and the compost used should consist of, say, two parts good fibrous turfy loam that has lain in a heap to become mellow, and a half part each of well-rotted farmyard manure and leaf-soil, with the addition of as much sharp gritty sand as will render the whole sufficiently porous to permit of the escape of superfluous moisture, and allow free passage for the roots. Keep them close to the glass, otherwise the leaf-stalks will become drawn and weakly, and do not subject them to a dry arid atmosphere, or else the leaves get curled, and they become a prey to thrips and green-fly. They should never be allowed to suffer at the roots for want of water, otherwise the thin leaves flag to such an extent that the plant is permanently injured. An intermediate house is the best place for those that are wanted to come on quickly, otherwise a much lower temperature will be quite sufficient. They must on no account, however, be subjected to frost, or the greater part of the foliage will be destroyed. Give plenty of room to allow of the full exposure of the foliage.

CALCEOLARIAS.—These may still be potted on if the operation has not been already accomplished. The soil used should be rich and rather light, with ample drainage. A high temperature is very injurious to them, and they will even stand a few degrees of frost with impunity. Light is a most important matter at this season, and if not kept near the glass the leaves often assume a greenish yellow and sickly appearance. If kept moderately moist they will give greater satisfaction than on the dust-dry side. Except in very severe weather, a cold frame with a bed of ashes will accommodate them admirably. Should the grower, however, possess a frame furnished with hot-water piping, so that the heat may be turned on in the event of severe frost, they need not be transferred to the greenhouse till the approaching flowering period.

THE FORCING HOUSES.

EARLY PEACH HOUSE.—When the bloom-buds begin to swell after a course of gentle stimulation, whether by means of fermenting material or hot-water pipes, a higher temperature may be allowed by day during the prevalence of mild weather outdoors. In the absence of frost or cold biting winds the temperature may be allowed to run up to 55° or 60°, giving little ventilation. Care must be taken not to subject the trees to a dry fire-heat, otherwise the buds will be liable to drop. Well syringe the trees twice a-day, and examine the borders if inside to see that the tree roots do not suffer for want of moisture. If dry give a good watering with tepid water, and see that the latter does not escape without penetrating every part of the border.

STRAWBERRIES.—Let the earliest batch have the lightest and warmest part of the house, and be very careful in the matter of syringing till the days lengthen and the sun begins to have more power. Remove all decaying foliage and anything that might give rise to mildew.

SEA KALE, ASPARAGUS AND RHUBARB.—Successional batches of these should be got ready and put in to supply the place of those that become exhausted. The two former quickly respond to the action of heat, but caution must be exercised in ventilating should very high temperatures be used, otherwise both shoots and leaves will get drawn and thin, materially spoiling their appearance when brought to table. Where Apples and Pears have been deficient this season, Rhubarb will do much to supply the deficiency.

MANURE FOR FORCING.—No time should be lost in getting a supply where new Potatos are required before the earliest supply can be obtained from the warm early borders out of doors. Where much forcing is done a supply of manure available for making up hot-beds should never be wanting. As old beds get worn out, and the various crops or forced subjects removed from them, have the spent material taken out, and its place supplied with fresh. Of course the less forcing done by means of hot-water pipes and properly constructed forcing houses, the more will be required from fermenting material in pits. French Beans, Carrots, Radishes, and other subjects of this kind can with properly directed skill be obtained without hot-water piping.

CHRYSANTHEMUM SHOWS.

Liverpool.—*November 20th and 21st.*

THE ninth winter show organised by the Liverpool Horticultural Association was held in St. George's Hall on the above dates. The wild stormy weather which prevailed on the opening day was most unfavourable; during the judging a fierce storm of rain and hail, accompanied by vivid flashes of lightning and loud peals of thunder, combined with the fury of the wind, made matters most serious. The judging was carried on under the greatest difficulties, as it was completely dark at times. The past season has been a most unfavourable one for this society, and it will be greatly regretted by all who hear that, owing to the inclemency of the weather on the spring and summer show days, a loss of over £400 has been incurred. Great credit is due to Mr. Bridges, the energetic secretary and his hard-working committee, for the splendid and complete arrangements. As at most of the other similar exhibitions, the quality of the cut flowers was not up to the usual mark, the classes, however, were well filled and the competition very keen, the exhibition of Grapes in the fruit classes especially so. There were as many as twenty-two entries for two bunches of Alicante, and it is only fair to say that there was not a bad bunch of Grapes in the whole exhibition, while nearly 200 bunches were put up for competition. Specimen plants of Chrysanthemums were not up to their usual excellence. The centre of attraction lay in the competition for the 10 guineas and Silver Cup, for which there were five competitors—the honour falling most deservedly to Mr. John Jellicoe, gardener to F. H. Gossage, Esq., Camp Hill, Woolton, who showed the following varieties, namely, Japanese: Boule d'Or, Avalanche, Criterion, Belle Paule, Elaine, Edwin Molyneux, Val d'Andorre, Mons. Tarin, Golden Dragon, R. Brocklebank, Mrs. Laing, Meg Merrilies, Jean Délaux, Mons. J. Pigny, Madame Baco, &c. They formed a nice clean lot of fresh flowers, and were well staged; Mr. Roberts, gardener to Miss Holt, was second; and Mr. Cox, gardener to W. H. Watts, Esq., third. For twenty-four incurved sorts, Mr. Burden, gardener to George Cockburn, Esq., Claughton, was first with the following varieties, Queen of England, Golden Empress, Beauty, Emily Dale, Alfred Salter, Empress of India, John Salter, Lord Alcester, &c., forming a good lot; Alfred Holl, Esq., Aigburth, was second. For eighteen incurved varieties, the first prize was well won by Mr. Osborne, gardener to H. J. Robinson, Esq., Woolton, who showed very well indeed; Mr. Jellicoe was second. For twelve incurved varieties, Thomas Drysdale, Esq., stood first, and Mr. Cox second. For twelve incurved varieties, Mr. J. H. Kenlon, and for six incurved varieties, Mr. Frank Tobin took the first prizes. For twenty-four Japanese varieties, G. Cockburn, Esq., was first with a good lot; Mr. Jellicoe being second. For eighteen Japanese varieties, H. J. Robinson, Esq., was a good first, showing good blooms. For twelve, Thomas Drysdale, Esq., was first; and J. D. Irwen, Esq., had the best six. The best six Anemones were shown by Mr. Cox; and the best twelve Pompons by James Lewis, Esq.

Stove and greenhouse plants were shown in the usual way here, many old rivals again competing. Mr. Cox was first for six, and Mr. W. Clark for four. The first prize for Ferns went to D. de Ybarrondo, Esq., and that for one tree Fern to Mr. Cox. Orchids were fairly shown, the first prize for three going to H. J. Robinson, Esq., who showed Phalænopsis amabilis, Odontoglossum grande, and O. Rossii majus; the second went to Henry Tate, Jun., Esq. (gardener, Mr. Edwards), who had Phalænopsis grandiflora aurea, Lælia Perrinii, and Cypripedium Spicerianum; the third went to D. de Ybarrondo, Esq. The best single specimen was shown by W. C. Atkinson, Esq.; the best specimen Calanthe by R. H. Heap, Esq., and the best three specimen Palms by F. H. Gossage, Esq. Epiphyllums, Primulas, Cyclamen, Mignonette, and Poinsettias were fairly shown; but the competition for six table plants produced a dozen competitors, the first being W. Maxwell, Esq. The same honour in a strong competition for pots of Roman Hyacinths was awarded to L. F. Bahr, Esq.; these are always well shown here. For bouquets, Miss Todd was first in a strong competition, and in the open classes for the same, Mr. George Cashel.

Fruit was shown in excellent condition. Although the Apples and Pears were not up to the usual standard, considering the unfavourable season, they made a creditable display. The Grapes, however, made up for any deficiency in the fruit classes. For twelve dishes that most successful exhibitor, Mr. Goodacre, gardener to the Earl of Harrington, was an easy first, showing Golden Queen, Alicante, Muscat of Alexandria, and Gros Colmar Grapes, Smooth Cayenne Pine, good Melon, Coe's Golden Drop Plum, and good dishes of Apples and Pears. For six dishes, A. R. Gladstone, Esq. (Mr. Thomas Elsworth, gardener), was first. For two Pine Apples (one of which was a splendid example of Smooth Cayenne, weighing 10 lbs. and upwards), Mr. Gleeson, gardener to the Duke of Newcastle, was deservedly first. Seldom do we see such fine examples of cultivation, for these were everything that could be desired. The best two bunches of black Grapes, Muscat flavour, were shown by Mr. Paterson, gardener to — Ferguson, Esq., who showed Mrs. Pince. For two bunches of Alicante, Mr. Elsworth, gardener to A. R. Gladstone, Esq., was first with good examples, there being twenty-two competitors. For two bunches of black, any other kind, Mr. Paterson had the best, showing Barbarossa. For two bunches of white Muscats, R. Pilkington, Esq. (Mr. Middleton, gardener), was first, with splendid bunches highly finished. The best two bunches of white, any kind, were Golden Queen, from Mr. Collins, gardener to S. Smith, Esq., M.P. For four bunches, two white and two black, Mr. Goodacre was well to the fore amongst seven competitors. He showed grand examples of Mrs. Pearson, Lady Downes, Muscats, and Alicante. The same competitor took first for eight dishes of dessert Pears, also for six dishes of dessert Apples.

Messrs. Ker & Son showed a grand group of Cyclamen well flowered and of good strain, and the new Begonia, John Heal, for which they received a Special Certificate. The Liverpool Horticultural Company, Limited, showed a group of foliage plants, Ferns, Orchids, wreaths, and floral designs. The Messrs. Dicksons, Limited, of Chester, had a collection of Apples; as well as the Messrs. Rylance & Co., Ormskirk. Mr. H. Middlehurst had a collection of Potatos. All were highly commended. An extra prize was granted to Mr. Bridge, the secretary, for three dishes of Tomatos, and a Commendation to Mr. Bramham for boilers and wirework.—*Rusticus.*

Edinburgh.—*November 20th and 21st.*

THE Scottish Horticultural Association deserves well of the Edinburgh gardening public for its persistent efforts in promoting the cultivation of the Queen of Autumn, and it is a pleasure to record the fact that though the entries on the occasion of the recent show held in the Music Hall were not more numerous than last year, there was a noticeable improvement in the quality of the blooms staged. It was a bright and enjoyable little show, but unfortunately, owing to stormy wintry weather, a much smaller number of visitors enjoyed the pleasure of seeing it, than the executive would have liked to have seen present.

The Association Challenge Cup for the best eighteen Japanese and eighteen incurved blooms, open only for competition to Scottish gardeners and amateurs, was won by Mr. Machattie, gardener to the Marquis of Lothian, Newbattle, with a fine lot of blooms of all the leading sorts; and Mr. Carruthers, gardener to Mrs. Fleming, Hillwood, Corstorphine, was a close second. In other competitions the first prizes went as follows: Twelve Japanese and twelve incurved: Mr. W. Hepburn, gardener, Erich Bank, Kirn, Argyll. Twelve incurved: Mr. A. M'Millan. Six incurved: Mr. Peter Mathieson. Twelve Japanese: Mr. W. Rushton, gardener, Clerwood, Corstorphine, with a specially fine stand. Mr. Rushton also had the best six Japanese, distinct; six Japanese, one variety; and twelve blooms, reflexed.

The display of fruit was not large, but certainly good, the hardy fruits and Pears being especially well represented. The best black Grapes came from Mr. Murray, Culzean Castle, Maybole; and the best black from Mr. Machattie. Mr. Murray was also awarded Cultural Certificates for a collection of six Pine Apples, and for two bunches of Barbarossa Grapes weighing 11 lbs. each. Mr. James Day, gardener to H. F. Broadhurst, Esq., Galloway House, Wigtonshire, showed the best collections of Apples and Pears.

To the miscellaneous class Messrs. R. B. Laird & Sons contributed an attractive group of Chrysanthemums. There were over 100 blooms, mostly Japanese, including sixty varieties, and their beauty and freshness were much admired. Messrs. Methven & Son had a fine group of Chrysanthemums in pots, and together the two firms just named decorated the orchestra with Palms in an effective way. Messrs. Dickson & Co., Pilrig and Liberton, had a large table in the centre of the hall, well stocked with an admirable selection of plants and flowers. Messrs. J. Dickson & Sons, Hanover Street, had also an attractive display of plants and flowers. Mr. Fairgrieve, Dunkeld, exhibited a model of his fruit tree protector in the shape of a canvas screen, constructed in a simple yet efficient manner.

Birmingham.—*November 21st and 22nd.*

THE twenty-eighth annual exhibition of Chrysanthemums, fruit, and winter-flowering plants of the Birmingham and Midland Counties Horticultural Society took place in the Town Hall on the above date. The show, like many others this season, was not quite up to the average, but, taken all round, was most creditable. The arrangements were perfect, thanks to the energetic management of Mr. Hughes, the secretary, and his able staff, to whom great credit is due. The show was well attended, and the society most liberally issued free invitations to the various schools of Birmingham for the children to view the show on Wednesday. Over 1,000 of them, accompanied by their teachers, were admitted, and judging from the bright smiles upon the countenances of the youngsters, they seemed thoroughly to enjoy the treat. The organist of the Town Hall also gratuitously played a selection of music during their stay upon the magnificent organ. Mr. Hughes, the secretary, too, hit upon a happy idea on behalf of the Gardeners' Orphan Fund. He engaged two bright intelligent little girls, who paraded the hall on both days with a conspicuous box, announcing in plain terms the object of the collection, and I am pleased to say the appeal was responded to by many of the visitors.

Specimen plants of Chrysanthemums were well done, especially those exhibited by Mr. Cooper, gardener to the Right Hon. J. Chamberlain, M.P. His collection comprised Lady Hardinge, Queen of England, Pink Venus, Lord Alcester, Prince of Wales, Empress of India, Golden Empress, and Barbara; Sir Thomas Martineau (gardener, Mr. Braiser) was second; and C. Showell, Esq. (gardener, Mr. F. Cooper), was third. For six large-flowering kinds, the Right Hon. J. Chamberlain again held the first place; Mrs. Marigold (gardener, Mr. Dye) was second. Sir Thomas Martinean was first for Pompons; and the Right Hon. J. Chamberlain was first for single specimen Japanese, and also for a group of plants in a space of 80 sq. ft. The arrangement was good and the flowers of excellent quality; J. A. Kendrick, Esq. (gardener, Mr. Cryer), was second. Primulas are always better done in Birmingham than anywhere else, and the growers fully maintained this reputation — both amateurs and nurserymen showing magnificently. Messrs. T. B. Thompson & Sons took leading honours amongst the nurserymen; whilst Mrs. Marigold and Mr. H. Elkington were the most successful amongst the amateurs. For six stove and greenhouse plants Mr. Finch, gardener to J. Marriott, Esq., Coventry, was first; Mrs. Marigold being second. For six Orchids C. Winn, Esq., was the only exhibitor, and was worthily awarded the prize. Mignonette, Poinsettias and Cyclamens were fairly done, but call for no special comment.

Cut flowers of Chrysanthemums were shown in quantities, the quality of the leading exhibits being remarkably good considering the fickle season we have just passed through. Mr. R. Parker, gardener to J. Corbett, Esq., M.P., Droitwich, proved himself again invincible, winning the leading prize (£10) in grand style and showing most meritoriously. Amongst his forty-eight blooms he had the following Japanese: R. Brocklebank, Avalanche, E. Molyneux, M. C. Audiguier, Meg Merrilies, Boule d' Or, Baronne de Prailly, Carew Underwood, M. J. Pigny, Duchess of Albany, Thunberg, Mrs. H. Cannell, &c.; and amongst incurved, Alfred Salter, Queen of England, Golden Empress of India, Lord Alcester. Mr. Lindsey, gardener to Sir Thos. E. Moss, Otterspool, took the second prize; and Mr. Forster, gardener to A. Heggat, Esq., the third. In the class for twelve incurved and twelve Japanese, Mr. Parker was again first. For eighteen incurved, Mr. Lindsey was first. The first prize for twelve Japanese was taken by Mr. Parker; that for twelve Anemone-flowered, by Mr. Cooper; for twelve blooms grown within four miles of Birmingham, by Mrs. Marigold; for twenty-four, under the same conditions, by Sir Thomas Martineau. The first prize for bouquets, shown by nurserymen, was taken by Messrs. Perkins & Sons, Coventry; the second by Messrs. Pope & Sons. A. W. Mills, Esq., was first in the amateurs' class; J. Marriott, Esq., had the best table epergne, and C. H. Kendrick, Esq., the best three button-holes.

Fruit was shown in first-rate condition. Mr. Pratt,

gardener to the Marquis of Bath, had the best six bunches of Grapes, showing grand examples of Alicante, Muscat of Alexandria, and Lady Downes, highly coloured and well finished; J. F. Campbell, Esq. (gardener, Mr. Hollingsworth), was second; and R. H. C. Neville, Esq., Grantham, was third. The three best bunches of black Grapes were splendid examples of Gros Colmar, from Mr. Goodacre. The best three bunches of Muscats came from Mr. Pratt, followed by Mr. Goodacre, and thirdly by Mr. Thomas Rabone, gardener to the Earl of Shrewsbury, Alton Towers. For two bunches of white Grapes, good Golden Queen came from Mr. Lindsay, gardener to Sir Thomas Moss, Otterspool, Liverpool. Mr. Pratt had the best bunch of Black Alicante, fine in colour and berries; and he also took first with White Tokay, for one bunch of white, any sort. For one Pine Apple, a magnificent Smooth Cayenne weighing 11 lbs. was shown by Mr. Gleeson, gardener to the Duke of Newcastle, and it easily secured the first prize. For six dishes of culinary and six of dessert Apples, Mr. Goodacre was first, whilst that for Pears went to J. Corbett, Esq. Mr. Mitchison was first for Mushrooms, with a grand lot.

Several special prizes were offered for groups of Chrysanthemums and foliage, Primulas, &c., which brought forward many features of interest, which we cannot, owing to want of space, describe in detail. The various nurserymen and florists contributed handsomely to the exhibition in various ways. Messrs. Sutton & Sons, of Reading, showed a grand collection of Cyclamens, of a very fine strain, splendidly grown and well-flowered. Several certificates were awarded to the named varieties, also for the general collection. A similar award was made to Mr. Hans Niemand, for a group of plants and floral designs; to Messrs. T. B. Thompson & Sons for a like display; to Messrs. Pope & Sons for a group of plants, zonal Pelargoniums, &c.; to Messrs. Thomas Hewitt & Sons for plants; to Messrs. Perkins & Sons, Coventry, for cut flowers of Chrysanthemums, and floral designs; to Mr. R. H. Vertegans for bouquets, wreaths, and crosses; to Mr. A. Outram, 7, Moore Park Road, Fulham, for his Orchid-flower holder; to Messrs. R. Smith & Co., Worcester, for a grand collection of Apples; to Messrs. John Cranston & Co., of Hereford; to Messrs. T. Rivers & Son, Sawbridgeworth; and to Mr. Cooper, gardener to the Right Hon. J. Chamberlain, M.P., for a collection of Orchids, Ferns, and Palms, &c. The special prize offered by Messrs. Sutton & Sons, for vegetables, brought forward some spirited competition; Mr. Lambert, gardener to Colonel Wingfield, Shrewsbury, taking the first with a superb collection.—*Rusticus.*

Faversham.—*November 14th and 15th.*

THE second annual exhibition of this society was held in the Faversham Institute. The show was far in advance of that of last year, and so numerous were the entries that in addition to the large hall another room adjoining had to be hired in which to exhibit the fruit and vegetables, which were remarkably fine. In the open class for twenty-four cut blooms, twelve Japanese and twelve incurved, some very fine flowers were staged, and so close were Mr. G. Ray, Senr., of Green Street, and Mr. Thomas, of Harold Nursery, Sittingbourne, that the judges awarded them equal first prizes, Mr. T. Comford taking the third. Mr. T. McLaren was awarded the Bronze Medal of the National Chrysanthemum Society for the best incurved bloom—a superb specimen of Lord Wolseley, Mr. Weller securing first honours for the best Japanese with a fine bloom of Grandiflora. Trained and untrained plants were of good quality, and were exhibited by Mr. Cook, Mr. Creed, Mr. Anderson, and Mr. McLaren. The Silver Challenge Cup, presented to the society by Messrs. Lyddon, was won by Mr. H. South for a group arranged with great care and good taste. Mr. C. Cornfoot was second, and Mr. W. Ratcliff third.

The amateurs' classes for cut blooms were well filled, and the flowers were of excellent quality. The leading prize-winners were Mr. L. Jackson, Mr. C. Stidolph, Mr. Hill, and Mr. Dan. The prize for the premier incurved bloom in the amateur class, a National Chrysanthemum Society Medal, fell to Mr. E. Hills, for a well-finished flower of Emily Dale. Mr. L. Jackson secured the prize for the best Japanese, an enormous flower of Meg Merrilies. The cottagers were well represented, and exhibited both flowers and vegetables of superior quality, amongst the prize-winners being Mr. T. Terry, who took a National Chrysanthemum Society's Bronze Medal, for a fine bloom of Eve; Mr. G. Lewis, who was awarded a first prize for a superb bloom of Thunberg; Messrs. G. T. Anderson, F. Davidson, R. Curry, S. T. Lorick, C. Clinch, G. W. Wright, W. Tricker, C. Ivory, and others.

The show of vegetables, which attracted considerable attention, was declared to be one of the finest displays seen in the district. The most successful exhibitors were Mr. Ackhurst, Mr. Taylor, Mr. Tricker, Mr. Matson, Mr. Burton, and others. Numerous exhibits were staged not for competition, amongst them being an attractive stand of forty-eight dissimilar Chrysanthemum blooms by Mr. Fred. T. Hart, of Ospringe Road Nursery, Faversham, containing superb blooms of Empress of India, Amy Furze, Edwin Molyneux, Mir, Charles Orchard, and Duke of Berwick. The same exhibitor also staged a fine collection of twenty-seven varieties of Potatos, which were very highly commended.

Croydon.—*November 21st.*

THE Borough of Croydon Chrysanthemum Society held its first exhibition in the Skating Rink Hall, a fine building for an exhibition of this kind, and which upon this occasion was taxed to its utmost extent, both with regard to exhibits and visitors, of which an exceptionally large number passed the turnstile. Hitherto the Croydon Chrysanthemum Show has been held under the direction of the Croydon Horticultural Society, but want of funds compelled them this year to abandon the autumn queen. Still, Croydon has plenty of lovers of the Japanese national flower, hence the remarkably fine exhibition held at the Skating Rink on the date named. Groups of Chrysanthemums, banks of foliage plants and Palms were arranged all round the walls. The platform was furnished with graceful Palms and Chrysanthemum plants by Mr. Butcher, of Sydenham Road, Croydon.

In the open class for a group of Chrysanthemums not exceeding 50 square feet, Mr. W. Cura, of Lower Addiscombe Road, was first with a well-arranged group, followed by Mr. Fewell, of Sydenham Road. In both classes for twenty-four incurved and twenty-four Japanese, Mr. W. King, gardener to P. Crowley, Esq., Waddon, led the way with flowers of superb quality, and other prize winners in the open classes were Mr. Evans, Mr. S. Brown, and Mr. Rodburn. The classes open to amateurs and gardeners within the borough of Croydon were well filled, the flowers exhibited by Mr. Lane being remarkably fresh and very large. The most noticeable amongst the incurved were Golden Empress, Alfred Salter, Cherub, Emily Dale, and Prince Alfred in the class for twenty-four blooms, which received the first prize. The same exhibitor was first for six fine blooms of Lord Alcester, and again for six blooms of Madame C. Audiguier, other prize winners being Mr. W. Jupp, Mr. C. Welstead, Mr. C. Evans, and Mr. J. Rodburn.

The exhibits not for competition were numerous. Mr. C. Gibson, of Morden Park, Mitcham, staged six boards of grand blooms, containing Meg Merrilies, Ralph Brocklebank, Lady Lawrence, Jeanne Délaux, Princess of Wales, Princess Beatrice, and Lord Alcester. Messrs. Laing & Sons, of Forest Hill, put up an attractive group of Palms and Chrysanthemums, which included a number of new varieties. Messrs. G. Bunyard, of Maidstone, staged a very fine collection of Apples, 100 dishes. Messrs. Cheal, of Crawley, also exhibited a grand display of fruit. The show of Chrysanthemums and zonal Pelargoniums exhibited by Messrs. H. Cannell & Sons, of Swanley, attracted much attention.

The Silver Medal presented by Messrs. W. Wood & Son was awarded to Mr. Carr, gardener to Stephenson Clarke, Esq., president of the society. The exhibition was opened by the Mayor, who spoke in high terms of the honorary secretaries, Mr. W. B. Beckett and Mr. J. L. Browning, and the committee of the society.

St. Albans and District.—*Nov. 20th and 21st.*

Owing no doubt to the severe frosts early in October, which caught so many growers napping, the competitive classes did not fill well at the second annual exhibition at St. Albans. Honorary exhibitors, however, came well to the fore, with the result that a very fair exhibition was secured. As at Watford the previous week, Mr. Beckett, Aldenham House Gardens, Elstree, was invincible, securing first honours in each class in which he competed; his trained plants were scarcely so good as last year, his best plants being Mrs. Shipman, Prince Alfred and John Salter, but his cut blooms were superb. Amongst such a grand lot it was difficult to say which blooms were best, but we noticed the following as being perhaps finer than the others:—Japanese: E. Molyneux, Boule d'Or, Mdme. Baco, Japonaise, Margaret Marrouch, Mrs. H. Cannell, Baronne de Prailly, Mr. W. G. Drover, Sarah Owen, Mdme. C. Audiguier, Mr. R. Brocklebank, Val de Andorre, Album Fimbriatum and Mdme. J. Laing. Incurved: Lord Alcester, Queen of England, Bronze Queen, Golden Empress, Emily Dale, Empress of India, John Salter, Princess of Wales, Jeanne d'Arc, Cherub, Alfred Salter and Angelina. Some good wreaths and very tasty centre pieces were exhibited, the competition being very close. The cottagers evidently pay more attention to the vegetable than the floral department, the display of vegetables being exceedingly good. Fruit was poorly represented in the competitive classes; Mr. Beckett, however, staged a very fine lot, not for competition, showing magnificent Alicantes and good Muscats, with Emperor Alexander, Blenheim Orange, Warner's King Apples and Duchesse de Angouleme Pears. The same exhibitor also staged a fine lot of vegetables; these were arranged in a very tasty manner, the effect of which was considerably heightened by a number of well-grown plants of varieties of Capsicums being placed amongst the vegetables bedded in Parsley. Amongst the honorary exhibitors were fine groups from J. Blundell Maple, Esq., M.P., Childwickbury, the president of the society; J. S. Hill, Esq., Hawkswick, Rokeby Price, Esq., St. Albans, and other gentlemen. Mr. Watson, New Zealand Nurseries, St. Albans, also had a very nice group, principally composed of the usual ornamental and furnishing class of plants.

National.—*November 21st.*

THE floral committee of this society held a meeting on the above date, Mr. E. Sandersou presiding. Although a considerable number of flowers was staged, only four varieties were considered worthy of First Class Certificates. Messrs. Cannell & Sons, of Swanley, exhibited a fine collection of Japanese blooms, and were awarded a First Class Certificate for Alcion, a reflexed Japanese of a rosy carmine colour, with silver reverse, broad drooping petals. Mr. George S. Addison, of Parchmore Road, Thoruton Heath, received a First Class Certificate for L'Automne, a deep incurved flower with broad petals of an attractive soft salmon-buff colour. A First Class Certificate was awarded to Mr. Thomas Butterworth, of Benton Grange, Cheshunt, for Mrs. C. H. Wheeler, an enormous Japanese flower, after the type of Edwin Molyneux, similar in colour, but with very broad petals. Messrs. Davis & Jones, of Lilford Road, Camberwell, received a First Class Certificate for Miss M. A. Haggar, a pale yellow sport from Mrs. Heale, of good substance. The same firm exhibited Mrs. William Walters, a sport from Edouard Audiguier, which, although a very fine flower, was considered scarcely distinct enough from the parent plant to merit a certificate; and a bunch of good blooms of William Morley, cut from the open. Amongst the other exhibits we noticed good blooms of Mrs. F. Thompson, La Marguerite, a bright crimson, large Anemone, which has already received a First Class Certificate; Madame Baco, Mr. H. Welham, and Yellow Jane, a very pretty single yellow flower. Votes of thanks were accorded to Mr. Elliott, of Jersey; Messrs. H. Cannell & Sons, and Messrs. Davis & Jones, for their exhibits.

Nottingham.—*November 21st and 22nd.*

THIS exhibition was held in the Arboretum Rooms, and in every respect was admitted to be one of the best the Notts Horticultural and Botanical Society has yet held. Although the general public failed to attend in anything like paying numbers, a large number of members, aud others interested in horticulture, availed themselves of the opportunity of inspecting the many meritorious objects exhibited. Four groups of Chrysanthemums intermixed with fine foliage and other plants arranged for effect occupied the ground floor, and in this competition, E. W. Field, Esq., Aspley Hall (gardener, Mr. Wilson), easily obtained first honours with a beautiful evenly-balanced group, dwarf-grown Chrysanthemums (principally Japanese), carrying brightly coloured flowers, being judiciously employed, intermixed with Crotons, Palms, Pandanus, Dracænas, and other dwarf plants; Adiantum cuneatum and the pretty Eulalia japonica forming the groundwork. W. H. Farmer, Esq., Alexandra Park (gardener, Mr. Attenboro) came in second, and Mr. C. J. Mee, Wollaton Hall, secured the third award.

In the class for twelve cut blooms (Japanese), Mr. Wilson was again successful in obtaining the highest award with a magnificent stand, which for size, colour,

and fine form it would be difficult to surpass. P. L. Mills, Esq., Ruddington Hall, Notts (gardener, Mr. Hesford), came in second with a good lot, from which the premier bloom in the show (a grand example of Belle Paule) was selected; Mr. George Taylor, Nottingham, was third. For six Japanese Mr. Hesford and Mr. Wilson were again successful in the order named. For twelve large incurved varieties Mr. Oliver Land, Nottingham, an artisan, succeeded in obtaining the first prize with huge flowers; Mr. George Taylor, another artisan, coming in second; and Mr. Wilson third. The other classes for cut blooms were well represented.

For six Chrysanthemum plants Mr. Wilson was first with nicely grown specimens; and R. E. M. Webb, Esq., Nottingham (gardener, Mr. Collins), was second; and the same order of merit obtained in the class for three plants. For a single specimen plant Messrs. J. R. Pearson & Sons, Chilwell, came in first with a grand specimen measuring 6 ft. through, and only 3 ft. high; Mr. Wilson was second, and Mr. Collins third.

Fruit was well shown, and in a keen competition with collections of twelve varieties, H. R. Clifton, Esq., J.P., Clifton Hall (gardener, Mr. Anderson), was first, his Gros Colmar Grapes and Pitmaston Duchess Pears being very good; Mr. C. J. Mee, Wollaton Hall, and C. J. Cox, Esq., Bashford (gardener, Mr. Meadows), each showing creditable collections, came next in the order named. There was also a strong competition with six dishes of dessert Pears, and with a similar number of dishes of dessert and kitchen Apples, Messrs. Attenboro, Meadows, Mee, and Anderson obtaining the principal honours. Messrs. Anderson, Booth and Meadows were the most successful exhibitors of black and white Grapes. Special prizes were offered for collections of vegetables, and Mr. Mee and Dr. Powell staged excellent produce. In the classes for Potatos Mr. Fletcher, Annesley, obtained the principal prizes, his renowned Lord Tennyson playing a conspicuous part. The treasurer, Mr. A. Page; the vice-president, Mr. S. Thacker; and the chairman of the committee, Mr. W. H. Farmer, each contributed collections of plants not for competition, and the indefatigable secretary, Mr. Edward Steward, assisted by the members of the committee, ably carried out the arrangement of the show.—*J. H. Walker.*

QUESTIONS AND ANSWERS.

Asparagus Beetle.—*J. R. Clark:* Your beds are affected with the Asparagus Beetle (Crioceris asparagi). You should examine your beds earlier in the season so as to detect the beetle in the larva state, which is even more harmful to the young stems and little branches (popularly termed leaves) than the fully-developed beetle itself. Neither of them should, however, have any quarter, and if not too numerous may be hand-picked by looking over the beds at intervals from July till October When very numerous this is not at all practicable; but a remedy must be tried, otherwise the stems will become weaker and weaker every year owing to the ravages of the pest. No remedy should, however, be applied till after cutting the Asparagus for use has been completed—say about midsummer. After this the stems and leaves may be dusted with white Hellebore powder about every eight days throughout the season. Soot mixed with salt at the rate of twenty parts of the former to one of the latter, applied in the same manner as the Hellebore, will exterminate or greatly reduce the numbers of the insect in the course of two years.

Bulbs.—*J. C. H.:* It all depends upon the present condition of your bulbs as to what will be their value at flowering time. Of course supposing your bulbs to be still plump, firm, not sprouted, and in every way in excellent condition, you cannot expect them to produce such strong and good exhibition spikes of bloom as if they had been put in about the early part of November. For ordinary decorative purposes they still have time to make fairly good growth, provided they are not hurried by too much forcing, but allowed to come on gradually in a greenhouse. You should pot them in the ordinary way in good compost, which should not be too wet at the time of potting. Stand them in a cold frame, placing them in ashes or coco-nut fibre; do not give any water till they have commenced growing, have been uncovered, and show signs of becoming dry. In general they will not require water till they have been removed to the greenhouse, the window, or some other airy position.

Centropogon Lucyanus.—*R. M.:* This plant is not wild anywhere as you suppose, so that no native country can be given. It is a hybrid between Centropogon fastuosus and Siphocampylus betulæfolius, the latter being the pollen parent. It was raised by M. Desponds, of Marseilles, in 1856, and was named and described by Van Houtte. Its free-flowering character in autumn and winter has obtained for it a wide dissemination in gardens.

Chrysanthemums.—*H. N., St. Germans:* Edwin Molyneux, Madame C. Audiguier, W. G. Drover, Ralph Brocklebank, Baronne de Prailly, and Avalanche. There are a number of other sorts, which when well grown equal these in size.

Chrysanthemums at Liverpool.—Could any of your readers tell me how many years Mr. Hobbs exhibited cut blooms of Chrysanthemums at the Liverpool shows; also if he was ever beaten, and by whom?—*A Constant Reader.*

Epiphyllums with Stems.—*Rob. Hanson:* There are two methods by which you may obtain dwarf standard specimens such as you describe. One is to make cuttings of Epiphyllum truncatum or any of its numerous varieties, and gradually prune off the side branches as the plant grows so as to increase the vigour of the main stem, which should be tied upright to a stout stake. When of the desired height allow the branches to form a head. Much time is, however, saved, and a strong stem at once obtained by grafting pieces of the Epiphyllums on the stems of Pereskia aculeata. After grafting keep in a moist pit or stove until a union has been effected.

Marguerite Cuttings.—*Omega:* We rather doubt whether you could manage to strike the varieties of Chrysanthemum frutescens under hand-lights after this time of the year, but if you have plenty of cuttings you might risk a trial, making sure that the hand-lights or frames are securely covered up from frost. A safer plan would be to put them in pots, and stand the latter in a greenhouse. You would also be surer of rooting them when the days are getting longer in spring, using a little fire heat.

Names of Chrysanthemums.—*J. Price:* There are a few naturally dwarf Chrysanthemums, such as Mons. Freeman, Mons. W. Holmes, Cullingfordi, and others, but the fine dwarf groups of Chrysanthemums exhibited at the leading and other shows are not made up of specially dwarf kinds; so that to give a list of the names of plants exhibited in this way would be merely to repeat many of the kinds that occur with equal frequency in the stands of cut blooms. The dwarf habit of plants shown in groups is due for the most part to special culture. About the end of May or the beginning of June the plants are cut down to within 6 ins. of the pots, frequently entirely denuding them of leaves. They are thus kept back and remain dwarf, while those not so treated are tall. You might try the experiment yourself with a few plants; and also propagate late, say in March, and pinch a few times to get them bushy for conservatory work.

Names of Fruits.—*W. L.:* 1, Duchesse d'Angoulême; 2 Beurré Clairgeau; 3, not known; 4, Triomphe de Jodoigne.

Names of Plants.—*W. S.:* We do not recognise the Cœlogyne which comes nearest to C. fuscescens. *W. M.:* The Cypripedium is C. Haynaldianum; the other is Vanda tricolor, a rather fine variety. *Omega:* 1, Chrysanthemum frutescens var.; 2, Chrysanthemum frutescens. *J. R.:* 1, Symphoricarpus racemosus; 2, Cotoneaster Simondsii; 3, Cotoneaster microphylla; 4, Physalis Alkekengi. *A. J. K.:* 1, Pinus Strobus; 2, Pinus austriaca; 3, Picea Engelmanni; 4, Picea nigra; 5, Tsuga canadensis. *S. Gray:* We cannot undertake to name Chrysanthemums—there are too many of them. What do you want to know about Elaine? The flower enclosed would be included with second-size blooms here.

Onion.—*H. N.:* Veitch's Main Crop, or Rousham Park Hero, both very fine sorts of the White Spanish type.

Schizostylis coccinea.—*A Constant Subscriber:* Not knowing the conditions under which your plants are placed, nor the treatment to which you have subjected them, it is impossible for us to say why they have not flowered with you. Our experience is that Schizostylis coccinea is easy to grow. Should the soil be of a dry sandy nature, or clayey, and liable to become baked in summer, the plants are liable to die out. In the sunny south, a quantity of peat in the soil is found to be of great advantage; and if the soil should naturally be of a dry nature, liberal supplies of water are essential to success. When put in the greenhouse in autumn, a sunny light position should be given, and the plants never allowed to get dry. In the autumn, lift early enough, so that they may become established before short days and cold weather set in.

Seeds of Dictamnus.—*E. C. Berry:* Seeds of the Dittany are furnished with a hard, smooth and shining coat, almost impermeable to water after they get dry. They should therefore be sown without further delay, in fact they would probably have come up better the following spring if they had been sown as soon as ripe. You may, however, sow them now in well-drained pots or pans, placing the latter in a cold frame, or better, in a heated one or a greenhouse to hasten the processes preparatory to germination.

The Wise Apple.—*S. G.:* This is a local Worcestershire name applied to Court Pendu Plât, on account of that variety always flowering and coming into leaf about a fortnight later than other sorts, and consequently almost always bearing a crop.

Communications Received.—A. W.—R. B. L.—A. O.—W. E. R.—Searecrow.—W. M.—J. M.—A. Bentley.—W. W.—J. H —J. H. H.—Southdown.—W. D.—W. W.

TRADE CATALOGUES RECEIVED.

R. B. Laird & Sons, Royal Winter Garden, Edinburgh.—Trade Offer of Nursery Stock for 1889.

Dicksons & Co., 1, Waterloo Place, Edinburgh.—Forest Trees, Ornamental Trees and Shrubs, &c.

LONDON SEED TRADE.

November 27th.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report American Red Clover steady, lowest grades of French Red Clover offer at easier rates, finer qualities steady. There is no change in values of White Clover, Alsyke, or Trefoil. Rye Grasses keep firm. Bird Seeds unchanged. Blue Peas are firm.

COVENT GARDEN MARKET.

November 28th.

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ..per dozen	1 6	2 0
Beet, per dozen.....	2 0	3 0	Mushrooms, p. basket	1 0	1 3
Cabbages .... per doz.	1 6		Onions, per bushel ..	7 0	9 0
Carrots ....per bunch	0 6		Parsley, per bunch ..	0 6	
Cauliflowers, English, per dozen	3 0	4 0	Radishes, per dozen..	1 6	
Celery, per bundle ..	2 0		Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 0	1 3
Herbs, per bunch....	0 2	0 4	Turnips, per bun.....	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys. 80s. to 100s. per ton; Champions, 70s. per ton.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½-sieve.....	2 0	4 6	Pine-apples, St. Michaels, each	2 0	7 0
Cobs .. per 100 lbs.	100 0		Pine-apples, Eng., lb.	1 0	1 6
Grapes .....per lb.	0 8	2 6			

Canadian and Nova Scotia Apples, per barrel, 10s. to 20s.

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz..	6 0	18 0	Foliage Plants, various, each.....	2 0	10 0
Arum Lilies..per doz.	9 0	18 0	Ficus elastica each..	1 6	7 0
Chrysanthemums, per dozen	4 0	9 0	Fuchsia, per doz.	3 0	6 0
— large plants ..each	2 0	5 0	Marguerites per doz.	6 0	12 0
Coleus .....per doz.	2 0	4 0	Palms in variety, each	2 6	21 0
Cyclamen ..per doz,	12 0	18 0	Pelargoniums, scarlet, per dozen	2 0	6 0
Cyperus, ..per dozen	4 0	12 0	Primula sinensis, per doz.	4 0	6 0
Dracæna term., doz.	30 0	60 0	Roman Hyacinths, per doz.	9 0	12 0
— viridis, per dozen	12 0	24 0	Solanums....per doz.	9 0	15 0
Evergreens, in var., per dozen	6 0	24 0			
Ferns, in var., per doz.	4 0	18 0			

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	3 0	6 0	Paper White Narciss, 12 sprays	0 9	1 0
Azaleas ....12 sprays	0 10	1 0	— — — French, doz. bunches	2 0	6 0
Bouvardias, per hun.	0 6	1 0	Pelargoniums, 12 spys.	1 0	1 6
Camellias, 12 blooms	2 0	4 0	— scarlet, 12 sprays..	0 4	0 9
Carnations, 12 blooms	1 0	2 0	Primula, double, bun.	0 9	1 0
Chrysanthemums, 12 blooms	1 0	4 0	Roman Hyacinths, 12 sprays	1 0	1 6
— 12 bunches	4 0	12 0	Roses, Tea, per dozen	0 6	1 6
Cornflower, 12 bunch.			— Red .....per doz.	0 6	1 0
Cyclamen..12 blooms	0 6	1 0	— Saffrano ..per doz.	1 0	1 6
Eucharis, per dozen..	3 0	6 0	Stephanotis, 12 sprays	6 0	8 0
Gardenias, 12 blooms.	3 0	6 0	Tuberoses, per dozen.	0 6	1 0
Heliotropes, 12 sprays	0 6	1 0	Violets ..12 bunches	1 0	1 6
Lapageria, 12 blooms	2 0	4 0	— Parme, French, 12 bunches	3 6	5 0
Lilium longiflorum, 12 blooms	5 0	9 0	— dark French, bun.	1 6	2 6
Maidenhair Fern, 12 bunches	4 0	9 0	White Lilac, French, per bun.	5 0	7 0
Marguerites, 12 bun.	3 0	6 0			
Mignonette, 12 bun.	2 0	4 0			

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FOR
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Next Week's Engagements.

MONDAY, December 10th.—Sale of Dutch Bulbs at Protheroe & Morris's, and Stevens' Rooms. Clearance Sale of Nursery Stock at the Hadley Nursery, Barnet, by Protheroe & Morris.

TUESDAY, December 11th.—Royal Horticultural Society: Meeting of Fruit and Floral Committees at 11 a.m.

WEDNESDAY, December 12th.—Sale of Lily and other Bulbs, Greenhouse Plants, &c., at Protheroe & Morris's Rooms. Sale of Dutch Bulbs at Stevens' Rooms.

THURSDAY, December 13th.—Sale of Dutch Bulbs at Protheroe & Morris's Rooms

FRIDAY, December 14th.—Sale of Imported and Established Orchids at Protheroe and Morris's Rooms.

SATURDAY, December 15th.—Sale of Dutch Bulbs at Stevens' Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, DECEMBER 8, 1888.

CURRENT TOPICS.

BORDER TULIPS.—The very pleasant paper on the Florist's Tulip, which we published last week from the pen of that prince of florists,—should we not say primate rather than prince?—the Rev. F. D. Horner, will, we hope, assist to draw attention to the wondrous beauties and glorious colourings found in one of the hardiest of bulbs. Everybody who has a garden appreciates the presence in bloom during the month of April of masses or clumps of single and double Dutch Tulips, for are not these one of the most elegant and gorgeous of spring flowers? But there is yet another section, blooming later, produced on taller stems, seldom of double form, but still so hardy that they exist and bloom from year to year, giving little trouble, and yet a wealth of colour and of beauty in their season.

These late border Tulips rank with rural cottagers amongst the most popular of garden flowers. Big clumps of yellows, whites, reds, crimsons, and purples, with many broken or rectified flowers, serve to make the cottage gardens in rural districts wonderfully gay, and all with so little trouble that the wonder is similar displays are not found in larger or pretentious gardens as well as in those of the cottager. The florists' Tulips are the select or *elité* of this race, a wondrously refined and beautiful class of flowers, absolutely perfect in form and in markings, although the Tulip florist alone can appreciate the wondrous excellence found in flakes and byblœmens of many hues.

But if growers of these are connoisseurs and few, the growers of the hardy and usually self colours are legion, and may well be many legions. It is not too late even yet to plant bulbs of these hardy border kinds. Let our readers seek Tulip salvation whilst there is yet time, and then henceforth bless the day they started hardy border Tulip culture.

ALLOTMENTS.—Amongst the duties to be discharged by the new County Councils is the administration of the Allotments Act of 1887—an Act which has so far sadly failed in its aims, not only because of the defects of its clauses, but also because its working has been left to the tender mercies of Boards of Guardians, local governing bodies of the worst possible kind, and least of all possessing any sympathy with working men in their desire to obtain garden allotments. The new County Councils will consist of a superior class of members, men, we trust, actuated by broader and higher sentiments than are those found in the minds of average Guardians of the Poor. We may, therefore, very well hope that in the new hands the Act may be administered with intelligence; that, indeed, every desire will be shown to make its provisions practical realities.

We have recently had under notice a case in which a number of hard-working men who have for several years occupied and very efficiently cultivated and cropped some allotment land, now find themselves as tenants about to be summarily turned out of their little holdings and all their labours ignored, because the owner desires to put the land to other uses. Now the owner may be only doing that which is legal, but such actions all the same are morally unjust, and the putting into operation generally of the provisions of the Allotment Act of 1887 by the County Councils, would prevent such injustice being henceforth perpetrated.

Land for allotment purposes should be either purchased for that intention solely, being so devoted in perpetuity, or it would be rented by the county authorities for the same purpose on long leases, thus ensuring for the poor tenants practically enduring tenure, provided of course the regulations needful for the protection of the county authorities were duly carried out and respected.

PUBLIC MARKETS.—The City of London Corporation intimate their intention to erect a new Fruit and Vegetable Market on a site long vacant at Smithfield. Although a new erection, it will after all but replace the old and discreditable Farringdon Street Market, which has long been doomed, but has equally long had to wait for a new habitation. That the City Corporation has so far provided a series of very fine public markets for the sale of the necessaries of life none can deny, neither can anyone deny that the costliness of these structures has necessitated the charging of considerable stall-holder's fees, and farther, that the income derived from these sources has been an enormous one. Now it is all very well to erect new markets and to seek for public approval of such an exhibition of public spirit, but if the fees charged for the use of the same are heavy, the public can benefit from the establishment of such markets only inappreciably.

The markets element in relation to the profitable disposal of the produce of the land

is a very important one, especially in the metropolis. In other large towns the local authorities seem to have realised their responsibilities and have provided markets where needed. London has generally been without any popular municipal authority, for the dying and corrupt Board of Works is unworthy of such designation, hence London is very badly provided with public markets. Possibly the great railway companies would do a good thing for themselves and the public if each one would establish at, or adjacent to their great metropolitan goods stations, well-protected public markets, at which grower and consumer might be brought into immediate contact; whilst it would be equally advantageous did the new London County Council, when formed, also establish municipal markets in the most populous portions of the vast area of houses and people over which it will shortly reign.

The Royal Horticultural Society.—The meeting of this Society on Tuesday next will be the last of the year held in the Drill Hall, James' Street, and in view of important changes about to take place in the composition of the Council, and also of the Fruit and Floral Committees, should be a gathering of great interest to all who yet have hopes of the old society's complete rejuvenescence. With reference to the changes in the Council, we understand that Dr. Hogg, Mr. G. F. Wilson, Mr. Harry Veitch, Mr. Thiselton Dyer, Prof. Michael Foster, and Sir Edmond Loder have signified their wish to retire; and as the Fellows now really have some control over the elections of members of Council and officers, prompt action should be taken to secure the nomination of the best men that can be got to fill the vacancies. There is no doubt whatever that the labours of the governing body this year have been very heavy, and they have been beset with many difficulties which are being gradually overcome. There is, however, much more work of a reforming character to be accomplished ere the society can be considered as worthy of general support on the ground of its public utility, and we sincerely hope that only those Fellows will be nominated for election whose sympathies are known to be in harmony with a bold progressive policy, who enjoy the confidence of their fellow horticulturists, and who have the ability and the leisure to help in pushing forward those measures of reform and re-organisation that have been so long needed.

Kingston and Surbiton Chrysanthemum Society.—We learn from Mr. Woodgate, the honorary secretary of this society, that the dates fixed for next year's exhibition are the 12th and 13th of November.

The Gardeners' Royal Benevolent Institution.—A legacy of £50 has been bequeathed to this institution by the late Mrs. Sarah Cameron. Mrs. Cameron was the widow of Mr. George Cameron, who for many years was the respected gardener to the Duke of Richmond at Goodwood Park, near Chichester. He was a life member of the institution, and died in 1870.

Gardening Engagements.—Mr. Chas. Theaker, late foreman at Bedford Hill House, Balham, as gardener to W. H. Willats, Esq., Denton Court, near Canterbury. Mr. James Smart, late fruit foreman at Welbeck Abbey, Notts, as gardener to Sir Ralph Payne Gallwey, Thirkleby Park, Thirsk, Yorks.

The Liverpool Horticultural Association.—"Justice" writes: "A grand feature of this society's show, held on the 20th ult., was a basket of excellent Grapes, well put together, to which the judges awarded an extra prize. This decision, however, the committee have reversed, granting a Cultural Certificate in lieu of the prize-money, though both awards would not have been too much for such an exhibit."

The Garden Annual.—Gardeners, nurserymen, seedsmen, and others who, for private or commercial purposes, require a trade directory, may be seasonably reminded that the *Garden Annual for* 1889 has, with commendable promptitude, just been published. Its lists of gardeners, private places, and traders have been revised up to a late date, and appears to have been corrected as perfectly as such lists can be corrected, for it is impossible to get information of all the changes that take place during the year. The editor, Mr. Flood, has, however, done his best, and done it well.

Market Violets.—The autumn seems to have been one of the best known for years for the production of Violet flowers. Owing to the moist nature of the summer season, the plants at no time lost foliage, thrip and spider were absent, and the autumn crowns exceptionally strong. The early October frosts gave the flowers a momentary check, but they soon recovered from that, and since then the plants have been blooming in great profusion. It is found that breadths dibbled out early in the winter give the strongest crowns for autumn blooming, hence planting now takes place both in autumn and spring, as soon as the blooming is over.

Outdoor Chrysanthemums.—The loss of first flowers which resulted so largely on outdoor Chrysanthemums after the October frosts, has had the effect of developing side-shoots, which show a tendency to flower profusely if weather permits. Big clumps of growth thus covered with buds would doubtless pay for the trouble involved if lifted with balls of soil, placed in shallow baskets or tubs, and then run into a greenhouse or conservatory in which there is some gentle warmth. Such plants will thus furnish a wealth of flowers, and prove to be valuable aids in the rendering of cut flowers at Christmas. Even outdoors, if mild weather continues, they may bloom freely.

Insufficient Boiler Power.—"W. B. G." writes:—"A correspondent, some weeks ago, mentioned the case of a garden assistant finding, on going to his fire one morning during severe weather, that the fire-bars had melted and fallen to the bottom of the ash-pit, the disaster being attributed to the use of anthracite coal; but, as you well remarked, a collapse of the same nature has been known to occur with other kinds of fuel. As a matter of fact, accidents of this character are not new in gardens, and when they do happen it often proves the excellence of the fuel and the inefficiency of the heating apparatus. It would be a great boon to the gardening community if many of the heating apparatuses in the country were served in the same way, provided that they were replaced with others sufficiently powerful to meet the calls that are made upon them. For a man to have to stay up half the night stoking away with a puny boiler and a deficiency of piping is what no one should be called upon to do."

Gardeners' Orphan Fund.—At the usual monthly meeting of the committee, held on the 30th ult., the secretary announced the receipt of £2, collected by Mr. Bates at the flower show held at Twickenham; £3 6*s.*, collected by Mr. Bishop at the Teddington show; £1 11*s.* 4¾*d.*, collected by Mr. Cummins at Croydon; £1 10*s.* 6*d.*, collected at the Bradford show, and sent by Mr. R. Scott, Manningham; £1 1*s.*, from the committee of the Bexley Chrysanthemum show, per favour of Mr. Wooderson, Bexley; and £3, from Mr. Garnet, St. John's, Wakefield, as a contribution from the Yorkshire Association of Horticulturists. Mr. Clayton, Grimston Park, has also informed the secretary that the York Gala Committee had decided to contribute £5 to the fund; and a letter was also read from Mr. O. Thomas, Chatsworth, with reference to the highly successful concert held on November 14th in aid of the fund. The committee greatly appreciated the valuable services rendered by the local secretaries, and accorded a hearty vote of thanks to the gentlemen whose names are mentioned above. As evidencing the growing interest in the fund, we may add that the first supply of collecting boxes has been exhausted, but Mr. Barron will soon be in a position to meet further demands. We may also add that a gentleman residing at Haverstock Hill, having no children of his own, is so pleased with the efforts that are being made on behalf of the orphans of gardeners, that he has offered to take and provide for one or two little girls, an offer we need scarcely say the committee were much pleased to receive. Since the meeting of the committee we have heard that Mr. O. Thomas has forwarded a cheque for £31, as the result of the concert at Chesterfield, and very great credit is due to that gentleman and his fellow gardeners, members of the committee—viz., Messrs. W. H. Horabin, W. R. Bloxham, H. Smale, W. E. Jenkinson, J. Fletcher, J. J. Nelson, G. Parkes, S. Polkingborne, W. Leighton, J. Turguy, and J. Hutton, who worked so energetically with Mr. Thomas to achieve such a splendid result.

COUNTRY HORTICULTURAL SOCIETIES.

The season is now approaching when the issuing of schedules for 1889 will take place; and my object in saying a few words now, is to urge upon committees to have clearly defined what is to be done. Many schedules are very loosely worded, and exhibitors have often to use their own discretion as to how they will exhibit, and judges are given trouble which ought not to fall upon them. If schedules, before being printed, were submitted to a practical judge of long standing, many errors would be corrected which would benefit exhibitors and judges.

Another trouble, to judges especially, is the late hour at which they can commence their labours, owing to the lateness of the arrangements of the show, and the early hour at which the public are admitted. Judges have to hurry on their work much faster than they should, and are desired to make haste so as not to keep luncheon waiting. All exhibitions of any pretensions, and it is astonishing the extent of many scarcely heard of by people away from their respective localities, should have ample time allowed for the judges to thoroughly inspect things—for I do not believe in hasty judging, which many think clever—and to see if the schedule is distinctly adhered to, and its conditions complied with. At some exhibitions the judges do not get to work until half-past eleven to twelve o'clock, and the public are admitted at one o'clock, before the work is half finished and the prize cards filled up. No admissions should be allowed until two o'clock, so that the judges may complete their work free from the interruption of visitors and anxious exhibitors, who crowd around them.

I have had over thirty years' experience of judging, and I must confess that, as a rule, the schedule notice, that "none but the officials engaged will be allowed to be in the exhibition during the judging," is somewhat of a dead letter. Committeemen who are not "stagers," by virtue of their bit of ribbon or rosette, or some other decoration, get into the exhibition and round about the judges. Even the "stagers" themselves do so, and I think, on reflection, they must admit that it is indiscreet conduct in doing so. A "stager's" duty is to be at hand to explain the position of exhibits to the judges, but otherwise to keep away from them. The judges' attention should in no way be diverted from the work before them. Everybody else should keep away from them, and when their work is not completed by the time the public are admitted, the portion of the exhibition not judged should be kept private to the judges until their work is done.

There is also one thing which exhibitors should do. When entries are made beforehand with an uncertainty as to filling the classes, notice ought, as a matter even of common courtesy, to be given to the secretary, on the morning of the day before the exhibition, of their inability to fill classes entered for, and when they fail to do so, a fine should be inflicted, to be deducted from any prize-money they may win. Secretaries and managers of shows could fill a volume with complaints on this score, and it is a thoughtless act on the part of exhibitors not to give notice. When spaces are set apart for exhibits entered, and they fail to fill on the morning of the show, much unnecessary work is thrown upon those who arrange the exhibition.—*D., Solihull.*

SOMETHING ABOUT VEGETABLES.

At the meeting of the Manchester Horticultural Improvement Society, held on the 28th ult., vegetables formed the subject of an address delivered by Mr. R. Mackellar, Abney Hall Gardens, Cheadle. The president, Mr. Bruce Findlay, in introducing Mr. Mackellar, said that the subject was a most important one, and it was a fitting thing that that society should do all in its power to increase and improve the supply. He had no doubt that the people of England would be a healthier and, therefore, a happier people if they partook of less animal and more of vegetable food. The orthodox view was that the kitchen garden should be put out of sight, but there was, to his mind, neither sense nor reason in this. In the gardens of the old Greeks the Violet and the Lily grew beside the Onion and the Leek, and he thought people might gather a useful lesson from this. He for one protested against the practice of separating the kitchen garden from the other, and placing it at a distance as though they had no connection. His notion was that they should work together, the one affording beauty and the other usefulness; for it was the truest poetry of life when beauty

and usefulness were mingled together in equal proportions.

Mr. Mackellar, in the course of his address, said that most growers of the Carrot in that neighbourhood, knew what an uncertain crop it was if they did not practice on mossy or sandy soil. In places where the land was not adapted for the growing of the Carrot, artificial preparation of the soil was advisable and necessary. Regarding Onions, it was the best way, in order to get a good bed of early ones, to sow the seed early in February. When the plants were large enough, and the cold weather over, then they should be planted out in a good bed in the open ground. He was disposed to think that in that part of the country, the cultivation of the Leek was not nearly so popular as it deserved to be, for it stood our severest winters through without injury, and it was an advantage sometimes to have one green vegetable left that had not been destroyed by the severity of the weather. Leeks sown under glass should not be put in sooner than the end of February; if they are put in before that month there was a danger of them running to seed. In regard to Celery, it was scarcely possible for anything new to be advanced respecting it, especially in that neighbourhood. Indeed it might be said that hundreds of cottagers about Manchester knew quite as well how to grow Celery, and to show it also, as the best possible gardeners. Having briefly alluded to Runner Beans, Mr. Mackellar said that amongst recent introductions of vegetables, the Snowball Cauliflower has been voted a first-rate kind to grow. Turnips had with him this year been a failure, doubtless owing to the long period of cold weather which prevailed last spring. The ground for early Turnips should be fine and rich, so as to encourage healthy soft growth, which would lessen the tendency to run to seed. The season had been so wet and cold that some good kinds of Peas were very unsuccessful, and Brussels Sprouts were hardly so firm and fine as last year, owing to the season.

Horse Radish.

Mr. William Plant read a paper on the Horse Radish. He said that perhaps no plant grown in the kitchen garden was more neglected than this. Yet there was none which would more amply repay for a generous system of cultivation. At present the plant at its best was but a poor apology for the large, tender, succulent roots which can be produced by a proper system of annual cultivation. Mr. Plant proceeded to give a lengthy account of a process which he had found very successful in producing good plants, and said that the Horse Radish should never be grown in the same ground two successive seasons. Celery was a good crop to follow it, as the frequent stirring of the ground does much to eradicate the roots which were left, and which would otherwise become troublesome.

A long discussion followed on both subjects, Mr. Neild, Mr. Robinson, Mr. Upjohn, and Mr. J. R. Petch taking part.

CHRYSANTHEMUM NOTES.

As the time is near at hand for the framing of next years's schedules, may it be permitted to one who has something more than a sneaking regard for specimen plants to offer a few suggestions through your valuable columns. I do not think sufficient encouragement is given to the cultivation of specimen plants by most societies. Generally the schedules read: "For six dwarf-trained specimen plants," "three ditto," and "a single ditto," the prizes offered being by no means tempting; and so much emphasis is laid on the "dwarf trained," that I should think judges are compelled to look askance at anything in the way of a specimen plant, unless it be about the shape of a plate upside down. I cannot understand why it is that in so many schedules the classes for the above are not clearly defined. It seems but reasonable that all the sections should be represented, but if the funds will permit only of classes for six incurved and six Japanese, and three ditto and a single ditto, the reflexed section is ignored—though it might be added with advantage to the society—the three sections being included in the class for six, also in that for three, and if brevity is an object, the words "dwarf-trained" could be left out, substituting two each of the sections mentioned. Although mindful of the importance of good groups to any show, we should not overlook the fact that unless there are special facilities for conveying a large number of plants, very few care to show a second time, even could they win handsome prizes, whereas six or three can be taken a considerable distance with comparative ease, and at little expense.

At several shows this season I have noticed great competition in the class for bouquets, but to my mind most of the exhibitors depart from the wording of the schedules by using bouquet papers, the rules stipulating for a "bouquet of Chrysanthemum blooms, with natural foliage." Again, there is the question of staging. In some schedules it is stated that officers of the society will direct the placing of all exhibits, but I do not see why exhibitors cannot place their own bouquets where they are to remain as well as their plants or cut blooms. I have heard several complaints about bouquets being roughly handled in the re-arrangement at the last moment; besides, it does not seem to be fair or reasonable that such work should be left to officers, who are frequently also exhibitors themselves. Neither is it to the interest of any society for the secretary to be an exhibitor, even though his office be an honorary one. It is far better to pay a salary for the work done, and to have a secretary who does not exhibit for competition.—*Bickleyite.*

Chrysanthemum Cuttings.

Some growers have already put in a quantity of cuttings, but they are chiefly professionals who require their plants to be in flower early for exhibition or decorative purposes. The popularity of Chrysanthemums continues to increase, and fresh hands are

continually being induced to take up their culture. For the benefit of beginners, we give an illustration of a prepared cutting ready for insertion. It will be well to remind amateurs that the plants are all the better for a little preparation previous to the cuttings being removed from them. As soon as the flowers become too shabby for decorative purposes, cut down the stems to within 6 ins. of the base, and stand the plants out of doors for a few days, provided the weather be mild or open. This will give firmness or solidity to the cuttings, and enable them to strike better; they are, in fact, less liable to wither after being removed from the plant when hardened off in this way. Select the strongest and best cuttings that spring up from the root, and cut them with a sharp knife close below a joint; 3 ins. or 4 ins. is a good length. Remove a few of the lower leaves, and insert four or five rather firmly round the sides of 60-sized pots. Any soil almost will suffice, but it is best to use a bit of good loam, with a quantity of leaf-soil and silver-sand. Put a layer of silver-sand on the top, and place the pots in a cold frame or greenhouse.

Amateurs' Varieties.

I should feel obliged if a Chrysanthemum grower would tell me a good flower, suitable for cutting and decoration, that is white tipped clearly with violet or rose. I had a nice one last year, Mrs. Huffington, incurved, but this year it has become a bright violet-rose, with no white at all. Two cuttings I took of it are the same, one in the garden, and one in the greenhouse, and though a beautiful colour I preferred the original to the sport. A Japanese kind would suit me best, as this place is too damp for incurves to succeed. I should also be glad to know the name of a good bright yellow, medium size, and mid-season; I find Phœbus too loose and large for cutting, Mr. Garnar will not bloom, and Buttercup is coming very small, though well fed according to Molyneux. Some of the fine flowers we see at shows are very disappointing in the hands of amateurs, and I wish someone would give a large list of good full medium-sized blooms, suitable for amateurs and easy to grow in all colours.—*C. Herbert, Hammersmith.*

THE GARDENERS OF THE FUTURE.

Very few of the writers on this subject take into consideration the class from which our future gardeners are drawn. In the majority of cases they come from the agricultural districts, and as a rule their parents are only too glad to get them employment in any position about a gentleman's establishment. Some gentlemen, too, insist upon boys on their estate being taken into the garden as vacancies occur, and I must say that it is very thoughtful of them to do so. Some of these lads develop into good labourers, and now and again one forges his way upwards, and gets a responsible position; but as a rule they never become shining lights, on account of the deficiency in their education, which no amount of persuading seems to be powerful enough to induce them to improve. I am afraid the attraction mentioned in the latter part of "W. B. G.'s" letter, at p. 196, is more to their liking than serious study. True, they never miss the knowledge they could have gained until it is wanted, but then it is too late to acquire it.

I know from a lengthened experience how few gardeners trouble themselves about the young men under them. Some have not the means, others get no encouragement from the gentlemen they serve, and some again could not teach even if they had the requisite knowledge, but despite all this the subject should be kept to the front, and every effort be made to show to young men the importance of even only mastering the rudiments of education, such as reading, writing, spelling, the proper pronunciation of plant names, ordinary book-keeping, and the other subjects mentioned by "W. B. G." Perhaps other correspondents will give their experience. There is yet much to be said on the subject, and especially regarding the responsibility of head gardeners towards the young men, from whom premiums are accepted, yet who have generally to gain what instruction they can from their companions in labour instead of their master.—*Southdown.*

Having read the remarks of "W. B. G." on the gardeners of the future at p. 196, I must say that I quite fall in with "Mr. Editor's" exclamation of "hear, hear," and should like to make a few observations on one part of the subject introduced by your correspondent. "W. B. G." says, that one great help to young beginners would be to keep a diary of operations, and a record of the weather, the changes in the atmospheric conditions, &c. I must say that I think this practice is not only of value to the beginners, but to old hands as well, and those who do not do so make a very great mistake, as it is one of the greatest helps to the gardener. With regard to recording atmospheric changes, I consider that there are many observations which might be taken, that would prove very useful to the gardener, and it is really lamentable to see such little notice taken of these things by the very people who are entirely dependent upon their knowledge and experience in such matters for their chances of success. However, what I want to come to is this—we need some help in the matter. There are plenty of able gentlemen in the world who can help us if they will, in taking these observations and showing us how to make use of them. For instance, on the 19th of November, I and others noticed very distinctly a rainbow by moonlight, which, I think, is not a very usual thing. It also occurred on the 22nd ult., lasting from about 8 to 9 p.m. Now from the kind of weather we had the week after, it is plain to see that the phenomena was not an indication of fine weather. There are many other phenomena to be observed that so few of us know the cause or meaning of, and if some able persons would from time to time communicate with us gardeners through your columns, and tell us something about these things, it would be very interesting and very useful, for I feel sure that there are many failures which might be averted if we had some idea of what kind of weather, &c., we were going to have.—*A. Bentley, The Gardens, Eshwood Hall, Durham.*

GARDENING NOTES FROM IRELAND.

SIMMONS COURT CASTLE, DONNYBROOK.

THIS is the residence of James McCann, Esq., and in the beauty of its grounds, and the excellence of the horticultural practice there carried out, can vie with many of the best of the kind to be found about Dublin. Independent of its fine modern appearance, the history of the place, I believe, can be traced back to very remote times, but unfortunately I am not sufficiently instructed in antiquarian lore to give your readers information on the subject. That it has a history, however, is evident from the Ivy-clad ruin of an old castle or abbey, portions of the walls of which are still standing within the grounds, and, of course, give a very picturesque appearance to them. Other reminders of departed greatness are to be found in the shape of two mounds, one of which is said to be the remains of a monastery that flourished here in the bygone ages. Both mounds, with the exceptiou of some cut stone steps which lead to the top, are hidden with a dense growth of Escallonia rubra at the base, while the tops are surmounted with a rampant growth of Ivy, Briars, &c., the former now showing its berries in great profusion. These two mounds stand in the well-kept pleasure grounds, and the almost natural wildness of the growth of the plants on them, when contrasted with the neat and well-kept grounds, has a very pleasing effect.

THE LAWN.

THIS has some fine old Beech trees standing on it, one being a Copper Beech of immense size of stem and large spread of branches. There are numerous specimens of Evergreen Oak (Quercus Ilex) to be found of good size, but from an arboreal point of view the gem of all the trees is a fine old Yew, Taxus baccata. It stands at the edge of the lawn opposite the dwelling-house, and its branches overshadow a portion of the avenue in front. Some idea of its massiveness may be formed when it is stated that its stem at 6 ft. or 8 ft. from the ground is 12 ft. in circumference, and although it commences to carry branches at a height of 6 ft. from the ground, these measure from "out to out" about 56 ft. This splendid tree, with its remarkable stem flutings, no doubt dates the commencement of its growth some hundreds of years back.

THE PLEASURE GROUNDS.

THESE lie at the back of the mansion, and have several fine trees growing on them. One is a good specimen of Cupressus macrocarpa, with a stem measuring 10 ft. in girth at 4 ft. from the ground, and having a spread of branches 40 ft. through. There are two trees of Araucaria imbricata, 16 ft. high; a large healthy Mulberry, which yields fruit in abundance every year; several plants of Cedrus Deodara, and a fine Garrya elliptica, looking well just now, with a good show of its silvery catkins. On a line which divides the pleasure grounds from some meadow land outside them are growing some fine trees of Austrian Pine, which prove a most effectual shelter in high storms. For this time of year there is a very nice appearance given to a long border by having the two outer or edging lines done in Golden Feather, inside them lines of dark dwarf Beet, many plants of the new Dracæna Beet being amongst them, and a centre line of Canterbury Bells. Unless one saw such common things as these lined out as they were here, it would be difficult to form an idea of the neatness and effective colouring of the plants.

THE GARDEN.

THIS is cleanly and well kept, and is laid out in squares, along each side of which is planted espalier, bush, and pyramidal fruit trees. There are two Rose borders running the whole length of the garden, right and left of the central walk, and filled with numerous leading varieties of hybrid perpetuals. The season's growth of wood on these is very strong, and a long way ahead of what is usually to be met with. It may on this account be worth while giving a few remarks on the way the borders were prepared for the reception of the plants, for I think it will be generally admitted that the success or otherwise of Rose-growing depends mainly on the kind of preparation the soil receives previous to planting. The soil here, judging from its appearance, is favourably constituted for Rose-growing, but Mr. Gough, who is a first-class practical man at his business, was not content with its good natural conditions, so he emptied out the borders to a good depth, and filled them with well-enriched rotted-grass turf, taken from a field before planting a crop of Potatos. The Roses give evidence, by their strong wood-growth, that the soil is most suitable for them; the whole of the borders are filled with fine shoots, and as the bloom, even in the past unpropitious season, was good, they are giving a good return for the extra trouble taken with them.

THE HOUSES.

ATTACHED to the dwelling-house is a very handsome conservatory: the roof is curved in form, and the whole constructed of iron, and highly ornamented. It is used for flowering plants chiefly, and is filled at the present time with a collection of well-grown finely-bloomed Chrysanthemums. Among these were some plants of Cullingfordi, remarkably good in bloom and of fine colour; Elaine, Ballantine, George Glenny, James Salter, Mrs. Dickson, Source d'Or, White Venus, Empress of India, &c. There is another long range of glass, also constructed of iron, and of incurved form. This range is divided into several portions, each devoted to a separate use. At the entrance are numerous flowering plants, while another portion contains a lot of well-grown plants of Cytisus racemosus, one specimen being 4 ft. high, and as much through: Camellias, Azaleas, Cinerarias, Zonal Pelargoniums, &c. One division, which is used as a Melon house, had a collection of splendidly-grown and beautifully-bloomed fringed Chinese Primroses. These were all seedlings of the present year's growth, and many of them were flowering in 7-in. and 8-in. pots, and were carrying fine heads of bloom, covering in many instances the whole surface space of the pots. The foliage was remarkably stout, and measured fully 2 ft. through. The colours of the flowers were various, but the whites were specially noticeable by their free blooming, and the size and form of the flowers. A division was also devoted to the growth of Adiantums, Palms, &c., and some clusters on balloons; another to Vines on the roof, but just now contains a collection of Cyclamens and Cinerarias; and yet another having the back wall and part of the side and roof occupied with a Nectarine. Another portion contained a large plant of Maréchal Neil Rose.

STRAWBERRIES.

THESE receive special attention, large quantities being forced for early use and exhibition, in which latter case Mr. Gough is a well-known prize winner at the shows of the Royal Horticultural Society of Ireland. For next year's work, the stocks on hand at present are occupying a long range of frames, where they will remain until transferred to the forcing house. On the whole, I think that it is not often one can drop nowadays, and at this time of the year, on a place so neatly and well kept, and where things in general are so well done.

THE "MUMS" AT GLASNEVIN.

WHEN sending my notes on the Chrysanthemums in the Glasnevin Botanic Gardens a couple of weeks since, I had no idea that public attention would be so much excited about them. At the time I wrote there was nothing like a general bloom out, but I expressed the opinion that a week or ten days would see them well into flower. Well, that has been so, and the public attendance has been most extraordinary. The house in which they have been shown, has been, while the plants were at their best, inconveniently packed with visitors, and especially so on Sundays. The visitors all appeared to be well pleased with the display, and good right they had to be, for never before had they seen such a prodigious show of bloom brought together in one house, and all of such excellent quality. —*W. D.*

THE SOUTH OF IRELAND AND THE CULTURE OF EARLY FRUITS AND VEGETABLES.

I WOULD recommend "W. D." and the general readers of THE GARDENING WORLD to read a series of articles published in the *Nineteenth Century* for 1888, entitled the "Coming Reign of Plenty," and I guarantee that he and they will be made wiser in their generation thereby. The papers are written entirely from an English point of view, and if applicable to England, why not equally so to the sister country, Ireland? My argument is this, that with a State-aided institution on a gigantic scale—say, 1,000 acres near Bantry, where the sons of small holders from the congested districts of the whole of Ireland could be educated and taught everything on a big scale, from Tomato-growing to Pine Apples, the peasantry would in a few years be able to realise from Irish soil food of a more valuable quality for the English and Scotch markets than they do at present.

The risk in setting up peasant proprietors at present is that with free trade, the rough farm produce such as is grown in Ireland may yet reach very low prices, followed by a repudiation of the purchase money in like proportion. To avoid this, teach the Irish peasant how he can obtain as much as possible of the eight millions that the English people are paying for foreign fruit and vegetables. As regards the development of the fertile resources of the south, it is only very lately that we have had railway communication direct to Bantry and Schull from Cork, and without this all the education in the world would be thrown away. I still contend that the 20,000 workers from the river Lee to the coast line would be better employed if they could change their harvest from August and September to March, April and May, and that while the distance from Penzance or Guernsey to Glasgow is so great in proportion to that of Cork, the thing is well worth trying. We should have hundreds of acres of Sea Kale, Asparagus, early Broccoli, to cut in February, as in Cornwall, and early Potatos, while cut flowers also could be produced in the open air. I had a letter last week from a flower farmer in the Scilly Isles, who blesses his stars that the farmers in the Isles took to flower-growing in time to save them from ruin. He tells me that where ten years ago they could not pay their rents, they can now do so, and put by something for a rainy day. The Dublin April and May shippers to Glasgow have the risk of a glut, but the February and March Cork shippers have not so much to fear in this direction, because the "early bird catches the worm." The Cork Strawberries are always three weeks in advance of Dublin, and Dublin is the best market. If with Strawberries, why not with everything else in proportion?—*W. B. Hartland, Cork.*

EDINBURGH NURSERIES.—III.

NEW GOLDEN ACRE.

Situated on the north side and lying on the outskirts of the Scotch metropolis is the New Golden Acre Nursery of Messrs. Ireland & Thomson, within easy reach of all the principal stations, by tramcar or omnibus. It is comparatively of small extent, but mostly covered with glass which has recently been considerably extended. On the opposite side of the way is Windlestrawlee Nursery, where forest trees are extensively grown, while the Craigleith Nursery, where ornamental trees and shrubs are grown to great perfection, is only ten minutes' walk distant. In the limited time at our disposal we could only inspect the houses at New Golden Acre.

STOVE PLANTS.

Several houses are devoted to different classes of subjects that require stove treatment, and considerable attention is given to them, especially to those that are grown extensively for table and other decorative purposes. Crotons and Dracænas are largely required in the neighbourhood, and are in bright, clear, and healthy condition. The rusty scaly-stemmed Sphærogyne latifolia, with its huge ribbed leaves, offers a fine contrast to the velvety olive-green leaves of its close ally, Cyanophyllum magnificum; and again to the handsomely-striped foliage of Leea amabilis. Gardenia florida and G. radicans, the two leading kinds, are grown in some quantity. The popularity of Ficus elastica variegata is evidenced by the rapidity with which it becomes distributed throughout the country. Brightly coloured are the leaves of Acalypha musaica, A. Macafeeana, and A. marginata. The pinnate leaves of Rhopala Pohlii, better known as R. corcovadensis, have an interesting appearance from the rusty or reddish brown tints of their under surface.

Aroids are represented by beautiful specimens of Alocasia Sanderiana, with its curiously-scolloped margin, by the bronzy green, silvery-veined A. Thibautiana, and by A. intermedia, with shield-like leaves. A collection of these would be incomplete without the long pendent leaves of Anthurium Veitchii and A. Warocqueana, which, in large plants, develop into noble proportions. Easily accommodated Caladiums are C. bicolor pumila, with a large central red blotch, and the silvery blotch of C. argyrites. C. Verdi is red, with a green margin, while C. candidum is white with narrow green veins, and Perle de Brezil, with a similar distribution of colour, are good exhibition kinds.

Dracænas amongst stove plants constitute something of a specialty with Messrs. Ireland & Thomson; and although the kinds are most varied, the narrow-leaved and more elegant sorts have the preference. D. Lindeni is grown in considerable quantity and the foliage is particularly fine coloured. D. bellula, D. elegantissima and D. gracilis are very graceful narrow-leaved kinds, with a red or crimson margin. Other

kinds are Pendula, bronzy green, with red margin and mid-rib; Anerleyense, with red blotches and a red margin; Mrs. Robert Turner, bronzy green and red margin; and Gladstonei, rose, with a red margin; all broad-leaved but handsome kinds. D. Norwoodiensis is striped with green and yellow, and red at the margin, while plants of amabilis, 1 ft. to 2 ft. high, are also variously variegated. D. congesta, D. rubra, and D. terminalis are also largely grown.

Crotons are even more numerously represented by different varieties, and possibly also in quantity. The number of narrow, slender-leaved and gracefully drooping kinds is remarkable, while broad-leaved kinds are but sparingly represented. Narrow-leaved varieties are Aigburthense with a yellow mid-rib, Mrs. Dorman, crimson and yellow, drooping to the length of 12 ins. or 15 ins.; Archibaldi, with the young leaves almost wholly yellow; Angustifolia, a very narrow-leaved and most graceful kind; and Lord Chelmsford, a specially fine variety. Better known are Johannis, with leaves 12 ins. to 15 ins. long, and finely blotched with green and yellow; Interruptum aureum, with a yellow mid-rib; Magnificent, with rose-magenta veins on a yellow ground; and Majesticum, whose leaves are 1 ft. in length, and handsomely marked with crimson, yellow and bronzy green. Musaiea, Junius, Mrs. Shearer, and Chelsoni, are other kinds with a rich admixture of colours. Specially fine is Thomsoni, with obsoletely three-lobed leaves, variegated with green and yellow. This, as well as a new kind named Newmanni, has broad leaves. Another new kind is Sunrise, the young leaves of which are wholly yellow, while the older ones are yellow, green, and crimson, and measure 12 ins. to 15 ins. long, by 1¼ ins. to 1½ ins. broad.

Suspended from the roof of a house are various kinds of Nepenthes, some of which are furnished with well-coloured pitchers of great size. Amongst these were N. Mastersi, one of the finest grown, and N. Northiana, some of the pitchers of which measured 10 ins. long, including the lid. We also noticed N. Sedeni, and N. Chelsoni. Useful ornamental-leaved Begonias are A. Mallet, with large bronzy red leaves, B. incarnata, which in one form or another finds its way into most establishments, and B. manicata, whose sprays of small flowers are very acceptable in winter. A few Sarracenias are here grown, including S. Drummondi. The handsome-leaved Eulalia japonica was flowering while grown in pots; it is, nevertheless, quite hardy. The black and crimson-fruited Ochna multiflora is not so generally grown as it might be. The soft yellow flowers of Allamanda grandiflora are very pleasing.

Palms, Ferns, and Selaginellas.

Very few large Palms are grown, as the requirements are small, neatly furnished specimens suitable for decorative purposes. The leading kinds, such as Latanias, Seaforthia, Phœnix, and Cocos Weddelliana, are grown in considerable quantities. There is also a quantity of very small plants of Euterpe edulis. Of Seaforthia elegans there is a fine lot of plants about 6 ins. or 8 ins. high. The plants known in gardens as Arecas, are, as might be expected, extensively grown, and include large batches of A. Baueri and A. sapida. Kentia australis and K. Belmoreana are equally popular. Special kinds of Ferns of a useful decorative nature receive most attention here rather than a collection of many kinds. Lomaria Gibba is an instance. Large quantities of young plants, of a useful and usable size, are grown for decorative purposes, and handsome dwarf-stemmed trees they make. Very elegant is Pteris leptophylla, the fronds of which are three times cut and very handsome. A dwarf, compact, and elegant Nephrolepis is N. Bausei. A few of the stove kinds of Selaginella are kept in stock, including S. bellula, S. perelegans, S. africana, with broad, triangular, plumy fronds, and S. Lyalli, of a deep shining green colour.

Greenhouse Plants.

Azaleas are grown to some extent, and include the new and beautiful Deutsche Perle, of spotless white. The semi-double Narcissiflora has been flowering for some time, and may be said to scarcely require forcing. The leading kinds of Bouvardias find favour, and include Alfred Neuner, Priory Beauty, rosy pink; Hogarth, scarlet; Lady's Blush, blush; and Vreelandi, the best of all the white varieties. Most useful also for cut-flower purposes is the old double white Chinese Primula. Chlorophytum elatum medio-pictum is superior to the old variegated sort, and the fine medium creamy white stripe is brought out to perfection when the temperature is high than otherwise. The Glory Pea of Australia (Clianthus Dampieri) appeared strong and healthy, and it is even with the best of cultivators a difficult subject to grow to the flowering stage. Large quantities of Aralia Sieboldii occupy the pits. Tuberous Begonias in all the leading colours make a fine display; a double blush kind named Mrs. Plunket was fine up till autumn. Amongst early-flowering Chrysanthemums the yellow Mons. G. Wermig and the white Madame Desgranges receive most attention for cut-flower purposes. It may here be stated that a pure white Antirrhinum named Golden Acre Seedling is very much appreciated here for the same requirement, in which a considerable trade is done by the firm.

FERNS WITH TINTED AND VARIEGATED FRONDS.

(Concluded from p. 208.)

Among other good Ferns that have rich colours in the young fronds, Brainea insignis may claim a place. It is a fine bold spreading Fern, the young fronds being a decided bronze-crimson colour, changing with age to a dark green. Doodia aspera and D. media, both dwarf-growing kinds, are extremely pretty while the young fronds are developing; likewise is Lomaria L'Herminierii, a dwarf-growing species that appears to be always very scarce, but which throws up some extremely rich crimson-tinted young fronds. Blechnum corcovadense, a tree Fern with very erect and stiff fronds, produces young fronds of a rich deep crimson in colour, afterwards changing to a light green; it is very effective at the time it is making its young growth.

Ferns with white and yellow variegation may be found in considerable quantity, and help to relieve the other tints that abound amongst Ferns in general. The Pteris gives us several species: the well-known P. cretica albo-lineata is a very pretty and useful Fern, making good hard fronds of a deep shining green colour, having a very distinct mark of white the whole length of the centre of each pinnæ. The habit of the plant is dwarf, producing fronds freely. The fertile fronds are much narrower than the sterile ones, and rise up from the centre of the plant in a very erect manner, giving elegance to the general appearance of the plant. P. argyrea is a tall-growing umbrose Fern, with fine fronds, very distinctly marked with white through the centre of each pinnæ; a very effective Fern where tall plants are required. In P. aspericaulis we have a fine kind with bronzy fronds; and P. nemoralis variegata is nicely marbled and variegated. P. tricolor is one of the finest of variegated Ferns when it does well, but it is not one of the best kinds to keep in good condition. Lastrea aristata variegata is a very distinct and ornamental Fern, with very dark green coriaceous fronds, distinctly marked through the centre of the pinnæ with a band of deep yellow. In a small condition it likes a good warm house, but when mature a cool greenhouse suits it admirably. Athyrium Goringianum pictum, a Japanese Fern of great beauty but deciduous, must not be forgotten amongst variegated Ferns; neither must we pass over Dictyogramma japonica variegata, a bold Fern, with large shining fronds, the midrib or rachis being evenly blotched with a bright golden yellow colour.

With the foregoing Ferns and the following Selaginellas a very nice assortment of tinted and variegated Ferns may be had, which lend a very considerable variation to a mixed collection of other kinds. S. Martensii variegata is a bold-growing species, with distinct patches of white variegation at times, and often very nicely marbled all over the leaf with a distinct white colour. S. Cæsia has pretty blue variegation, so has S. Cæsia arborea, a tall-growing and rambling species, which is very effective when grown in a shady corner of a warm fernery.

The British Ferns do not appear to be at all inclined to break out into any form of variegation, therefore we shall have to look to the exotic forms to give us some relief from the continuous green that the bulk of the great Fern family are noted for.—*W. G.*

NOTES ON FRUITS.

Devonshire Quarrenden Apple.

From the short time during which this Apple makes its appearance in the market in September, one would be led to infer that it was not only an early ripening kind, but one that soon went out of season. It is said to ripen in August—that is, in ordinary or more favoured seasons than the past—and to keep in good condition till the end of September; but specimens ripened in the collection of Messrs. Dickson & Sons, Edinburgh, are sound and fresh up till the present, and seem as if they would last good for some time to come. In the London markets this variety meets with a ready sale at 4*d.* per lb., even when the samples are small and very indifferently grown. Cultivated in the southern counties the fruits are much more highly coloured, ripen earlier, and no doubt pass sooner out of season. The variety is also known under the names of the Red Quarrenden and the Sack Apple, but one is amused to find it sold in the markets under the name of English Quarantine.—*F.*

Cox's Orange Pippin Apple.

Few late-keeping dessert Apples can lay claim to so high a quality of flavour as this one, and none excel it if we disregard mere matter of taste. It lasts in excellent condition from October to February, and is now in a highly fit state for table use. At best it is only a medium-sized Apple, but most highly deserving of cultivation from its rich and aromatic flavour. The flesh is very firm, and of a pale yellow colour; but in order that it may keep firm to the last without shrivelling, it must not be gathered from the trees too early, nor kept in a fruit-room the atmosphere of which is too dry. There will, however, be less danger of the fruit rotting when kept under these conditions. It is, however, most desirable to retain it in as plump a condition as possible. The biggest fruits are those produced on trees grown in pots under glass, where, however, they become of an almost uniform yellow. On standard trees at Devonhurst, Chiswick, they attain a very suitable size, and become heavily suffused with dark red on the exposed side.

Golden Spire and Lord Suffield Apples.

Unfortunately we know little or almost nothing of the history of even our best Apples, so that we can only form general conclusions as to the affinities of the different varieties one with another. Golden Spire seems to have no known history at all, while of Lord Suffield we merely know by whom it was raised, together with the place, where and about the time; but that is all. It may be merely accidental coincidence, but there is a marked similarity between the general structure of the two, in the texture, crisp and tender character of the flesh, in the size, shape, and general appearance of the seeds, the time of ripening and keeping qualities of the two fruits. Lord Suffield, in some standard gardening books, is said to be in season during August and September, but under proper conditions, both the above kinds will keep up till December. The specimens from which we draw our conclusions were grown by Messrs. Dicksons & Co., Edinburgh. Both are fine market fruits, are heavy croppers, and commence to bear at an early age. Hence they are kinds that might be largely grown for profit, even in those localities where they are found to do best. Lord Suffield is a large and Golden Spire a medium-sized fruit, and both are conical.—*F.*

NOTES FROM SCOTLAND.

Ayr Chrysanthemum Show.—The Ayrshire Horticultural Society opened their first winter exhibition in the Town Hall, Ayr, on Friday, November 30th, the principal feature of the show being, of course, Chrysanthemums, and it is gratifying to learn that the display exceeded their most sanguine expectations. Some of the pot plants, one of the judges remarked, were superior to those exhibited in Edinburgh. The two principal prizetakers were Mr. Thomson, gardener, Airlie House, Ayr, and Mr. Geddes, Knock Castle, Largs, for pot plants and cut blooms, in the order named. The stand of twelve Japanese sorts staged by the latter exhibitor seemed to be the centre of absorbing interest, judging from the crowds of gardeners and others that surrounded them most of the day. Taken as a whole, this stand contained splendid examples of high cultivation, but more especially Elaine, La France, Val d'Andorre, and Baron de Prailly. The first prize pot plants consisted of one huge specimen of Peter the Great, and two others, more floriferous, of Elaine and L'Ile des Plaisirs. The same exhibitor, in the competition for one plant, staged a specimen of Margot, some 8 ft. high and about 4 ft. through, literally covered with bloom. There was a good collection of Primulas, Cinerarias, Roman Hyacinths, and other plants, besides several stands of hardy fruits. Mr. Murray, Culzean Gardens, Maybole, exhibited two bunches of the Barbarossa Grape, each weighing 11 lbs., for which he was recently awarded a Cultural Certificate by the Caledonian Horticultural Society.—*Western.*

FLORICULTURE.

Seasonable Notes.

THE weather is so mild—warm sunny periods alternating with dulness, rain and fog—and the temperature so low, that things keep very soft indeed, and there is great danger, should a sudden change to frost occur and it come sharply, that much damage might be done. It is therefore well to have everything under cover ready for the change when it comes. But nothing needs to be kept close; what is required is that the heavy drenching rains be kept off, and at the same time air be given with the greatest freedom. Auriculas are fast losing their leaves, and they should be removed as they decay. The plants need but very little water now, as the moist foggy atmosphere will supply ample. Let plenty of air be given, and if the pots show a growth of green upon them, advantage may be taken of a fine day to cleanse them, when they would be allowed to dry in the open before they are returned to the stage. Occasional surface stirring of the soil will be found of very great advantage. Double Primroses in pots for exhibition in April are still in the open, as they are well established the rains do them no harm; they are flowering in common with the varieties of P. vulgaris at this time of the year, when the autumn is mild and open; but they are making a free growth and I hope to get good heads of flower in spring. Directly frost threatens they will have the shelter of a cold frame.

Gold-laced Polyanthuses in pots are growing freely, and all that are well established still remain in the open, but I am watchful for a change of weather; only let them be well established in their pots by the end of November, and then the task of safely wintering is a comparatively easy one. This is the reason why I advocate early potting, so that this desirable result may be furthered. A month ago I had some plants of Gold-laced Polyanthus that had been lifted from the open ground, and I potted them into quite small pots, placing some coco-nut fibre in the soil, with the result that they have rooted through, and they will have a shift into their blooming-pots in a day or two. They do better treated in this way than when planted in large pots at once. They will also have the shelter of a cold house as soon as a change comes; meanwhile I like the plants to have all the sunshine they can.

Carnations and Picotees are being potted off from the stock pots. Some plants ripened their wood late, and layering had to be done later than usual. These make root slowly, but as soon as ready they are at once potted off: those that are potted off are doing remarkably well, but they have all the air possible. No coddling, simply protected from heavy rains is all they require. Hepaticas in pots are fast swelling up their buds. I have a collection of varieties in pots under glass, so as to have them in all their beauty at the proper time. Our springs generally prove so late, with bad weather, that when the plants are in the open they suffer from wet, frost, and cold, and lose much of their beauty in consequence.—*R. D.*

Double Ivy-leaved Pelargoniums.

IT seems but as yesterday that anything in the form of a double-flowered Ivy-leaved Pelargonium was little more than a dream of the future, and now there are some fifty or more varieties from which the cultivator can take his choice, which can hardly fail to be a satisfactory one. It may be that at present the lilacs and whites are not all that could be wished, but as the present rate of improvement will no doubt be maintained, we shall ere long have flowers of those hues good enough to please the most fastidious. It may, perchance, come as a surprise to many to see these plants brought under notice at this time of the year, when the picture of some worn-out tattered specimens stowed away in some neglected corner of a pit or greenhouse will occur to the reader at once as having been placed there out of sight till the brighter days of spring dawn upon us, at which period they may, perhaps, be brought out of their dungeon to be resuscitated for the embellishment of the flower garden during the summer months, and when that is over to be relegated again to the same course of comparative neglect and oblivion.

This, I take it, is a pretty correct picture of the course of treatment to which this class of plant is frequently subjected, and which can only arise from a complete misconception respecting their merits and capabilities under more favourable treatment. Anyone who cares to put it to the test will find that as winter-flowering plants they have few rivals, and possess merit peculiar to themselves when compared with the double zonal Pelargoniums. The flower-stalks carrying the trusses well above the foliage, and the pips being arranged more loosely in the trusses, are less subject to the influences of damp and fog, and some, when in the flowering state, bloom at every joint. I noticed to-day a plant of Emile Lemoine in a 32-sized pot, with three good trusses of flowers fully expanded, and five more on the point of opening, and this plant, like some others, being tied loosely to a single stick, takes up very little more room than the pot it is in. I think that where the production of cut flowers is the principal object kept in view, this is the best system of training them. Our plants average from 12 ins. to 24 ins. in height, and promise well for a supply of flowers for some months to come. The dark green shining foliage of these plants forms a pleasing contrast to the leaves of the other occupants of the house, and the flowers are most valuable for vase and epergne decoration, blending beautifully with Bouvardias, Eupatorium, and Ferns; indeed, for these purposes they far excel the more lumpy double zonals.

Our stock of plants for next year were struck in September, and are now in large 60's. We keep them growing steadily on till March or the beginning of April, when we shift them into 48's, using a compost of loam and leaf-soil, with sufficient sand to keep it open. By the end of July or the beginning of August they will be ready for their final shift into 32's, and as soon as they fill the pots with roots, they receive a watering with liquid manure twice a week till near November. We discontinued its application to ours at the end of October this year, and in its place gave a top-dressing of soot, using a tea-spoonful to each plant, which has answered admirably. Green-fly will occasionally make its appearance among them during the winter months. When this happens, a dressing with tobacco-powder will keep it in check. Hold the plant downwards while administering it, and dust well with a dredger, as the fly is generally on the under-surface of the leaves. The following will, I think, prove a good selection for beginners:—

Alice Crousse.—Deep magenta; a very rich colour.
Abundance.—Lilac in colour, and happily named, being very floriferous; a race of the habit of growth of this variety is much to be desired.
Comte Horace de Choiseuil.—Light rosy cerise.
Dr. A. Chipault.—Salmon-pink.
Emile Lemoine.—Orange-scarlet; first-rate.
Fürstin J. Von Hohenzollern.—Dark purplish scarlet.
Isidore Féral.—Light rose.
Jeanne d'Arc.—White.
La Rosière.—Rose; extra.
Louis Thibaut.—Deep red.
Madame Th baut.—Deep pink; a gem.
Souvenir de Charles Turner.—Deep rosy pink, extra large flower, resembling the show Pelargoniums.—*W. B. G.* [For the accompanying illustration of a good typical specimen we are indebted to the Messrs. Cannell.—ED.]

Fancy Pansies.

THESE have made wonderful progress during the last ten years, and it seems to be almost impossible to get finer varieties than those we already possess; but each succeeding year introduces new kinds, some of exceptional merit, and many too much like varieties we already have. I recently received from Mr. John Downie, of Edinburgh, a bloom of a superb seedling of his, which he has named Mrs. B. Wynne, a grand flower, which possesses one of the most refined, large, dark, cleanly-cut blotches I have seen, and one which I venture to say will be valued.—*D., Solihull.*

BRUSSELS SPROUTS AT CHISWICK.

LIKE most of the many cultivated forms of the common wild Cabbage, the origin of Brussels Sprouts seems to be entirely unrecorded. They, however, date back as far as 1213, but were cultivated to some perfection before then. They have also been noted for their liability to degenerate if not carefully cultivated and subjected to the most vigorous selection. The same facts apply to-day as they did some hundreds of years ago. This may to a certain extent be seen by an examination of a collection on trial at Chiswick, consisting of more than twenty kinds. Even some of those usually recognised as valuable strains sometimes behave badly or unsatisfactorily in certain years, owing, it may be, to climatic influences.

The best of the dwarf varieties include Aigburth, The Wroxton, Veitch's Exhibition, Wrench's King of the Market and The Craigo. The first mentioned is now pretty well known as an excellent kind, and has large, closely packed, but not very numerous sprouts. One or two rogues amongst them bear considerable resemblance to a Savoy, bearing very large sprouts on the stem. The Wroxton has coarse foliage, but is one of the dwarfest, with stout stems, bearing large, closely-packed, firm and good sprouts. Veitch's Exhibition has deeply glaucous, much curled or blistered foliage, resembling a Savoy; but the stems are very even in height, and carry a plentiful crop of large and useful sprouts. The Craigo is similar in general appearance to Veitch's Exhibition, and presents a strain of medium even height bearing large firm sprouts. Wrench's King of the Market is evidently a dwarf kind, although some of the lines are unnaturally so, owing to their proximity to some fruit trees. Where clear of the roots and shade of the latter, however, they bear a good crop of firm usable sprouts.

Amongst moderately vigorous-growing kinds—say, from 18 ins. to 24 ins.—are some very good varieties, including Sutton's Reading, Imported and Dalkeith. The first mentioned is a strain of good average even size, and bears a good crop of medium or large-sized sprouts. The buds on the Dalkeith kind are very large, but on some of the plants they are open. The Imported Sprouts are also very irregular in quality, but a fair proportion carries a good crop. That named Fine Selected grows about 2 ft. high, and bears large and firm sprouts generally; but in exceptional cases, plants bear open ones almost along their whole length. Roseberry is also somewhat mixed, but the plants carry a quantity of sprouts of good average quality. Northaw Prize might almost be described as a dwarf kind, growing about 15 ins. or 20 ins. in height. Its foliage is coarse, but the short stems bear a moderate quantity of large, and sometimes very large, sprouts. Myatt's and Mein's Victoria are similar, and might be described as good varieties, seeing that they bear a heavy crop of sprouts all along their stems. The outer leaves of the buds, owing to soil, season, or some other unfavourable conditions, become yellow and drop. The centre of the bud, however, is quite sound as yet, and the two strains may be somewhat tender in the case of severe frost.

A number of kinds in the trial collection grow from 2 ft. to 3 ft. high; but as far as good-quality produce is concerned, they have, on the whole, not done well this year. The mild weather we experienced during November may have had something to do with it, as the larger proportion of the sprouts are open. This might be said with regard to Scrymger's Giant and Webb's Matchless, although under favourable conditions the quantity of usable produce would be large. That named French Superior grows from 2 ft. to 2½ ft. in height, and bears at present a fair quantity of good sprouts. Another French kind named Goldelse exhibits a rather mixed strain, inasmuch as the plants vary considerably in size; but the best sprouts are produced by the plants of medium size. The Burghley grows from 2 ft. to 2½ ft. in height, and bears a large number of small or medium-sized, firm and usable sprouts. It is the best of the taller-growing kinds as they were during the last week of November.

In looking over the collection one of the most noticeable features was the inconstancy in size presented by the plants of many of the strains, although there were striking exceptions. The nature of the soil and season has no doubt a marked effect on all the varieties of Sprouts, and probably some of them are more affected by these influences than others. Another noticeable point was that individual plants bore numerous, but small sprouts only, while the greater bulk of them bore good averaged-sized buds.

NATIONAL ROSE SOCIETY.

ANNUAL REPORT OF THE COMMITTEE.

THE following is the report of the committee for the year 1888, read at the annual meeting of the society on December 6th:—

In presenting this report to the members, the committee do so this year with peculiar satisfaction, it being their very pleasing duty to announce that Her Royal Highness the Princess of Wales has graciously consented to become the society's patroness. It is due, however, to their indefatigable vice-president, the Hon. and Rev. J. T. Boscawen, to state that it is, in a great measure, owing to the kind interest he has taken in the matter that this honour has recently been conferred upon the society.

The past Rose season has been a very unfavourable one for exhibitors, owing to the cold, wet, and sunless character of the spring and summer months. Consequently, the flowers staged at the society's two shows, although as numerous as ever, were, as a rule, lacking in quality and finish. The Metropolitan exhibition

was, for the first time for some years, held at the Crystal Palace, which, in the opinion of the Committee, is, all things considered, the most suitable building in or near London for the purpose. Although not quite as accessible as some other places that might be selected, it, on the other hand, possesses many special conveniences for holding an extensive display of Rose blooms, such as the liberal schedules issued by the society invariably brings together. Notwithstanding all the drawbacks of an untoward season, it was a grand show, and under the experienced supervision of the garden superintendent, Mr. W. G. Head, all the necessary arrangements were carried out with exceptional completeness. The provincial exhibition at Darlington, although somewhat marred by the unpropitious character of the weather, was undoubtedly one of the best Rose shows of the year, and great credit is due to Mr. E. R. Whitwell for the admirable way in which everything connected with it was managed.

During the past year a supplement to the society's catalogue, containing a specially selected list of the varieties which have been sent out since the catalogue itself was published four years ago, has been issued free to members. Copies of both catalogue and supplement are now on sale, and can be obtained on application to either of the honorary secretaries.

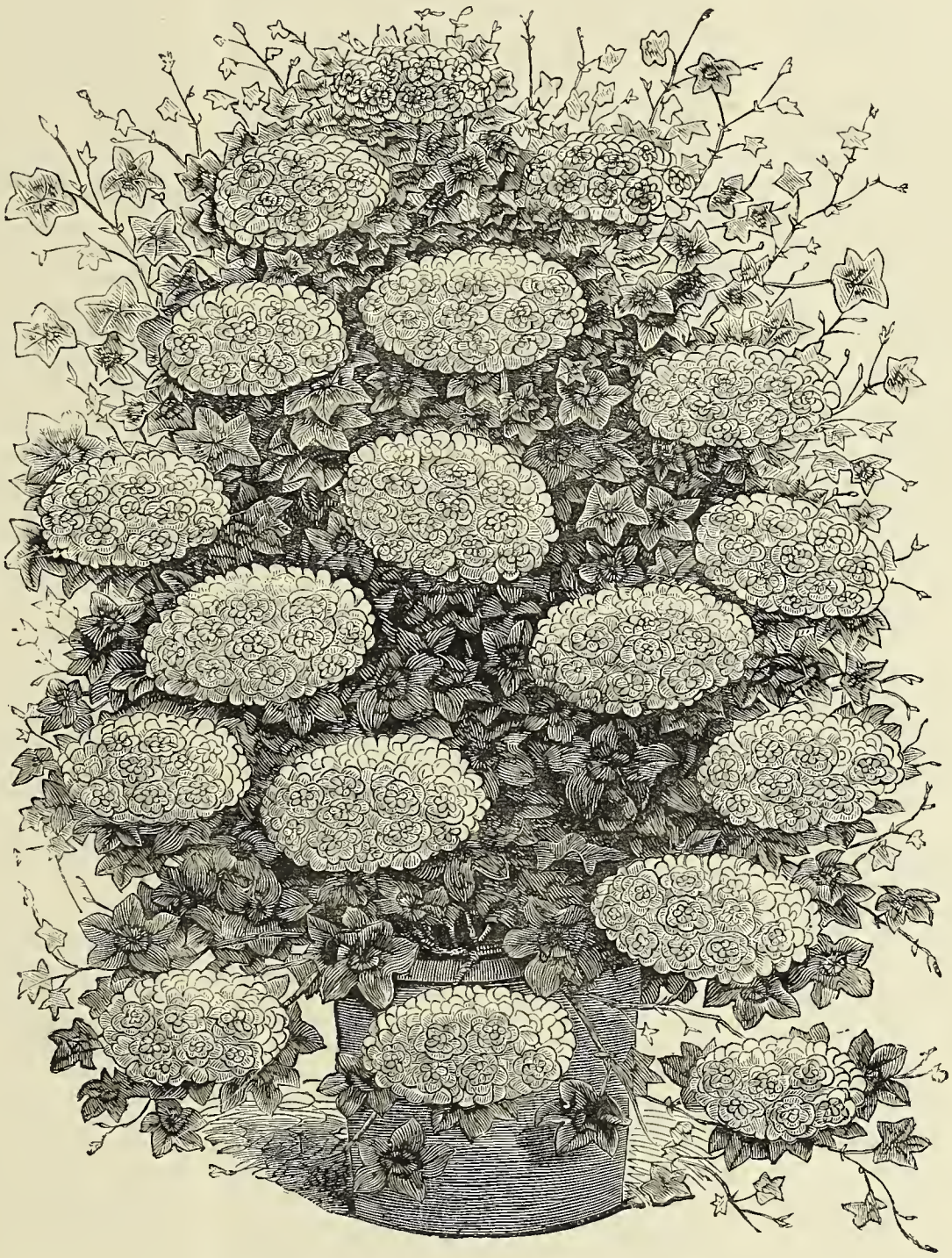
After the annual general meeting last year, a meeting of the secretaries of societies affiliated to the National Rose Society was held, which, considering it was the first gathering of the kind, was well attended. The object of this meeting was to arrange, as far as possible, a list of Rose shows for the ensuing year. It is sincerely to be hoped that at a similar meeting, which will take place at the same time this year, some more definite arrangement may be come to by which the suicidal clashing of Rose show fixtures might next season be prevented.

Taking into consideration the unusually large amount expended during the past year in prizes, and the cost of publishing the supplement to the catalogue, the financial position of the society remains very satisfactory.

The arrangements made by the committee for 1889 are as follows :—The Metropolitan Exhibition will again be held at the Crystal Palace, the date fixed being Saturday, July 6th ; while it has been decided to hold the Provincial, or Northern Exhibition, in the Sheffield Botanical Gardens on Thursday, July 18th. The society has already held two Rose shows at Sheffield, the first time in 1881 and again in 1883, and on both occasions has received a warm welcome and generous support. The committee of the Sheffield Botanical Society have entered so heartily into the idea of a third exhibition being held there, that there is every prospect of it proving an unusually successful one. Moreover, the locality selected for next year's Provincial Show is centrally situated and easily reached by rail from most parts of the kingdom.

During the course of next summer, the Council of the Royal Horticultural Society propose holding a Rose Conference in their gardens at Chiswick, and has invited the co-operation of the National Rose Society. It is as yet too early to state anything very definite respecting this gathering of Rosarians, but it has been understood that it will follow somewhat on the lines of the recent Apple and Pear Conference. Should this be the case, Roses, will, no doubt, be largely exhibited for the purpose of classification, while papers will be read and discussions held. The committee cannot but regard a Conference on Roses, such as that suggested by the Royal Horticultural Society, as a step in a direction much needed, and as likely to lead to valuable results, which could not well be secured in any other way. They have accordingly appointed a sub-committee to co-operate with the Royal Horticultural Society in this matter.

As in former years, subscribers of £1 are entitled to two private view tickets, and four transferable tickets admitting at the same time as the general public ; while subscribers of 10*s.* are entitled to one private view and two transferable tickets. New members will each receive a copy of the society's illustrated catalogue of Exhibition and Garden Roses, together with a copy of the supplement issued during the past year.



Specimen Double-flowered Ivy-leaved Pelargonium.

In conclusion, the committee desire to present their best thanks to their local secretaries, and especially to those who by their zeal and energy have contributed so much towards advancing the society's interests.

PARAFFIN AND ITS USE IN THE GARDEN.

Since it was discovered that paraffin was an effectual insecticide and remedy against many of our garden pests, its use has largely extended, and is ever increasing. Although it may be somewhat dangerous in the hands of the inexperienced, yet if used with care and applied as directed, its use will not only be found effectual, but safe. Appended are a few among the many uses to which it may be applied, and good results obtained.

It has now proved to be one of the best remedies in preserving seeds sown in the open ground against the ravages of birds and mice. If Peas are soaked in it a minute or two before sowing, it will prevent mice—which are a great nuisance in some gardens—from interfering with them ; and even when the Peas are through the ground, the sparrows seem to have an aversion to the young leaves, and generally leave them alone. Radishes, and all members of the Brassica tribe, may with safety be steeped a few minutes in it before sowing. This will effectually keep away chaffinches and other birds that are so fond of this kind of seed when sown without dressing. This, I have found, prevents the ravages of the common house sparrow, which of all the feathered pests is certainly the worst to deal with.

Then, again, those who cannot grow spring-sown Onions on account of the ravages of the grub of the Onion-fly, may easily do so by steeping the seeds a minute or two before sowing, and after they are through the ground watering them overhead with a mixture of paraffin oil and water. Add a 60-sized pot of paraffin to a four-gallon can of water, with the addition of a little soft soap to cause the oil to mix. Be sure that it is thoroughly well mixed before applying it. The same treatment will also hold good with regard to Carrots. Most gardeners know what a trouble they are to grow in some soils, and those who are so situated I can strongly advise to try the paraffin. By giving about three applications of the mixture during the growing season they will have little trouble with Carrots or Onions.

The oil applied with water, as here recommended, not only acts as an insecticide but as a fertiliser as well. At a flower show where some good Carrots were shown, an enthusiastic and successful amateur, who was examining the roots, observed, "Ah! he has been using paraffin, they are cleaner than ever he has had them before." I asked if he used it in growing his. "Yes, I use it for all my vegetables, it gives them such a clean appearance on the exhibition table." Here was an amateur using it—not only for his Carrots and Onions, but also, as he told me, for his Potatos as well. Could any of your readers who have tried it on Potatos say if it is of any use for keeping off the Potato fungus ? Next year I shall certainly try it on some Potatos, to see if it makes any difference.

Where Apple or Pear trees are infested with scale, a mixture of paraffin and water should be made double the strength recommended for Onions, and the trees well syringed in the autumn after the leaves have fallen. This will be found to be one of the best means of cleaning them. For the destruction of American blight, perhaps the best way to apply the oil is by means of a stiff brush, using but little, and rubbing it well into the crevices of the bark where the blight has affected the trees. In the neighbourhood of London, and, I believe, all large towns, sparrows are very fond of the buds of Gooseberries and Currants. I have prevented their attacks by the use of two 60-sized pots of paraffin to a four-gallon can of water, adding a half-peck of soot and the same quantity of freshly-slacked lime, mixing the whole together, and applying with a syringe (using the jet) to the bushes. Before trying this mixture, all prominent buds used to be devoured, and there was little fruit to gather in consequence ; but since using it, I have not been troubled by the birds attacking the buds.

In using it as an insecticide for soft-wooded stove or greenhouse plants, it is well to caution beginners

against dipping plants in a mixture of it. In applying it for that purpose the syringe should always be used. Whatever strength is used, it is most essential that it be thoroughly well mixed before applying it to the plant. I find a 60-sized potful of paraffin to a 4-gallon can of water is sufficiently strong to kill mealy bug without injury to the plants, but precaution can be taken with all hairy or tender-leaved plants to syringe them overhead with clear water about half an hour afterwards. In washing woodwork the addition of some paraffin will greatly assist in the removal of the dirt. The latest use I have heard its being put to is in washing dirty empty pots. In going through the gardens at Falkland Palace, Mr. Dewar told me he was using it with good results and a saving of time for that purpose.—*Alex. Wright.*

THE AMATEURS' GARDEN.

PRIMROSES AND POLYANTHUSES.

The present mild autumn may remind amateurs that in favourable seasons and localities these favourite old-fashioned spring flowers really give us two harvests of bloom, one during March and April, and the other in autumn—say, October and November. The flowers, too, are equally as fresh, if not more so than the first that expand during the windy month of March, except the latter are in very sheltered places. Seedlings as a rule give the best supply of flowers in a mild autumn, as they are the more vigorous growers. Seeds if sown as soon as collected will flower the following spring. It cannot be done now, and have them in the spring of 1889; but if a mild autumn were to ensue a liberal harvest would in all likelihood then be obtained by seedlings raised in spring, transplanted into rich, moist soil in a frame or shady border, and either left there or again transplanted into the positions where they are desired to flower. Seeds of good strains, both of mixed Primroses and Polyanthuses, are to be obtained at a moderate price from those who make a specialty of these things, and a supply should be obtained for early spring sowing.

LATE CHRYSANTHEMUMS.

Even with the greatest of care in ventilation the flowers of Chrysanthemums are now very liable to become spotted and damp off prematurely. The long nights, absence of light, and the continuous dampness of the outside atmosphere must inevitably tell on the constitutions of the hardiest subjects, and it must be remembered that although Chrysanthemums are very hardy, yet the flowers are comparatively tender. The crowded state of the florets also tends to retain the damp and to spoil the bloom. Therefore, in houses that are kept almost or entirely without heat, the flowers are more liable to suffer. The amount of water required by the plants also tends to keep the atmosphere of the house in a saturated condition. The best remedy under the circumstances is to light a fire early in the day, so that when the flues or hot-water pipes get warmed up all the ventilators may be opened to increase the circulation of air and dispel the damp.

PRUNING OF FRUIT TREES ON WALLS.

It is good evidence of a well-kept garden when the fruit trees are intelligently pruned and regularly trained—each tree according to a particular system, such as the fan shape, the espalier, the upright or the oblique cordon, as the case may be. Taking for instance the fan-shaped, which is the most suitable for large Apple trees on walls, all the branches, with the exception of the very lowest on each side of the main stem, should assume an ascending direction, and be laid in straight throughout their entire length. As they diverge from the tree, the spaces between them will become wider, so that it is necessary to allow a side branch or two to be given off from the leading one, in order to fully occupy the wall space. Beyond the requisite number, not a single shoot must be allowed to grow, otherwise injurious crowding, imperfectly-ripened wood, and an absence of fruit will be the result. Shorten back the leading shoots to where the wood is well ripened, and cut away all laterals to within a few buds from the base, so as to encourage the formation of fruiting spurs. If the trees are old, and the spurs reach a long way from the wall, it would be advisable to cut back the worst of them to a bud near their base, or some of them might be entirely removed where crowded; but on no account cut them back wholesale, otherwise the chances of a good crop of fruit next season will be entirely destroyed. Do not allow branches to cross one another, nor to assume any other than the general direction of the leading ones. Another matter of importance is to see that no branches are being cut into by their fastenings; and when using shreds, allow plenty of room for the future swelling of the branches.

PRUNING CLIMBERS.

It is usual to allow climbers on the walls of dwelling houses and villa residences to ramble at perfect freedom during the summer months, and few will attempt to deny the beauty of the Virginian Creeper, Ampelopsis Veitchii, or other free-growing subjects of a like nature, such as the fragrant Clematis flammula or Aristolochia sipho, frequently known as the Dutchman's Pipe. The shade and coolness afforded by these subjects can now be dispensed with, and after nailing up shoots to cover any vacant space, the rest may be cut clean away. Daylight may also be partly shut out by the encroachment of Ivy upon windows. To obviate this the Ivy may be trimmed away round the edges of the windows, and the general pruning left till spring, when a fresh coat of leaves will soon hide the work of the shears. In the case of Clematis Jackmanni it may be advisable to leave it unpruned till the severity of the winter has passed, when it will be seen what shoots are dead and what alive. If, however, an early crop of summer flowers is not wanted the shoots may be cut down within 1 ft. of the ground. Magnolia grandiflora may be nailed or tied in rather thickly, using the knife as little as possible.

PEACH LORE.*

THE origin of the Peach, like the origin of species, is so far removed from all our means of arriving at the truth that it is not necessary to make it a subject of discussion. It is sufficient to say that it is probable it was introduced into Europe from Asia about the time of the Emperor Augustus, and it was introduced into Greece by the Romans; the name Persica indicates the country from which the Peach is derived. It is said by some French authors that a variety of the Peach was grown in Southern Gaul at a very early period. There is, however, nothing remarkable in this fact, as the Mediterranean was traversed by Syrian mariners before Rome had attained to imperial power, and the seaport of Marseilles being a trading centre of great importance, there would be nothing strange in the fact of the introduction of Peaches from Syria into Gaul. We know, of course, that the relations of Syria and Persia had been very intimate from very ancient times, the Book of Esther showing that an important colony of Jews was established there. The transfer of the fruit in a dried form would account for its introduction into Palestine, and as the Peach varies almost more than any of our domestic fruits from seed, no doubt plenty of sorts came rapidly into general cultivation. To this day certain districts of Syria abound with Peaches and Nectarines. An old friend of my father sent him some years since some score or more of Peach trees which had been raised in the gardens near Aleppo. These were received with the native soil clinging to their roots; all were seedlings, and bore fruit of different degrees of excellence, some being Nectarines of the Stanwick type, and some very good and sweet Peaches. A thirsty traveller would no doubt go into ecstasies about them, but when tested here in company with cultivated varieties, they were good, but of no particular excellence. The sweet kernel, which is a distinguishing characteristic, is, of course, of no consequence, as one would hardly crack a Peach stone with the teeth, and the labour of extracting the kernel with a hammer would not be repaid by the result.

There seems to have been an uneasy feeling among some of the ancient doctors that the Peach is not a wholesome fruit. I can understand that this theory was founded on something like a hard fact, for some of the seedling Syrian Peaches and Nectarines were so bitter as to be uneatable, and the strong flavour of prussic acid suggested their unwholesomeness; in fact, I should have been very sorry to have eaten one of these bitter fruits, a very slight taste being convincing. Assuming that Persia was the native home of the Peach, it seems to have spread both to the east and west with equal facility, for the Peach is so well established and so universal in China that its introduction through the Central Asian highways of commerce must have taken place at a very early period.

The Peach seems to have attracted popular attention in a singular degree in China. Its history has been wreathed with legends more or less interesting, and as it can be cultivated without the assistance of walls the Peach orchards when in flower are wonderfully attractive, the trees being laden with pink and white blossoms, which are used for decoration in the houses of the wealthy and luxurious Chinese. It is not abundant enough here to be used as a decorative flower, but there is no doubt if it could be gathered from trees as children gather May, it would soon become popular. In the *Leaves from my Chinese Scrap-book*, by Frederick Henry Balfour, it is stated that three sorts of Peach trees are grown by Chinese gardeners—the dwarf, the shrub, and the full-sized trees. Of these the dwarf is the most highly prized for the beauty and perfume of its blossoms, which are remarkable for their size and colour, and are divided by Chinese florists into eighteen different species. Some of these are the varieties which electrified the gardening world when introduced by Robert Fortune. As they are not hardy enough to be grown in the open air they have not retained their original popularity.

The shrub grows to the height of 4 ft. or 5 ft., is common in the Imperial Gardens, where it is planted on the margins of pools and acclivities of rockwork, which form a prominent feature in Chinese artificial landscapes. This is, of course, our flowering Peach. If our climate were not so cold in the spring there is no doubt that the Peach would be a popular ornamental-flowering tree, but a biting east wind does not conduce to any out-of-doors product; but I can quite understand the delicious effects given to the early spring in China by the abundant and delicate colouring of this pretty tree. One of the Chinese historians has described in glowing language the delight of seeing the villages connected by gigantic wreaths of Peach trees, dotting the plains as far as the eye can reach.

The third sort is the full-sized tree, and is cultivated for the fruit, which I have always heard is handsome but poor in flavour. There is much diversity in the shapes and colours of these fruits, some being spherical, and one variety a curiously oblate spheroid, which we call the flat Peach of China, and which is of no value except as a curiosity. The Peach is said to have been established upwards of 2,000 years ago in China (this is a very moderate estimate of Chinese time), and was presented to the Emperor Wu-Ti of the Hau dynasty by foreign ambassadors. It was held in so much esteem that the fruit or plants formed part of the tribute paid to the Imperial Government by foreign nations. It is also one of the emblems of longevity and marriage:

"When the Peach tree flowers,
The bride with order rules."

Here, I think, where the Tarragon grows, the grey mare is the better horse. A Peach garden was the scene of one of the most celebrated events in Chinese history, where the oath of brotherhood was taken by the three heroes who played so important a part in the historical romance of "The Three Kingdoms." There are many interesting details connected with the Peach in Chinese literature, to which it is not necessary to refer. The Chinese gardeners have an infallible recipe for the destruction of the insects which infest the Peach. This is a cold decoction of pig's head, poured on the trunk and into the roots, and they also say the best manure for the trees is snow. From China many of the Peach trees in Australia were derived. Residents, however, say that the Peaches are woolly and insipid, and always full of grubs.

The Peach appears to have been known in England in the eleventh and twelfth centuries, as we read that King John died of a surfeit of Peaches and new wine at Swineshead Abbey. It is very probable it was known to King Alfred, as his tutor resided for some time at the Court of Charlemagne, who was a cultivator and admirer of the Peach. It is recorded by French historians that he ordered a list to be compiled of the varieties grown in his garden. In the seventeenth century the fruit appears to be very generally cultivated, as both Philip Miller and Batty Langley, early in the eighteenth century, give lists of some forty or fifty varieties, many of the sorts named being still familiar in English fruit gardens.

No English historian will ever be able to point with pride to his native villages being wreathed with Peach orchards, but there seems little doubt that before many years have elapsed the railways will be lined with glasshouses, under whose sheltering protection more good Peaches will be grown than either Chinese or American orchards have ever produced. No fruit suffers so much from bad cultivation and over-production as the Peach. Excessive cropping means loss of flavour, and good cultivators need never fear competition. A bad Peach is only fit for pigs. The fruit has no economic value in the sense of the Apple and the Plum. As a preserve it is not equal to the

* From a paper read by Mr. T. Francis Rivers at the meeting of the Horticultural Club, October 9th.

Plum, and it cannot be stored for future consumption like the Apple. In this country it must therefore be a fruit of luxury, requiring skill and capital for its cultivation, which must be carried on either on walls or in glasshouses. Very uncertain crops are, however, obtained from unprotected walls in our climate, and my own experience has been gained for the last thirty years from glasshouses, during which period I may say that I have never known a failure.

HANLEY, NEAR EDINBURGH.

A FEW miles west of Edinburgh, in a rich agricultural tract of country, is Hanley, the residence of James Walker, Esq. The house and gardens are, however, surrounded by trees, such as are usually planted for ornamental purposes in Scotland.

The older and large trees consist of Limes, Sycamores (universally known in Scotland as the Plane), and a yellow variety of it called the Corstorphine Plane; and also Beeches assuming noble proportions, Sweet Chestnut and the Scarlet Horse Chestnut. Some thriving young plantations, in which Conifers are largely planted, are very interesting. They might range from 10 ft. to 14 ft. in height, and include healthy and shapely trees of Abies nobilis glauca and A. concolor. The past season seems to have been favourable to the production of cones, as some of them were fruiting freely. Specially noticeable was Picea nigra, the Black Spruce, which, as a rule, bears heavily on trees only 10 ft. in height. The purplish black cones are real pigmies, being only about 1 in. in length, and cover the upper portion of the stately and shapely pyramidal trees in dense drooping clusters. In the more open space about the grounds are some fine specimens of Irish Yews. The golden Elder (Sambucus nigra aurea) is very popular in the neighbourhood of Edinburgh, and finds a place in many gardens. On sloping banks where the soil is rather dry it has a very fine effect. Close by the house itself are two fine trees of the purple Beech. In September and October last a fine display was produced by Clematis on the walls of the house.

The herbaceous and other borders were then gay with many useful old-fashioned subjects, such as white and purple Colchicums, including C. speciosum, with very large flowers. The white Monkshood (Aconitum Napellus album) stood about 5 ft. high. A huge plant of Funkia Sieboldii was also in fine form; and Veratrum nigrum had six spikes of bloom, each about 5 ft. high. A few things were still flowering on the rockery, including Crucianella stylosa, a white form of Campanula rotundifolia, and Linaria purpurea 3 ft. to 4 ft. high.

The borders were also gay with half-hardy subjects, such as single seedling Dahlias, Pentstemons, Calceolarias, Chrysanthemum La Petite Marie, and others, all of which were notable for the profuse way in which they were flowering at that late period of the year. The warm and dry month of September succeeding a cold sunless summer had no doubt a very beneficial effect on the liberal development of bloom. In another portion of the garden the air was pervaded with the pleasant odour proceeding from masses of Sweet Peas and Stocks. Amongst the subjects used for summer bedding proper the Calceolarias, including Sparkler, Golden Gem, Lemon Gem with large leaves and flowers, and a bright sky-blue Ageratum named Cupid, were very profusely flowered.

Grapes receive careful attention at Hanley, and reflect credit on the skill of Mr. Bennett, the gardener. One house was devoted to the culture of Lady Downes and Alicante, the latter being a splendid sample, finely finished off with a bluish black bloom. In this house were some seedling specimens of the Tree Tomato (Cyphomandra betacea), which is beginning to receive attention in various parts of the country. The other structure contained Vines of Lady Downe's, Gros Colmar, Foster's Seedling, Espirian, Syrian, and Mrs. Pince's Black Muscat. The latter especially were good samples of cultivation. Tomatos are also grown to some extent, including Hackwood Park and Reading Perfection. In the borders surrounding the kitchen garden were bush or pyramid Apple trees, amongst which four specimens of the Royal Codlin, better known as the Dutch Codlin, bore good crops of large conical fruits, similar to the Keswick Codlin, but generally more or less flushed with red, and therefore the more handsome of the two.

A Statice in the greenhouse, and a seedling from S. Holfordi, had attained large dimensions, and was flowering profusely. The corolla is white, but owing to the large size of the blue calyx, the latter gives the dominating and most lasting hue to the blooms. Lapageria rosea was flowering profusely on the roof. Fuchsias and Pelargoniums, including the rosy scarlet Ivy-leaved Chas. Turner, Vallota purpurea, Begonia Weltoniensis, and Petunias were very gay. Some double and purple-white varieties of the latter were particularly fine. The Caladiums were still gay in the stove, with their manifold crimson, white, red, and green markings. Perle de Brezil and Prince Albert Edward were well-marked kinds. Dracæna Lindeni here as elsewhere proves itself a very ornamental kind. Vinca rosea alba, white with a red eye, although a congener, is strikingly distinct from the hardy Periwinkles. The roof was richly hung with the free-flowering Allamanda Schottii (Hendersoni), the best of all the species for cut-flower purposes and general cultivation. The end wall of the house was very effectively covered with Ficus repens, than which a neater or more closely-clinging species could hardly be found.

RENOVATION OF OLD AND FORMATION OF NEW ORCHARDS.

By W. Coleman, Eastnor Castle Gardens.

Living as I do in the county of Hereford, boasting its 27,000 acres of orcharding, where in days gone by thousands of tons of good fruit were lost, wasted, or converted into indifferent cider, I am able to form a pretty correct opinion of our own progress, and although less rapid than I could wish, I may say it is fairly satisfactory. Cider drinking among the working classes since I first knew the county has gradually decreased, consequently small parcels of the rosy Tom Putt and other useful Apples, alike good for cooking or vintage, are now stored for daily use by all the members of the grower's family. If not wanted, then they are sold to dealers, who make a profit, for conveyance to retailers, who also make another profit, and that a heavy one, from their customers. Although a slight step forward, this state of the case is not quite satisfactory, neither will it be until a powerful fruit growers' association, which should be the outcome of this conference, has established a network of markets in all provincial towns as well as in London markets in which producers, as in all parts of Paris, can meet face to face with consumers without the aid of so many middlemen. In fruit-growing counties, like Hereford, Worcester, Gloucester, Kent, Devon, and Somerset, these local markets should be well supported, as we gather from statistics that three-quarters of a million of money is sent out of England annually for Apples alone. If landowners, hitherto blind to their own interests, and legislators now take up the matter, I see no reason why growers should not go forth to the production of an article which the public must and will have, and so keep the money at home. Our climate is all that can be desired for the growth of fresh crisp fruit, not quite so highly coloured or so large as picked samples from the colonies, but large enough to command top prices when well grown, and packed, and properly marketed. There must be no shaking from the trees, but the cream of the crop must be hand-picked, and honestly packed as firsts and seconds. The residue or refuse, which added to the best would increase expenses and pull down prices, would then remain at home for various purposes.

Mr. Knight, the great physiologist and hybridist, who worked so much in Hereford and Salop, proved by analysis that some soils, even in these favoured counties were preferable to others for producing Apples of dense gravity and full of saccharine matter. The late Dr. Bull, of whom Hereford should be proud, following in his wake, corroborated all that Knight had said, proving, I think satisfactorily, what past generations of shrewd men had found out for themselves, both as regards the quality of the fruit and the constituents of the soil which should be chosen for Apples, also for Pears. The conclusions at which they arrived were these: The light thin soils will not grow the best Apples, therefore those who would plant a successful orchard must choose a deep stiff sandstone loam if they have the opportunity of doing so. All the orchard land in this country is not alike good; indeed, some is very bad, but the soil here, as in Devonshire, which produces the best fruit, owes its fertility to the plentiful supply of lime from the marl or cormstone, and to its great depth and sustaining nature. Scientists who will may peruse the first part of the *Herefordshire Pomona*, or they may follow Mr. Rivers through his exhaustive address delivered at the Crystal Palace, but my remarks, necessarily brief, will guide plain practical planters to the best spots for new plantations.

Having been honoured by an invitation to contribute a short paper upon the Apple, I have determined to confine myself to the West Midland orchards, in which some progress has been made since the first conference was held in 1883. Draining, grubbing, grafting, and planting are still going on, but much remains to be done before we can invite inspection. Although the Apple is a long-lived tree and perfectly hardy in all its parts save its flowers, the occupants of many of our oldest orchards, crippled by age, bad usage, and neglect are past recovery, and should be cleared away, but the ground they occupy should not be replanted if better or equally good sites can be found for new plantations. Other orchards again, containing thoroughly sound young trees, although of inferior sorts, after the grubbers' axe has passed over the land, may be converted by grafting and resuscitated by draining and top-dressing. Some of our oldest orchards which date back to the Wars of the Roses contain a great number of wildings or kernel fruits of no value to the owners even, whilst younger plantations are crowded with healthy, vigorous trees, at one time supposed to be Norman, but now proved to be English seedlings, no better than the stocks used in large nurseries. Upon the first I would not spend money, as they are too old for grafting, too old to pay rent, too old for anything save loss and disappointment. The second I would behead and re-graft with choice varieties which have been proved in the locality. Confining myself to old orchards now existing or languishing in the western counties, I may close my remarks upon this head by saying, Cut down all useless trees, thin out the heads of those worth keeping; cleanse the branches and stems from moss and insects; regraft sound, healthy trees into good market sorts, and see that the drainage is satisfactory. I will not presume to inform practical men who may deign to read my remarks that sound, deep, naturally-drained orchards are better than others which require artificial treatment, and that a certain quantity of moisture in the soil is absolutely necessary, but on no account must it be stagnant. All gardeners are well acquainted with the fact that soils too dry produce fruit that is small and mealy, whilst water-logged soils are several degrees colder than others of similar texture that are free from this root-chilling poison. They know, moreover, that warm summer rains run off the surface, whilst the sun acts very slowly in raising the temperature of the wet subsoil in which deeply-seated roots soon perish, and those nearest the surface are little better off, as they do not commence fresh action much before Midsummer. Drainage, all good cultivators assert, is the first essential in the preparation of new orchards or in the renovation of old ones, and why? Well, simply because the removal of stagnant, if not putrid water and the introduction of fresh air raises the temperature of the soil from 3° to 5°, a condition which not infrequently forms the dividing line betwixt success and failure.

So far my remarks have been confined to old orchards, planted haphazard upon all sorts and conditions of badly-prepared land, as well as in unfavourable situations. The best of these may be retained for a time, upon the principle that half a loaf is better than no bread; but the majority of them must go, and young ones must spring up before we can hope to realise an average £10 an acre, or compete with the colonists in our own markets. Some years, as many present know, have passed since horticulturists commenced agitating, but the good seed which was intended to put three-quarters of a million of money into the British farmers' pockets for a long time fell upon stony ground. Some recently has taken root, and far-seeing landowners are now putting our theory into practice by offering land upon conditions that will induce capitalists to invest in fruit culture precisely as they do in coal and iron. In this and the adjoining counties good landlords are raising and distributing to their tenantry Apple and Pear trees by thousands. These mostly are standards on free stocks, the only class of tree suited to pasture and arable land. Nurserymen, again, who have brought propagation up to a fine art, are producing standards and dwarfs by the million, and these surely, in a few years, should make their mark. Meantime, a complete network of markets, I insist, must be created throughout the kingdom.

Aspect and site being so closely dovetailed together, these I will not attempt to separate. All gardeners, I believe, are pretty well agreed that a south aspect is best, as trees in this position ripen their wood well, and produce fruit of the highest colour and quality. The Apple, however, being perfectly hardy, the quality of the soil must not be lost sight of, neither must altitude and shelter from north and east winds be repudiated. Under these circumstances, the soil being deep sandstone loam resting on marl, and naturally drained, I should not object to a point east, or any other aspect round with the sun to full west. The latter, however, I should prefer, and for these reasons: although western gales in this part of the country do some damage, it is well known that if plants are exposed to the first rays of the morning sun when they are frozen they will suffer, but if they are shaded until they are gradually thawed by the rising temperature of the air, they will stand a few degrees with impunity.

(*To be continued.*)

* A paper read at the Chiswick Apple and Pear Conference.

GARDENING MISCELLANY.

"Smoky Jennets."

In your last issue you refer to the sad end that befel poor Willis, a gardener in this locality, and which brought the "Smoky Jennets" under notice. Whether this Pear is known in other parts of this county I cannot say, but it appears to be a variety that was somewhat extensively grown in the vicinity of Droitwich in the days of yore, as I have heard of many instances of the old trees having been cut down; and I suppose through the inferiority of the fruit, and the fact of there being so many better varieties to select from, young trees have never been planted to take their place. In all the orchards around here I have failed to find one which contains a "Smoky Jennet," and what few I have seen are growing in or close to the town of Droitwich. These, about six in number, are mostly of great size and age, and the finest tree that I know of is to be seen in the pleasure grounds connected with St. Andrew's Brine Baths. This tree seldom fails to produce a heavy crop of fruit, and when seen hanging on the trees in June and July, have a very tempting appearance. In shape, size and colour the fruits resemble those of Louise Bonne of Jersey more than any other Pear I know, but the fruit is very disappointing, being of a very dry and insipid nature—some say with a smoky flavour. That it is the earliest Pear to ripen that I know of is proved by being something like a fortnight earlier than Doyenné d'Eté and Citron des Carmes as grown in these gardens; and through coming in so early, together with its tempting appearance, it finds a ready sale in the Birmingham markets.—*R. Parker, Impney, Droitwich.*

I think it not unlikely that this Worcestershire Pear is that known as the Amiré Johannet, or Joannet, or Jeannette, or Early Harvest Pear, and is one of the earliest summer varieties, ripening in July; but it is supposed to derive its name, Amiré Johannet, from being ready for use in some parts of France about St. John's Day (the 24th of June). It is a Pear of very old date; one commentator thinks it is the *Pira Hordeacea* of the Romans, as it ripens about the time of the Rye or Barley Harvest, and it is thought the English name of Early Harvest was given for this reason. Supposing this to be the sort grown in Worcestershire (and it must be, like the above, an early ripener), it would be interesting to know how it came to bear the local prefix of "Smoky." It has several synonyms—English, French, Swedish, &c., but I cannot find one that appears to suggest the adjective "Smoky."—*Pyrus.*

The Tree of Heaven.

In reply to your American correspondent, Mr. C. L. Allen, I can say that this tree is quite hardy in the south of England, grows quickly, and bears cutting in or heading back remarkably well. Some years ago I had occasion to head a tree back, which was over 30 ft. high, with a corresponding spread of branches. We headed it down to about 15 ft. or 16 ft., cutting all the branches off flat, and leaving the lower ones in a horizontal position. Late in spring it broke splendidly, and made growths 3 ft. to 5 ft. in length, with splendid foliage. We find it throws up suckers a considerable distance from the stem. If the timber is so valuable, planters should turn their attention to it, for being a quick grower, it would mean quicker returns, and I do not think it is fastidious as to soil. Ours is growing in clay and flints resting on chalk. Perhaps some of your correspondents would mention any fine trees about the country, and say if it has ever been tried as a town subject for street planting. I should think it would be worthy of a trial on account of its grand foliage, and the ease with which it can be kept within bounds by judicious pruning.—*Southdown.*

Primroses and Polyanthuses.

Cultivation, cross-breeding, and hybridisation have had a great effect in altering the natural period of flowering of these beautiful spring subjects. Some large bunches have just been sent us by Mr. G. W. Dutton, Summerfield, 15, Curzon Park, Chester, with whom they are now flowering freely. He also says that he has never been without blooms all this year. Out of doors, at least, we should think they would flower most freely during the spring months, and again when there was a continuance of cool moist weather. During the past summer, however, these conditions were pretty prevalent, and in the neighbourhood of Chester moisture is always tolerably plentiful. The fact that such handsome and fragrant flowers can be grown out of doors all the year round, and had in perfection in December, even in exceptional years, should stimulate amateurs to give increased attention to their cultivation. Mr. Dutton has at present about 1,000 old plants—namely, those from which the flowers have been culled; and having saved seed from the best plants, and sown it immediately, he has now from 4,000 to 5,000 seedlings pricked out.

Francoa ramosa.

This is a fine subject for the dry nooks of a rock garden, where, planted in light loam, it forms a handsome plant. That it is perfectly hardy, I am convinced by its standing the last two winters unprotected in the rock garden here; and beautiful indeed was the inflorescence last August. For pots it is a useful addition to cool greenhouse flowers, the long-branched racemes (spicate) of white blooms being very graceful. At Aldenham House, Elstree, Mr. Beckett has managed to get a batch of plants in flower now, and very useful they are at this season of the year. The plants are in moderate-sized pots, each one carrying a fine lot of pure white flowers. F. appendiculata is a useful companion plant, with pale red flowers. This species has proved quite hardy here, and the plants are as healthy as possible, quite a batch of seedlings growing near to the parent plants. The flowering season of this species is quite two weeks earlier than F. ramosa. F. sonchifolia is another species closely resembling F. appendiculata, differing in having a very decurrent petiole (or leafstalk), and a less compact inflorescence with light pink flowers. Probably it is as hardy as the two former species, but on this point I am not certain.—*J. W. O., Pinner.*

Begonia Octavie.

Your correspondent, "Alpha," I find, is quite correct in saying that I was mistaken in describing this variety as a novelty. The word itself was used under a misapprehension, owing to my not having previously seen or heard of the variety. The misapplication of the word, however, does not detract anything from its merits, or from its appearance as seen at the Aquarium, and which was my principal object in noting it in your columns. It may, perhaps, be as well to record the fact that M. Malet lost it before he died, and strange to say, everyone else lost it too, but the Messrs. Cannell, and had it not been for them it would have been entirely lost to cultivation. Much more will doubtless be heard and seen of this variety in the near future.—*J. Horsefield, Heytesbury.*

ORCHID NOTES AND GLEANINGS.

Cymbidium elegans.

A handsome specimen of this rare and beautiful species was flowering finely the other day in one of Mr. William Bull's Orchid houses, at Chelsea. It is a desirable kind for several reasons, seeing that it blooms during late autumn, and furthermore possesses a distinct habit from other species in cultivation, reminding one of Cœlogyne Gardneriana, inasmuch as the flowers are half closed, and produced in long pendulous spikes. In the case of the Cœlogyne, however, they are white, but in this instance of a pale yellow. The lip is spotted with red internally, but this produces little or no effect on the general appearance of the flowers. The species is a native of Nepal and other parts of India, and is figured in *Lindley's Select Orchids*, t. 14.

Lælia anceps Amesiana.

At Messrs. Protheroe & Morris's Rooms on the 30th ult. we saw a flower of a new variety of L. anceps, the history of which will be of great interest to purchasers of imported Orchids. It is a broad, and remarkably handsome flower, white suffused with rose, and the tips of the sepals and petals feathered with rich rosy purple, much in the same way as those of Cattleya Trianæ Backhousiana. The petals are nearly 1½ ins. broad. The crest is yellow, and the lip brilliant purplish maroon; altogether a most lovely form, and quite distinct from any known variety. It is one of Mr. F. Sander's importations, and was sold to Mr. E. Harvey, of Liverpool, in 1883, as an unflowered plant, for Two guineas. It subsequently passed with other of Mr. Harvey's Orchids into the hands of the Liverpool Horticultural Co., and has now been re-purchased by Mr. Sander, the price being 200 guineas. It is believed by Mr. Sander to be a solitary specimen like L. anceps Dawsoni—of which it is said that only one piece has ever been imported—and has been named after an American amateur, who is a true lover of Orchids.

Cattleya Bowringiana violacea.

The more we become acquainted with this useful autumn and winter-flowering species, the more we begin to recognise its value. As it becomes established, larger flowers, or a greater number of them, are produced on the plants, and the flowering season, generally speaking, may be said to extend from September to December. As fresh importations come into bloom, the flowers are found to vary considerably in colour. The variety above mentioned may be seen in Mr. William Bull's nursery, King's Road, Chelsea. The sepals and petals are rosy purple, while the lip is deep violet-purple with a prominent white throat.

Cycnoches chlorochilum.

Although a considerable number of the Swan Orchids have been introduced from time to time, they are not at present very extensively cultivated. The species under notice was originally introduced from Demerara in 1838; but more recently there have been importations which have again made it possible to distribute the species throughout the country. Within the last few years it has flowered in several collections, and we noticed a fine specimen of it blooming in the nursery of Mr. William Bull, King's Road, Chelsea. The flowers are of great size, with greenish yellow sepals and petals, and a white lip with a curious large dark green blotch on it.

Oncidium cucullatum and Varieties.

The varieties of this cool Orchid are exceedingly numerous, and many of them have received special names. They flower at various seasons of the year, but are particularly plentiful during winter and spring, when they are most appreciated. The more typical forms of the species are characterised by the body colour of the flower being purple, and it is generally most conspicuous on the lip. The variety O. c. maculatum has the lip of a fine purple, closely spotted all over with markings of a very deep or blackish purple. Of this type there are many varieties. A more extreme form named O. c. Phalænopsis is sometimes regarded as a distinct species. The ground colour is white or nearly so, and it sports into a great number of sub-varieties, displaying in different individuals beautiful brown, purple, yellow, and white markings. A batch containing the above-named varieties has been flowering for some time past, and will continue to do so, in the nursery of Mr. W. Bull.

Platyclinis uncata.

The four or five species of this genus which one generally meets with in cultivation are better known amongst cultivators under the name of Dendrochilum. They are well worth cultivating in a collection of Orchids for the gracefulness of their slender drooping racemes of flowers, rather than for the beauty of the individual blooms, which are small. The sepals and petals in all of them are of a straw-yellow colour, while the lip is generally different, and of a deep yellow. P. filiformis is notable for the extreme slenderness of the peduncle, which is bent below that part bearing the flowers, causing the whole raceme to appear suspended. All parts of P. uncata are, however, proportionately larger, yet the racemes assume a gracefully drooping position, imparting to the plant considerable decorative value. It may be seen in the nursery of Mr. W. Bull.

Aerides Lawrenciæ.

In general appearance this fine species resembles a giant A. quinquevulnerum, both in habit and in the markings of the flower; but otherwise the latter more nearly corresponds to A. odoratum. The expanse of the sepals and petals is, however, greater, and they are of a beautiful waxy white when in perfection, tipped with rich purple. The lobes of the lip are adpressed to the column, and also tipped with purple. A fine specimen has been flowering in the nursery of Mr. William Bull for some time, constituting a conspicuous object amongst a great variety of Orchids now blooming, notwithstanding the unfavourable season of the year, especially with regard to light. The raceme is drooping, and attaining considerable length, the flowers have a fine effect.

The varieties of Odontoglossum Insleayi.

The type, together with two or more varieties of this beautiful winter-flowering species, may now be seen in Mr. William Bull's nursery. In habit it bears some resemblance to Odontoglossum grande, which is also flowering at present, as well as some of its varieties; but the pseudo-bulbs are longer, more compressed and ribbed. The flowers are, however, more easily distinguishable at any time, and the rich chocolate and yellow markings will always render this a valuable species for winter flowering. O. I. leopardinum, as the varietal name signifies, refers to the numerous blotches or markings of the sepals, petals and lip. The latter organ is bright yellow with various sized reddish crimson blotches forming a border within the margin. The sepals and petals are richly barred with the same rich colour on a yellow ground. The variety O. I. splendens differs in having the sepals and petals almost wholly of a rich shining brown, while the lip is blotched with purple.

THE GARDENERS' CALENDAR.

THE STOVE.

PROPAGATION.—If cuttings of Gardenia florida and G. radicans are made now they will be strongly rooted before spring, and ready to start away into good growth as the days lengthen. Select strong healthy cuttings, consisting of short side-shoots, and if they can be taken off with a heel so much the better. January is usually considered a good time to accomplish this work, but a month longer will act favourably, inasmuch as the cuttings would have a longer growing season, and thus be able to make more headway, and flower all the better next year. Insert them singly in small pots plunged in bottom heat of about 75° in a close frame in the propagating pit. Crotons may also be propagated now by striking the tops of plants that have become too tall and leggy for table use. Retain the leaves at their full length, removing those only which would interfere with the insertion of the cutting. It will, of course, be necessary to secure strong cuttings to a stake, in order to prevent their displacement till rooted.

THE GREENHOUSE.

CHRYSANTHEMUMS.—Secure a stock of cuttings of all the varieties intended to be grown on another year, before they become weak and spindly. Of course, there are some kinds that do not readily throw up suckers from the underground portion of the plant, and in such cases the old stems should be cut down as soon as the flowers are past their best, in order to encourage suckers. Nor should such specimens be stowed away in some dark corner till the suckers are long enough to be removed, as they become thereby considerably weakened and cannot form vigorous useful specimens. The stoutest are always the best, provided they are firm enough to withstand excessive flagging, after being inserted as cuttings.

MIGNONETTE.—Forward batches should be well attended to in the matter of feeding as soon as the pots become filled with roots, otherwise the foliage will soon assume a sickly and starved appearance, thus spoiling them entirely. Manure water in which cow, horse, or sheep-manure has been steeped will answer admirably. Weak guano water may also be given at alternate waterings. Keep the plants as near the glass as possible to prevent drawing. Later sown batches may be kept coming on slowly by placing them near the glass, and well ventilating the house.

THE FORCING HOUSES.

VINES.—The earliest house, if closed in the first week of last month, should by this time have made a material advance, and the buds will be swelling rapidly. When such is the case, the temperature may be gradually raised from 50° at night till it reaches 60°. During very dull, foggy, or frosty weather a low temperature is, however, much better than a high one. The past month has been unusually mild for November, and when fermenting material has been used little fire-heat would be necessary to keep the temperature at the required heat; in fact, on some mornings the thermometer out of doors stood at 50°, or very little under it. Admit air by the top ventilators when the sun raises the temperature above 70° or 75°, closing again early in the afternoon. If fermenting material is used for pot vines, care must be taken to renew it as soon as the heat declines, otherwise growth will be materially checked.

STRAWBERRIES FOR FORCING.—For early use, Keen's Seedling, Vicomtesse Héricart de Thury, President, and Sir Joseph Paxton are the best. In order to force them, make up a bed of Beech or Oak leaves, as they are more lasting and gentler in their action than softer kinds. Tread the bed down firmly and stand the plants thickly over its surface, without plunging them. They will then come on gradually.

THE KITCHEN GARDEN.

PRUNING.—Work in this department should now be pushed on rapidly while the weather is so favourable. The trees that naturally flower the earliest should be first attended to, including Peaches, Apricots, and Plums. It is a very common practice to defer pruning Peaches and Nectarines till spring, but it is better to be done now than later on, for several reasons. When left till spring, other necessary work crowds in apace, and less time can be spared to have the work done properly; besides which the buds are in a more advanced state, and liable to be rubbed off in the operation. Remove the trees from the wall, with the exception of the main fastenings, and proceed to prune away those shoots which have borne fruit, together with weak and useless growths, provided always that a sufficient number are left to properly occupy the wall space. If Plums and Apricots have been well attended to in summer, little will be left to be done now but to prune away dead spurs, to thin out where crowded, and to shorten some of them that are reaching too far away from the wall and becoming unsightly.

CHRYSANTHEMUM SHOWS.

Manchester.—*November 27th and 28th.*

THE special features of this annual exhibition, held in the Town Hall under the auspices of the Manchester Royal Botanical and Horticultural Society, consisted of a fine display of cut Chrysanthemums made by Mr. Lambert, gardener to Col. Wingfield, Onslow Hall, Shrewsbury, who secured four out of the five first prizes awarded; a most remarkable group of a dozen smooth Cayenne Pines, ranging in weight between 9 lbs. and over 11 lbs. each, shown by Mr. Gleeson, gardener to the Duke of Newcastle, at Clumber, and which, being the finest lot ever seen in Manchester, were most deservedly awarded the society's Gold Medal; and a stand of cut blooms of stove and greenhouse plants from A. Heine, Esq., Fallowfield, containing quite thirty species and varieties of Orchids, besides Lapagerias, &c.—the finest collection we have seen at any season. The first prize bouquet from the same exhibitor was also a very beautiful combination.

The best nine specimen plants of large-flowered Chrysanthemums, and also the finest six Japanese, were shown by Mr. N. A. Earle, of Kersall; and Mr. R. Hardwick, Ashton-on-Mersey, had the best Pompons. In the cut-bloom classes the winners, besides Mr. Lambert, were Mrs. Cope, Dove Park, Woolton, Liverpool; Mr. Goodacre, Elvaston; and Mr. J. Walker, Vernon Park, Stockport. The miscellaneous class included a pleasing collection of cut blooms of hardy flowers from Mr. S. Barlow's garden at Llandudno, and which comprised Violets, Roses, Primroses, Chrysanthemums, Gladioli, and Pansies; groups of flowering greenhouse plants from Messrs. Dickson & Robinson and Messrs. Dickson, Brown & Tait; and of hardy and other decorative plants from Mr. J. A. Bruce, Chorlton-cum-Hardy; cut blooms of Chrysanthemums and zonal Pelargoniums from Messrs. Clibran & Son, an admirable collection of Apples and Pears from Messrs. R. Smith & Co., Worcester, and also a good collection from Messrs. Dicksons, Limited, Chester.

Stockport.—*November 23rd and 24th.*

THE first Chrysanthemum, fruit, and vegetable show in Stockport was held in the Mechanics Institute of that ancient and romantic town. It was quite a success horticulturally as a first effort. In this respect the beauty of the show was much enhanced by the variety of the collective exhibits as well as the arrangement. Chrysanthemums, though the main feature, did not predominate too much, as the Primulas, table plants, bouquets, and fruit, together with other cut flowers, were very interesting.

J. C. Chorlton, Esq., Withington, took the first prize for the best three large-flowering plants, having Empress of India with thirty, Queen of England with twenty, and Elaine with thirteen fine blooms. The second prize went to J. F. Dorrington, Esq., Prestbury, and for the best specimen Japanese, the same exhibitors occupied the same relative positions. For a miscellaneous group of plants, arranged for effect, T. H. Sykes, Esq., was first with a very good showy group, consisting of Poinsettias, nicely-coloured Crotons, Dracænas, &c., on a base of green Fern. Mr. Wm. Cordingly, florist, Stockport, was second, he having a plant of Erica melanthera, about 2 ft. across, in full flower, in the centre of his group, with Callas, Bouvardias, and Dracænas standing out from a base of small miscellaneous plants. Messrs. Turner & Kirk were third with a good mixed group.

T. H. Sykes, Esq., was first for four dinner-table plants, choice and of the right size. Mr. L. Pointon, florist, Biddulph, was second, and S. Lord, Esq., Ashton-on-Mersey, third. The latter exhibitor was also first with six pots of Roman Hyacinths, and for three fine pots of double white Primulas, the best we have seen for some time, the plants being about 2 ft. across and full of flowers. The second prize went to the Parks Committee of Stockport (gardener, Mr. Walker), and the third to Jas. Leigh, Esq., for three nice plants of Cannell's White Perfection, which is really a variety of the finest quality. The Parks Committee secured the first place for three red Primulas. The best specimen Fern was shown by T. H. Sykes, Esq., a good plant of Davallia Mooreana; and the second best by Mr. G. Kemp, Edgeley, a promising specimen of Goniophlebium subauriculatum.

For Chrysanthemum cut blooms, nine incurved and nine Japanese, the Parks Committee were first, as also for twelve incurved. For twelve Japanese, A. H. Sykes, Esq., was first; J. C. Chorlton, Esq., second; and the Parks Committee third. Mr. Chorlton was first for six Japanese and six incurved; D. McLure, Esq., coming in second; and J. Shawcross, Esq., third.

With black Grapes Mr. Pointon was first, with two nice bunches of Alicante; Miss Hudson, second; and Col. Dixon, Chelford, third with Gros Maroc. Mr. Kemp, Edgeley, was the only exhibitor of white Grapes, and obtained the first prize with two well-ripened bunches of Muscats. The Apples and Pears do not call for much comment. The best dish of culinary Apples consisted of a good sized lot of Ecklinville, though rather green in colour; the best dish of Pears was a fine sample of Marie Louise, shown by Mr. Kemp. Lieut.-Col. Turner had the best collection of six kinds of vegetables, the samples being all good, and the Celery particularly so. The same exhibitor secured the first prize for Celery in the single dishes. It only remains to be added that meritorious exhibits were put up by neighbouring florists and nurserymen. Fine specimen Palms were lent by the Mayor, plants that have done successful duty elsewhere in competition. It may also be mentioned that the Mayoress opened the show in a few appropriate remarks (in the unavoidable absence by indisposition of the Mayor), which were highly appreciated.—*X.*

Margate.—*November 21st and 22nd.*

ON the above dates, the Isle of Thanet Chrysanthemum Society held its second annual exhibition in the Hall-by-the-Sea, a spacious building well adapted for the purpose. The entries were numerous, and the flowers staged of excellent quality, not only in the open and professional gardeners' classes, but both amateurs and cottagers deserve great praise for the quality of both blooms and vegetables. The groups of miscellaneous plants were arranged along one side of the room, and the first prize in this class was awarded to Mr. Gosden, gardener to T. Atkinson, Esq., for a very choice, lightly-arranged group; Mr. Roberts, gardener to T. S. Montefiore, Esq., being second.

Trained plants were a prominent feature of the show, and the leading prize-winners in these classes were Mr. Fairweather, gardener to W. Jarrett, Esq., Westgate-on-Sea, who exhibited fine plants of Mrs. G. Rundle, Pink Christine, Peter the Great, and others. He was closely followed by Mr. J. Cornford and Mr. Iles. The groups of Chrysanthemum plants arranged for effect were numerous, and the prizes were keenly contested, Mr. Cornford, gardener to H. P. P. Cotton, Esq., of Quex Park, being credited with the first prize, Mr. Bishop the second, and Mr. Roberts the third. Mr. W. Jarman, gardener to J. Farmer, Esq., put up, not for competition, a very pretty group of "cut-down" plants.

In the class for twenty-four incurved flowers some very fine boards were staged, Mr. Cornford being first with Emily Dale, Jeanne d'Arc, Golden Empress of India, &c.; followed by Mr. Fairweather and Mr. J. Gaines in the order named. For twelve incurved, Mr. Fairweather was first with Empress of India, Empress Eugénie, Cherub, &c.; the same exhibitor was also first for six incurved and for three incurved alike, with well finished blooms of Empress of India. Mr. Cornford also secured other prizes for incurved blooms. In the Japanese classes there was some exceedingly close competition. Mr. Cornford, Mr. Fairweather, and Mr. J. Hunt were the leading prize winners, the most prominent blooms being Moonlight, Gloriosum, Grandiflorum, Comte de Germiny, and Baronne de Prailly.

In the open class for thirty-six blooms, Mr. Skinner, of East Sutton Park, Staplehurst, was first with grand flowers of Ralph Brocklebank, Mrs. C. H. Wheeler, Lady Lawrence, Edwin Molyneux, &c.; closely followed by Messrs. Ray & Co., of Teynham. A fine stand of blooms, not for competition, was exhibited by Mr. Fred. T. Hart, of Ospringe Nursery, Faversham, containing Amy Furze, Mdlle. Paule Dutour, Lady Lawrence, Florence Percy, Edwin Molyneux, &c.

Bacup.—*November 24th.*

THE first annual Chrysanthemum exhibition of the Bacup Floral and Horticultural Society was held in the Mechanics Hall, Bacup, and was opened at noon by the Mayor (Mr. Alderman Shepherd). Over £50 in prizes were offered, and the show was well patronised and a great success. Mr. David Lord, Stacksteads, contributed a valuable group of plants, not for competition, which included exceptionally fine plants of Crotons, Dracænas, Asparagus plumosus nanus, and Orchids such as Pleione præcox, Cypripedium Spicerianum, &c., Cymbidiums, Odontoglossum crispum, and others, which were specially commended by the judges, and were a great attraction to the show.

Amongst exhibitors, Mr. Bell, gardener to Mrs. Roundell, Gledstone Hall, Skipton, was highly successful in the open class, securing all the first prizes. In the local classes, Mr. Wilcox, gardener to J. Hargreaves, Esq.; Mr. J. Ferguson, gardener to E. Hoyle, Esq.; and Mr. H. Stapleton, gardener to J. S. Sutcliffe, Esq., were the leading prize-winners. In the amateurs' division, Mr. T. H. Hoyle, Mr. J. Hoyle, and Mr. J. Dyson secured the lion's share of the awards.

Bolton.—*November 23rd and 24th.*

THE second show of this society was held in the Town Hall, and despite the unfavourable season, the show was a very creditable one all round. The main feature of the display was the groups in the miscellaneous class, of which there were three, Thos. Wilkinson, Esq. (gardener, Mr. J. Pountan), taking first honours, with a very nice and well-arranged collection; Mrs. Shaw (gardener, Mr. Charles Jones) was a very good second, losing only by a few points; and John Heywood, Esq. (gardener, Mr. George Pawson), third. In the class for a group of Chrysanthemums there were five entries, and here J. Cormrod, Esq. (gardener, Mr. Smith), was first, with an extra well-arranged lot of plants; Mrs. Knowles (gardener, Mr. Thomas Hand), being second, with nice dwarf well-grown plants very badly arranged; a little taste in the grouping of this lot might have changed the judges' award. Of cut flowers, the twelve incurved and twelve Japanese from A. Kuowles, Esq. (gardener, Mr. George Corbett), were decidedly the best, that gentlemen taking first in both classes. His finest examples were—Incurved: Nil Desperandum, Golden Empress, Queen of England, Lord Alcester, Refulgence, Mr. Bunn. Japanese: Madame C. Audiguier, Boule d'Or, Criterion, Val d'Andorre, Madame Lacroix, Maiden's Blush, and Mons. J. Laing. Some good Grapes were also shown by Mrs. Cross (gardener, Mr. R. Herd).

HORTICULTURAL SOCIETIES.

North Wales and Border Counties Pomological.—*November 21st and 22nd.*

THE fourth annual exhibition of fruits, flowers and vegetables was held in the Public Hall, Wrexham. The display of fruit consisted of some 800 dishes of fine samples, amongst them being eighty-seven varieties of Apples from Mr. Watkins, Withington, near Hereford, also a fine collection of Potatos. The Apples were very much admired for their beautiful colour and finish. Messrs. Dicksons, Limited, Chester, also sent, not for competition, a very fine collection of Apples. Mr. Farquharson, Acton Nursery, had a very fine table of miscellaneous plants and vegetables, including some fine Brussels Sprouts, Tomatos, &c., and was awarded a First Class Certificate. Messrs. Strachan & Evans, nurserymen, Wrexham, staged a very fiue lot of plants. Grapes were well shown, and for three bunches, Mr. Taylor, gardener to J. Jones, Esq., Grove Road, Wrexham, was first with Lady Downes, Alicante, and Mrs. Pince's Black Muscat. Mr. Weir, gardener to Sir R. A. Cunliffe, Bart., Acton Park, Wrexham, came in second with Golden Queen, Black Hamburgh, and Alicante; Mr. Durward, Pickhill Hall, Wrexham, was third. For two bunches, black aud white, Mr. Weir was first, Mr. Taylor second, and Mr. Durward third. For the single white, Mr. Butler was first with a very fine bunch of Muscats; and in the single black class Mr. Durward was first. In the competition with nine dishes of Pears, Mr. Hanagan, Hooton Hall, was first; Mr. Oldfield, Chirk Castle, second; and Mr. Farquharson, third. Six dishes of Pears: Mr. Weir first; Mrs. Sykes, Rossett, second; and Colonel Rigby third. There was also a class for twelve single dishes, which brought out a keen competition, and in which Mr. Hanagan was most successful.

Dessert Apples, nine dishes: Mr. Hanagan and Mr. Oldfield were equal firsts in this class; and Mr. Farquharson, third. Six dishes: Mr. Fletcher, Pantyockin, first; Mr. C. W. Townshend Trevalyn, Rossett, second; Mr. T. Chitton, The Elms, Gresford, third. There were also twelve single dishes, but the class on the whole was not so well represented as in former years. Culinary Apples, nine dishes: Mr. Hanagan, first; Mr. Farquharson, second; Mr. Oldfield, third. Six dishes: Mr. T. Chitton, first; Mr. Fletcher, second; Mr. T. O. Wright, Gresford Bank, third.

Some fine dishes of Pitmastou Duchess, Duchess de Angoulême, Louise Bonne of Jersey, Marie Louise, Doyenné du Comice, Beurré Superfin, and Thompson's Pears were shown by Mr. Hanagan, Mr. Weir, Mr. Oldfield, and Mr. Farquharson. Of dessert Apples, King of the Pippins, Ribston Pippin, Worcester Pearmain, Cox's Orange Pippin, and Mannington's Pearmain were well shown by Mr. Hanagan, Mr. Oldfield, and Mr. Farquharson. The best culinary Apples were Warner's King, Lord Suffield, Ecklinville, Dumelow's Seedling, Stirling Castle, and Wareham Russett, all splendidly shown by Mr. Hanagan, Mr. Farquharson, Mr. Chitton, Mr. Sturton (Erddig), and Mr. T. O. Wright. The amateurs and farmers showed well in their respective classes, and also the cottagers.

Lady Cunliffe, Acton Park, gave away the prizes to the successful competitors at 4 o'clock on the second day, and in proposing a vote of thanks to her ladyship, Mr. T. B. Acton spoke in appreciative terms of the good work the society was doing in the district, and warmly encouraged the executive to continue their labours. Sir Robert Egerton also spoke in favour of the extension of hardy fruit culture, and thanked the worthy secretary, Mr. Jones, of Gresford, for his valuable services to the society.

QUESTIONS AND ANSWERS.

HYBRID PERPETUAL ROSES, &c.—*Henry Parker:* These Roses have been so called because obtained from the Damask Perpetual group by hybridising them with Bourbon and Chinese Roses. The latter are Rosa indica and R. semperflorens, and from their continuous-flowering nature have imparted similar characters to most or all other Roses with which they have been hybridised. Tea-scented Roses are so called because obtained from rose and yellow varieties of R. indica, the flowers of which were considered to smell like tea. Several species of Pyrns are known as Service-trees, but the true Service-tree is Pyrus domestica, otherwise known as P. Sorbus. The application of the name evidently refers to the use of the fruit for various purposes. That of P. domestica is eaten when in a state of incipient decay, like the Medlar. We think the most suitable book for your purpose would be *Botanical Names for English Readers*, by R. H. Alcock, published by L. Reeve & Co., Henrietta Street, Covent Garden, London.

PELARGONIUMS FOR CUTTING.—*G. Downs:* For cut-flower work a good selection of a dozen would be Volonte Nationale alba, Venus, Duchess of Bedford, and Duchess of Edinburgh, all whites; and Madame Thibaut, Triomphe de St. Mande, Capt. Raikes, Digby Grand, Fanny (Hayes), Dr. Andry, Dr. Masters, and Queen Victoria, coloured varieties.

PLANTS FOR EXHIBITION.—*E. Yeomans:* If the requirements of the schedule are that distinct varieties only need be shown, then you are perfectly safe from disqualification, as the two plants concerning which you are most doubtful, are not only distinct varieties, but distinct species. They both belong to the same genus and there is a certain amount of similarity iu the two, especially in the flowers, so that the judges might give the prize to an exhibit containing more widely distinct plants, that is if they were well grown; but they could certainly not disqualify you.

ROOTS OF ELMS, &c.—*Wych Elm:* If you have grubbed out the larger roots of the tree concerning which you speak, the remaining and weaker ones cannot continue to throw up suckers for any length of time, provided you vigorously cut away all that make their appearance above ground. If allowed to bear leaves they will also form fresh roots and strengthen themselves underground, giving you no end of trouble. Where crowns or nests of suckers occur you might there apply a quantity of salt or oil of vitriol, after pulling out shoots that appear above ground. Hypericums, such as H. olympicus, will grow in partial shade, but they do better in full sun. Some of them succeed very well planted on a dry bank; but the above-mentioned species and many others repay more liberal treatment.

VARIEGATED YELLOW ROCKET.—*Henry Dick:* This variety of the common Yellow Rocket is very liable to die off, as you say, after flowering, and is at best a shorter-lived plant than the double form, Barbarea vulgaris flore pleno. The variegated form, however, comes very true from seed, and we should advise you to leave the ground undug, if possible, where the plant flowered and went to seed. Seedlings will no doubt come up in great numbers, not only there but in many places where the seeds might have been carried over the garden, and can be taken up and replanted in convenient or suitable places.

NAMES OF FRUITS.—*W. R. C.:* Apples: 1, Melon Apple; 2, Minchull Crab.

COMMUNICATIONS RECEIVED.—J. W. D.—Rev. W. W.—W. D.—J. V.—Chlorophyll.—F. R. S.—C. H. E. (you have not complied with our rules, by giving your name and address)—D. P. L.

TRADE CATALOGUES RECEIVED.

R. GILBERT, High Park Gardens, Stamford.—Select Strawberries, and Flower and Vegetable Seed Novelties.

PUTZ & ROES, Erfurt, Germany.—Aunual Trade Seed List.

DICKSON & Co., 1, Waterloo Place, Edinburgh.—Select Catalogues of Fruit Trees and Roses.

COVENT GARDEN MARKET.

December 5th.

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ..per dozen	1 6	2 0
Beet, per dozen.....	2 0	3 0	Mushrooms, p. basket	1 0	1 3
Cabbages.... per doz.	1 6		Onions, per bushel ..	7 0	9 0
Carrots....per bunch	0 6		Parsley, per bunch ..	0 6	
Cauliflowers, English, per dozen	2 0	3 0	Radishes, per dozen..	1 6	
Celery, per bundle ..	2 0		Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 0	1 3
Herbs, per bunch....	0 2	0 4	Turnips, per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys. 80s. to 100s. per ton; Champions, 70s. per ton.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½-sieve.....	2 0	4 6	Pine-apples, St. Michaels, each	2 0	7 0
Cobs .. per 100 lbs.	100 0		Pine-apples, Eng., lb.	1 0	1 6
Grapes .....per lb.	0 10	3 0			

Canadian and Nova Scotia Apples, per barrel, 10s. to 18s.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz..	6 0	18 0	Foliage Plants, various, each.....	2 0	10 0
Arum Lilies..per doz.	9 0	18 0	Ficus elastica each..	1 6	7 0
Chrysanthemums, per dozen	4 0	9 0	Fuchsia, per doz.	3 0	6 0
— large plants ..each	2 0	5 0	Marguerites per doz.	6 0	12 0
Coleus .....per doz.	2 0	4 0	Palms in variety, each	2 6	21 0
Cyclamen ..per doz,	12 0	18 0	Pelargoniums, scarlet, per dozen	2 0	6 0
Cyperns, ..per dozen	4 0	12 0	Poinsettia ..per doz.	10 0	15 0
Dracæna term., doz.	30 0	60 0	Primula sinensis, doz.	4 0	6 0
— viridis, per dozen	12 0	24 0	Roman Hyacinths, per doz.	9 0	12 0
Evergreens, in var., per dozen	6 0	24 0	Solanums....per doz.	9 0	15 0
Ferns, in var., per dcz.	4 0	18 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	3 0	6 0	Paper White Narciss, 12 sprays	0 9	1 0
Azaleas ....12 sprays	0 10	1 0	— — — French, doz. bunches	2 0	6 0
Bonvardias, per bun.	0 6	1 0	Poinsettia, doz. blms.	4 0	6 0
Camellias, 12 blooms	2 0	4 0	Primroses..doz. buns.	1 0	2 0
Carnations, 12 blooms	1 0	2 0	Primula, double, bun.	0 9	1 0
Chrysanthemums, 12 blooms	1 0	4 0	Roman Hyacinths, 12 sprays	1 0	1 6
— 12 bunches	4 0	12 0	Roses, Tea, per dozen	1 0	3 0
Cornflower, 12 bunch.			— Red .....per doz.	0 6	1 0
Cyclamen..12 blooms	0 6	1 0	— Saffrano ..per doz.	1 0	2 0
Eucharis. per dozen..	3 0	6 0	Stephanotis, 12 sprays	6 0	8 0
Gardenias, 12 blooms.	3 0	6 0	Tuberoses, per dozen.	0 9	1 6
Heliotropes, 12 sprays	0 6	1 0	Violets ..12 bunches	1 0	1 6
Lapageria, 12 blooms	2 0	4 0	— Parme, French, 12 bunches	3 6	5 0
Lilium longiflorum, 12 blooms	5 0	9 0	— dark French, bun.	1 6	2 6
Maidenhair Fern, 12 bns	4 0	9 0	White Lilac, French, per bun.	5 0	7 0
Marguerites, 12 bun.	3 0	6 0			
Mignonette, 12 bun.	2 0	4 0			
Pelargoniums, 12 spys.	1 0	1 6			
— scarlet, 12 sprays..	0 4	0 6			

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ORNAMENTAL-LEAVED IVIES.—All grown in pots. These are very beautiful objects for training about doors, windows or places where the eye comes in close contact; also make charming objects in the shrubbery fastened to a stout stake, where their pendent branches at once attract the eye as objects of great beauty, 3 ft. to 4 ft., 1*s.* 3*d.* each.

IRISH IVIES.—Grand plants, 3 ft. high, 6*d.* each.

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12, *from above, all different, my choice*, 9*s.*; 6, 5*s.*

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CAMELLIAS, with four and five buds on each, all named, 2*s.* 6*d.* each. Great bargains.

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ROSE LIST, CONIFER and SHRUB LISTS, Free.
One Hundred Acres Nursery. Liberal terms.

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APPLES, PEARS, PLUMS, CHERRIES, PEACHES, NECTARINES, APRICOTS, and other FRUIT TREES, as Standards, Dwarfs, Pyramids, Bushes, Cordon, and Trained Trees in great variety.

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DESCRIPTIVE LIST, containing a sketch of the various forms of Trees, with Directions for Cultivation, Soil, Drainage, Manure, Pruning, Lifting, Cropping, Treatment under Glass; also their Synonyms, Quality, Size, Form, Skin, Colour, Flesh, Flavour, Use, Growth, Duration, Season. Price, &c., free by post.

RICHARD SMITH & Co.,
WORCESTER.

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JAMES CARTER & Co., The Queen's Seedsmen by Royal Warrant, 237 & 238, HIGH HOLBORN, W.C.

OLD-FASHIONED HEDGES.—English Yews, bushy, and with a profusion of fibrous roots, 1½ to 2 ft., 6*s.* per doz., 35*s.* per 100; 2 to 2½ ft., 8*s.* per doz., 50*s.* per 100; 2½ to 3 ft., 9*s.* per doz., 60*s.* per 100; 3 to 3½ ft., 12*s.* per doz., 84*s.* per 100. Prices of larger sizes and other Evergreens suitable for Hedges (*e.g.*, Tree Box, Holly, Laurel, Privet, Cypress, Juniper, Thuja, &c.) on application.—RICHARD SMITH & Co., Nurserymen and Seed Merchants, Worcester.

PANSIES.—100 stout transplanted plants from open ground, in 8 named varieties, free, 2*s.* 6*d.*; 100 Flowering Shrubs, in 100 very choice varieties, stout transplanted plants from open ground, 1 to 4 feet, free, carefully packed, 27*s.* 6*d.* Virginian Creepers, 12 strong transplanted plants, in 8 distinct varieties, including A. Veitchii (small-leaved), A. sempervirens (evergreen), A. variegata (charming pink and white variegation), free, 3*s.* 9*d.* China Roses (the true perpetuals), 10 strong plants, on own roots, in 10 distinct varieties, free, 2*s.* 9*d.*—J. GALVIN'S NURSERIES, Roscommon.

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Next Week's Engagements.

TUESDAY, Dec. 18th.—Sample Sale at Protheroe & Morris's Rooms.

WEDNESDAY, Dec. 19th.—Sale of Bulbs and Plants at Protheroe & Morris's Rooms. Sale of Shrubs, Bulbs, &c., at Stevens' Rooms.

THURSDAY, Dec. 20th.—Final Sale of Dutch Bulbs at Protheroe & Morris's Rooms. Sale of Lilies and Tuberoses at Stevens' Rooms.

FRIDAY, Dec. 21st.—Sale of Orchids in Flower, &c., at Protheroe & Morris's Rooms.

SATURDAY, Dec. 22nd.—Sale of Shrubs and Bulbs at Stevens' Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, DECEMBER 15, 1888.

CURRENT TOPICS.

THE CHRYSANTHEMUM CONFERENCE.—The National Chrysanthemum Society has done well to recognise the fact that other duties and responsibilities rest upon horticultural societies, and especially upon such bodies as the one in question, than is found in the mere arranging of exhibitions, and offering prizes for competition. That the competitions are the natural outcome of the universal cultivation of our most beautiful autumn and winter flower may be taken for granted; but after all the chief labour of such a society should be found in fostering deep love for the Chrysanthemum apart from its exhibition properties, and in developing wide cultivation, as well as the knowledge of good cultivation in the most liberal way. Therefore we hail with satisfaction the proposed conference because it evidences a desire on the part of the society to step out of the beaten track, and to do something as useful as it will be unostentatious.

Naturally in arranging a conference it is needful, to give it value, that it should be a little original and the reverse of stereotyped. To have papers on such subjects as were dealt with at Sheffield so admirably, or to cover ground thrashed over time after time in gardening publications and books, would be little less than wasting time. That the conference is to be held during the mid-winter show points to the conclusion that the cultivation of plants—with best varieties for the purpose—to produce January flowers of good quality would be of special interest and value. We have such an immense wealth of flowers of every kind before Christmas that knowledge of the art of producing these is far less needed than is special information as to the production of flowers in mid-winter. Then there is in prospect—if yet remote—the centenary celebrations, the best method of conducting which should also form a topic of discussion. To do it well is of such importance that how to proceed with that view can hardly be discussed too early, and it is but fair that all classes of Chrysanthemum fanciers should have their say in the matter, as well as members of managing committees.

PROSPECTIVE WEATHER.—With all its customary affability the weather has of late afforded ample stock of material for conversation both in public and in private. Britishers perhaps have rarely ever realised, or realising, have recognised how much in a conversational aspect they owe to the weather. It is so varied in its character, and so often just the reverse if not of what it ought to be, at least, what it is expected to be, that almost every day brings new aspects for surprise and remark. That we have recently had some wonderful weather for the time of year there can be no doubt. Enthusiasts have spoken of it as delightfully spring-like, somewhat oblivious of the fact that springs now-a-days have in them too much of a tinge of iciness, of bitter easters, and of sharp white frosts, to merit the appellation of idealistic.

That the recent weather was just what we would like to see in the spring months there could be no doubt, and the birds with their rich harmonies, and the spring flowers in their profuse blooming seemed to realise that for once spring—the spring-tide of poesy and tradition—had come. Will the winter partake of the soft mild nature of its earlier days? That is indeed hard to tell, for the soft placid mildness of one week may be changed into fierce storms of snow and sleet, or to intense frosts the next. We have absolutely no data upon which to base our anticipations of the coming winter—indeed, data of any kind seems valueless, as even our most capable meteorologists can hardly foretell the nature of the weather for one day. Gilbert White, in his interesting *Natural History of Selborne*, left behind some general descriptions of the seasons about one hundred years ago, and with the exception that their winters occasionally were colder, the frosts severer, and the snow-falls deeper, whilst also at times summers were intensely hot, there does not yet appear to have been any great divergence from the general tenour of seasons now. On the whole, perhaps, we have now less of extremes and more of equability. Is any observer now furnishing for future generations such weather notes as White gave us of the weather a century since?

A ROSE CONFERENCE.—Yet another conference is in prospect, in fact an epidemic of horticultural conferences seems to have set in recently. This later conference is to relate to the Rose, and if we have in the subject one which has been written about most exhaustively, yet it may prove that something fresh is to be said. It will be hard to provide for the Rose greater popularity, for it is the most prized of garden flowers; but the conference may help to popularise higher cultivation. Perhaps something also may be done to create a taste for those Roses, which if beautiful in gardens, are not adapted to win cups and

medals on the exhibition table. Some adventurous Rosarian may perhaps propound the question as to whether in favouring the culture of one or two sections of Roses only, admittedly very beautiful ones, exhibitions have not rather checked the wider cultivation of many beautiful kinds, which, all the same, lack exhibition qualities.

The Fruit Conference recently held had in view economical aspects, which can barely be found in association with Roses, and the fact that fruit is not only food, but is also an important element of trade, must always serve to give interest to fruit discussions. Perhaps the chief mercantile element in connection with Roses is found in their nursery sale; but there is some useful room for discussion in relation to the production of more flowers for ordinary market purposes. It may be, indeed, that in the discussion of such a topic the most practical results of the conference will be found. We are pleased to find that Chiswick to be the scene of the conference, and also that it is to be held in the middle of the Rose season. It is just then a busy time with rosarians certainly, but to attend an important conference some little sacrifice may be looked for, and a few small shows and prizes foregone. A goodly show of these flowers of every form and colour would prove a powerful aid in getting attendance at the conference.

Royal Botanic Society.—At a meeting of this society held on Saturday last, Mr. J. P. Gassiot, vice-president, in the chair, there was shown specimens of no fewer than twenty-four different kinds of spring-flowering plants which had bloomed in the open air in the gardens of this society, and gathered on December 8th.

Mr. William Spinks, an old Chiswick man, who has for some years been manager of Mr. Hans Niemand's nursery at Harborne, Birmingham, has lately accepted a similar engagement with the Messrs. Hewitt, at Solihull, near Birmingham.

Tulips at the Paris Exhibition, 1889.—We understand that in the last week of November Messrs. E. H. Krelage & Son, of Haarlem, planted in the horticultural portion of the Paris exhibition six beds, each of an area of 225 sq. ft., with late Tulips, of which bulbs of more than seven hundred varieties were put in the ground. The Tulips have received a *place d'honneur;* the beds selected for planting being on the large grass-plot surrounding the fountain, in front of the Palace of the Trocadero. These Tulips, flowering usually about the middle of May, are expected to be ready at the opening of the exhibition, or shortly afterwards.

Shell Dust.—At the Drill Hall meeting on Tuesday, Mr. A. Dean, Bedfont, exhibited a sample, under this name, of an article we should like to know something more about. It was the product of sea shells, gathered and calcined in a small kiln, in his leisure hours, by a Kentish pilot, who states that in his light soil it proves to be an excellent manure, being a compound of phosphates, pearlash and alkali. It is applied to ordinary garden or field crops at the rate of 4 cwt. per acre, and can be produced at 7*s.* 6*d.* per cwt. Owing to the calcining process the manure is much more active than if the shells were merely crushed, and some of the growers present thought it would be a valuable ingredient for mixing with the compost for such things as Primulas, which are notoriously fond of pounded shells.

The Royal Horticultural Society of Aberdeen.—The acting directors of this society held a meeting in the secretary's office, Bridge Street, Aberdeen, on the 6th inst. Mr. Alex. Robson, vice-chairman, presided, and there was a good attendance. A list of donations and special prizes was submitted and considered eminently satisfactory. The best thanks of the society were ordered to be conveyed to the Town Council of Aberdeen, the Earl of Aberdeen, Sir W. Cunliffe Brooks, Bart., M.P., Lord Provost Henderson, Dr. Campbell, M.P., Councillor Lyon, James Murray Garden, Thomas Ogilvie, Andrew Murray, Junr., and others who have so liberally contributed to the prize fund. On the motion of the secretary, Mr. A. M. Byres, a cordial vote of thanks was accorded Mr. Robson, vice-chairman of the acting directors, for his efforts in connection with the prize fund. The prizes were then allocated over the different classes in the schedule, and the schedule ordered to be printed. The annual dinner will be held in the Douglas Hotel, Aberdeen, on Friday evening, the 21st inst. Mr. James Murray Garden, chairman of the acting directors, will take the chair, and Ex-Dean of Guild Walker and Mr. Thomas Ogilvie will act as croupiers.

The North of Scotland Horticultural Association.—The monthly meeting of this association was held in the Christian Institute, Aberdeen, on the 7th inst., Mr. D. M. Smith (vice-president) in the chair. Mr. Wyllie (of Messrs. Smith & Sons, Aberdeen) read a number of papers on "New Plants, Fruits, Flowers, and Vegetables of the Season." The papers, which were contributed by Mr. Fraser, Kew Green, Surrey; Mr. R. Lindsay, Royal Botanical Gardens, Edinburgh, and several local gardeners, treated the subjects they dealt with in a most interesting and exhaustive manner, and an entertaining discussion followed. At the close Mr. Wyllie was heartily thanked for reading the papers, and a special vote of thanks was awarded the contributors.

Gooseberries in Flower.—As an indication of the mildness of the weather about Bannockburn, we had some cuttings of Gooseberries sent us, on the 5th inst., by Mr. James McDonald, View Vale Gardens, Bannockburn. No leaves, certainly, were borne by them, but the fruit buds had burst, bearing each one or two fully-expanded flowers. We hope, however, that this is not a general indication of the state of the Gooseberry bushes throughout the country, otherwise all chance of a good crop next year will be blighted before spring. Mr. McDonald says that the plantation is fully exposed to the north, so that precocious flowering is not due to a warm sheltered situation. We may reasonably expect the Glastonbury Thorn (Cratægus oxycantha præcox) to be in flower on Christmas Day this year. Another correspondent—namely, Mr. M. Brodie, of Skibo Castle Gardens, Sutherland—says that the weather is equally mild there, and that many of the Gooseberry bushes and Apple trees have the flowers well advanced or even open. During the last cold summer we also learned that various garden crops in those northern districts were in advance of those in more southern counties.

Carters' Provident Sick Fund.—The third annual meeting of the subscribers to this fund was recently held in the warehouses of Messrs. James Carter & Co., High Holborn. The chair was occupied by Mr. C. H. Sharman, the general manager, who, in a few well-chosen remarks, pointed out the principal features of usefulness to which the society had aspired. The number of subscribers during the year had been 289, and fortunately there was no case of death among the members to be recorded; but fifty-three members had become chargeable to the funds by reason of sickness during the year, and the payments on that head were one and a half times in excess of the previous year. Nevertheless it was found possible to add a further sum of £25 to the reserve fund, to make a donation of £10 to the Hospital Saturday Fund, and to distribute a bonus at Christmas, which should represent rather more than half the year's subscription of every participating member. After providing for these a comfortable working balance would still be held in hand. Such a satisfactory state of affairs is very creditable to the management of the fund, and the confidence of the members in their executive officers was shown in a marked manner by the unanimity and enthusiasm with which they were re-elected. A very pleasant meeting terminated with the usual vote of thanks to the chairman.

RENOVATION OF OLD AND FORMATION OF NEW ORCHARDS.

(*Concluded from p.* 231.)

An orchard open to the east or south-east is almost sure to suffer after an attack of spring frost when in full flower or setting, whereas one with a western aspect, which does not receive the sun until the temperature has risen and dispelled the frost, often sets and carries full crops to maturity. Hardly a year passes in which the gardener does not find early crops of all kinds are safer and finer upon west borders than upon others. Therefore, I think few will deny that his experience is of great value to the planter. The site, I may say, should be above the line of fog, and it should not be too near or on a level with water. If naturally drained, much time and expense will be saved, otherwise this operation must be well carried out as a preliminary to preparation. This may be performed in two ways—viz., by trenching two spits deep for pyramids or bushes, or by taking out large circular stations on grass or arable land for standards. If trenching is decided upon, the bottom spit, if heavy and inferior, should not be brought to the surface, but it may be ameliorated by the addition of burnt clay from the drains, by road scrapings, or any other fresh friable material short of rich animal manure. This, unless the staple be very poor, I would keep back for use as a mulch after the trees are planted. On all ordinary loams young trees grow fast enough at first; but the time comes when they must be fed, otherwise they cannot be expected to yield year after year fruit of the finest quality.

In the preparation of stations for standards on grass or tillage ground, I would throw off the top spit 9 ft. in diameter, break up the bottom, and throw out clay or bad material to be carted away or burned. If cold and at all unfavourable to root growth, exposure of the soil for a few weeks or months would greatly improve its quality. Otherwise, after correcting the bottom spit, that thrown off first, turf included with anything in the way of road scrapings or old lime rubble added, may be chopped in until the hole is quite full, or a little above the general ground level. A stout stake should then be driven down to the solid bottom as a support for the tree when planted.

Planting may be performed at any time from the beginning of October up to the end of April. Autumn, however, is best, as the roots at once take to the soil and the trees make a fair growth the following summer. October and November undoubtedly are the best months, that is provided the land is in perfect condition and the weather favourable; but so important is getting the trees into the ground when it is fairly warm and dry, that I would rather defer planting until April than risk placing the roots in a pasty medium. Trees of home growth—that is, from one's own nursery, which every fruit grower should have—may be planted much earlier than others brought in direct from a distance. All trees should be carefully divested of faulty or injured roots by a clean cut with a sharp knife; they should never be allowed to become dry, and each root and fibre should be spread out in a horizontal position, lightly covered, and watered home.

In the arrangement of trees the rows, if convenient, should run from north to south or north-east to south-west, as three out of four sides then receive an equal share of sun and light. The old fault of planting them too close should be carefully guarded against, as good fruit cannot be expected when the heads grow into each other and the roots are constantly shaded. Standards of upright-growing varieties may be placed 30 ft. apart each way, whilst 40 ft. will not be found too much for spreading trees like Flanders Pippin and Blenheim Orange. Trees, again, of one variety, or a similar habit of growth, and which ripen their fruit at the same time, should be kept together, or in rows, alternating with others of a spreading or upright character. By observing this rule at the outset the general and orderly appearance of the nursery will be greatly improved, and much time and labour will be saved when gathering the fruit. The same rule applies also to pyramids and bushes, which, by the way, should have plenty of room for extension in every direction, as no extensive planter can afford to prune close home upon villa garden principles, especially when the best of the fruit is cut away by the process. Thinning the shoots and branches annually, of course, is necessary, but beyond this, and maintaining the balance by tipping a gross shoot, I should let each tree go.

NOTES ON FRUITS.

The Devonshire Quarrenden Apple.

The writer ("F") of the short but interesting letter in your last week's issue (p. 227) is amused that this Apple should be called the English "Quarantine." I may tell him that I have frequently felt amused by it being mis-called "Quarrenden," as I have often heard my father say that one of his ancestors (who was a nurseryman) introduced it into this country, having purchased some trees at a Custom House sale, and hence gave it the name "Quarantine." My grandfather tried to re-name it "Queen of England," but as he was not in the trade, its new name did not reach much beyond his own family. The Apple has very much degenerated. I remember a tree in my father's garden the fruit on which was 4 ins. and upwards in diameter. My father has told me that the fruit used to sell in Covent Garden Market at 4*d.* and 6*d.* each.—*S.* [Dr. Hogg, in the last edition of the *Fruit Manual*, says:—"This is

supposed to be a very old variety. The earliest record I can find of Devonshire Quarrenden is in *The Compleat Planter and Cyderist*, published in 1690. In 1693 it is mentioned by Ray; and, except by Mortimer, it is not noticed by any subsequent writer till within a very recent period. It seems to have been unknown to Switzer, Langley and Miller; nor do I find that it was grown in any London nurseries before the beginning of the present century. The only early catalogue in which I find it is that of Miller & Sweet, of Bristol, in 1790." We should be glad if "S." would draw on his memory a little further, and, if possible, give us some dates and other particulars that will help us to fix the authorship of the name "Quarantine," which, so far as we know, is a dealer's name only, and is not to be found in works on Pomology.—Ed.]

Duchess of Oldenburgh Apple.

While we have no objection to Apples of Russian origin, we still dislike Russian names, which to an Englishman are difficult to pronounce and often as difficult to spell. In this instance, however, the Russian synonyms are not so difficult as they might be, and these are two of them—namely, Borowitsky and Charlamowiski. The fruit as grown in this country is certainly very handsome, and variable as to shape, being sometimes round or rather flattened, and strongly angular at the sides, or again sub-conical or oblong, without any ribs on the sides, although the cavity round the eye is generally more or less shallowly ribbed or wrinkled. The skin is greenish yellow, changing to yellow, and splashed on the sunny side with broken patches of red, or sometimes of an almost uniform brilliant red or crimson. The flesh is yellow, crisp, juicy, and agreeable to the palate, on which account it may be used either for culinary or dessert purposes. It ripens in August, and is said to keep in season till the end of September; but it will remain fresh under favourable conditions up to the end of the year. It loses, however, greatly in flavour after that length of time.

Rosemary Russet Apple.

In size and general appearance this may be compared to Cox's Orange, although abundantly distinct in every way. It is described as a valuable dessert Apple of the very first quality, and so it is; but there are several Apples that come under this category, and although it would certainly be described by those who consider themselves experts in the matter as inferior to Cox's Orange, yet it is saying a deal for it when we compare it to the latter variety in many respects. The fruit is of medium size, or rather below it, ovate in outline, and gradually tapering from a broad base towards the eye. The skin is greenish yellow, and flushed with a paler red on the exposed side than is Cox's Orange; but as far as neatness and regularity of outline are concerned it is a pretty Apple, and quite equal in that respect to Cox's Orange when grown under the same conditions. The flesh is firm, yellowish, sweet, crisp, and of a rich and agreeably aromatic flavour. That it is less seldom grown than it ought to be is evidenced from the fact that only eighteen dishes of it appeared at the National Apple Congress, held at Chiswick, in 1883, while of Cox's Orange there were 123 dishes. Only one dish was certificated at the recent Apple and Pear Conference held there. It is in season from December to February.

CHRYSANTHEMUM NOTES.

Propagating: Heat *versus* Cold.

When doctors disagree, who shall decide? The triteness of this old adage was never more forcibly illustrated than by the practice of our two champion growers, Mr. Tunnington and Mr. Molyneux, in the matter of striking Chrysanthemum cuttings. We owe a debt of gratitude to both of them for giving to the gardening world such valuable cultural details as appear in the papers read at Sheffield. Yet they disagree on this one point, and both are successful in their own way. Mr. Molyneux in *Chrysanthemums and their Culture*, p. 6, states that the application of bottom-heat to the cuttings is quite a mistake, while Mr. Tunnington in his "Chat" at Sheffield, told us that he preferred a slight amount of bottom-heat, and in my humble opinion that is the most rational practice. When a cutting is severed from the plant it is unnatural to expect it to right itself, when deprived of that transmission of sap which was forced into it by the agency of the roots, and a slight bottom heat should, therefore, be kept up to aid in the absorption of moisture, thereby preventing flagging. The severed cutting when inserted in the soil responds at once, and commences to absorb and maintain itself without flagging according to the degree of heat or cold. Some growers may not be particular about

Pyramidal Apple Tree on the Paradise Stock.

Bush Tree on the Paradise Stock.

Pear Tree on the Quince.

flagging, but it is nature's cry denoting unfair treatment, which may be brought about either by cold soil or too much evaporation from leaf-surface.

But what are we to understand by cool treatment? My impression is that it is simply a balance between the two extremes of heat and cold in soil and atmosphere alike, giving only sufficient of that impetus or strength to the newly-inserted cutting to keep itself alive, neither roots nor top making much headway. If the temperature is too low, damp claims its victims; if too high, a spindly growth ensues. Yet, for the inexperienced, the cutting is safe, even if the error be on the side of keeping it too warm. It may be claimed that cool treatment—although I do not recognise the word cool—imparts vigour to the stem, but the stem is not yet a plant; sturdiness cannot be imparted without roots to feed it. We must have roots first, then growth will follow, and as soon as a slight freshness or growth is discernible, the object is accomplished, and the cuttings become living plants, ready to undergo cooler treatment.

As before said, it is the neglect that follows in coddling after they are struck that most concerns us. We ought to lay as little stress as possible on whether they are struck in heat or not. The all-important factor lies in the words, "As soon as struck (which may be either in ten days or as many weeks, according to the temperature to which they are subjected) transfer them to a cooler place." Now, here again Mr. Tunnington applies the remedial measures according to the constitution of the cutting. Mr. Molyneux also attaches great importance to sturdy cuttings, and it is, perhaps, in this he succeeds so well with his treatment, as well as in being experienced, and not neglectful of his favourites.—*Chlorophyll.*

The Best Amateurs' White Chrysanthemum.

Mr. Herbert, of Hammersmith, at p. 225, says that he had a white incurved variety named Mrs. Huffington, all the cuttings of which that he put in sported into a violet-rose coloured variety without the white. This seems to be a very curious proceeding, and I would suggest that your correspondent should examine his conscience and see if he cannot find some reason to think that he has been mistaken. However, apart from that I will answer his question by saying that Mr. Cannell sent me about seven years ago a veritable "Little Beauty," under that name. I planted it against a south wall, and I can guarantee that for freedom of blooming, perfection of flower (incurved), and hardiness of constitution it is faultless. In colour it resembles Webb's Beauty (N. C. S. Catalogue), but the flower is never large, though a tall robust grower. I can let Mr. Herbert have cuttings if he finds it difficult to obtain. Two Japanese varieties that might suit him are Beauté de Toulouse and Beauté Parfaite, but neither are so free-flowering. — *W. J. Murphy, Western Road, Clonmel.*

National Chrysanthemum Society.

The Floral Committee of this society met at the Royal Aquarium on Wednesday, the 5th inst., Mr. Sanderson occupying the chair. A good show of Chrysanthemums were staged for the consideration of the committee, and three of these were awarded Certificates—viz., *Etoile de Lyon.*—An enormous flower, rose-violet, shading to silver at the margin of the petals. Shown by Messrs. Cannell & Sons, Swanley, and also by Messrs. J. Laing & Sons, of Forest Hill. *Mrs. W. K. Harris.*—An American variety, blush, with a fine twisted petal; a very full flower. Shown by Mr. Beckett, of Elstree, who also exhibited fine blooms of Charlie Sharman and Pelican. *Cæsar.*—An Anemone flower, with mauve guard petals and a yellowish centre; not large, but of good shape. Shown by Mr. Elliott, of Jersey.

DWARF APPLE AND PEAR TREES.

Amateurs are frequently deterred from planting fruit trees, both on account of the size they attain and the time it takes them to come into bearing. The great objection to them in small gardens is that a few of them occupy the whole area to the exclusion of flowers, which they almost invariably place in the first rank of what they wish to cultivate. Another objection is that large trees prevent the possibility of obtaining much variety. This difficulty can be obviated by obtaining Apple trees grafted on the Paradise stock, and Pear trees on the Quince. In illustration of this, we give a figure of an Apple tree grown in the pyramidal form, and another in the bush form. A third figure represents a Pear tree grown as a small pyramid on the Quince. The stocks we have mentioned have a dwarfing effect, repressing the natural vigour of the trees, and throwing them into a fruitful condition the second or third summer after they have been grafted; and by a judicious pruning back of the yearly shoots, or by thinning them out where necessary to prevent crowding, they may be retained in a small state for many years, bearing large fruits of first-class quality. The trees may be planted 4 ft. to 6 ft. apart according to their size, and transplanted when necessary.

GARDENING NOTES FROM IRELAND.

Apple and Pear Trees in Irish Gardens.

In the so-called management of Apple and Pear trees in Irish gardens, no defect—and there are many—is so apparent as the manner in which American blight is allowed to work its way on them throughout the country. The neglect to eradicate this pest is wide-spread, and it is causing the deaths of thousands of trees which could be saved by timely attention in getting rid of the blight. A lot of ignorance prevails regarding American blight, as in many places I have found people giving it the name of canker, and lest it might be thought there was any neglect shown regarding it, they are usually careful to add that "sure once they get canker, there is no curing them ; it must be in the soil it is." This is the sort of reasoning that is permitting American blight to work its way unchecked over a wide area of country, and which is slowly working out the ruin of the trees. My observation of this state of things extends for many years back, and I have known of instances where fine old trees have died out from this cause ; and being replaced now and again by young trees, they too have gone the way of the old ones, and through the grossest ignorance regarding what was killing them.

In saying this I am not to be taken as imputing to regular gardeners a want of knowledge in so important a part of their business, but rather to show that such losses have arisen through the employment of inexperienced men, who have in many places been appointed to take the positions formerly held by gardeners competent to discharge all the duties pertaining to their profession. No doubt it is this class of cheap Handy Andys who will be found to resort to the use of such a dangerous and deadly agent as gas-tar as a cure for the various pests which afflict Apple and Pear trees. Even in England it appears that persons of this class are to be found, as I notice a statement in a late issue of a London horticultural journal, that a number of the stems of the fruit trees had been dressed with gas-tar, with the view of preventing the female winter moth from laying her eggs on the stems and branches of the trees. Well, of course, trees so dressed are sure to die, and the probability is that a too confiding employer will be told the mishap is due to some other cause. I thought the effect of gas-tar on all vegetable life was generally known to be so destructive that no one could be found to use it. It seems, however, that nothing less than actual experience with it will please some people.

Permit me to give a case bearing on this subject. A landed proprietor who had a fine twenty to twenty-five years old mixed plantation running alongside a race-course, was much annoyed by persons climbing up the trees to watch the racing, causing, of course, some injury to them. To prevent this occurring again, he gave orders to have the trees painted with gas-tar just before the races were to come off, and needless almost to say, that while he succeeded in keeping off the roughs, he at the same time took the best way of effectually killing every tree to which the gas-tar had been applied. Instances of a like nature could be multiplied, but I hope the one mentioned will be sufficient to caution anyone disposed to use it for destroying American blight or any other destructive pest which may be found injuring fruit trees. Whatever remedy is made use of for the extirpation of American blight, it is time that owners of these fruit trees in Irish gardens took steps to preserve them in a healthy condition. [See p. 243.]

East Lothian Stocks.

In the hunt after white flowers, it appears that this Stock is not made sufficient use of for producing them. For pot culture, there is no doubt that they could be made admirable use of for cutting at this season of the year. Of this I had very recent experience, in seeing a good lot of plants grown in this way under glass in frames. In the same place were a nice lot planted out, and in full flower, but which, if not protected, would of course succumb to the first frost reaching them. I suggested this latter course, and if attended to in this instance a good supply of these white flowers could be obtained until after Christmas. By-and-bye the plants in the pots will be removed from the frames to a greenhouse, where they will remain in flower for some time, and these, as well as the others planted, will be expected to flower again during the next summer.—*W. D.*

Impatiens Sultani.

On a late occasion I had an opportunity of seeing a fine well-grown collection of these plants, and I think that as a house decorative plant for this time of year, there are few other flowering subjects equal to Impatiens Sultani. The plants were growing in 7-in. pots, of very luxuriant habit, and were remarkably free in their flowering. When seen in quantity, and flowering as I saw them, few could fail to admire them. These plants had done duty the best portion of the summer in a conservatory attached to the dwelling-house, and being somewhat drawn, when autumn arrived they received a slight shift, and were transferred to low houses, and placed near the glass in an Adiantum house, and the effect produced was as I have mentioned above. In the same house were some plants of the new I. Hawkeri, looking remarkably stout in growth, but they do not appear to be so free in flowering as I. Sultani. Again, very small plants of the latter can be had the whole season through, densely covered with bloom when it is well done, while I. Hawkeri appears to attain a good size before it shows flowers. At the same time, as decorative plants I think room can be found in most plant collections for both species. I. Sultani is a general favourite, and although it sometimes meets with some rough usage in trying to winter it in greenhouses, where it does not receive the requisite amount of heat, still it is certain to be grown largely. The freedom with which it can be produced from seeds will cause it to be looked for, and its fine blooming qualities will always give satisfaction for any little trouble gone to in its cultivation.

KITTYBREWSTER NURSERY, ABERDEEN.

On the northern outskirts of Aberdeen, and close by the Kittybrewster railway station, are the nurseries of Messrs. Cardno & Darling. The Kittybrewster Nursery occupies an area of about twenty-three acres, and is mostly planted with forest trees, mainly Coniferæ, but also containing large breadths of hard-woods or deciduous trees. There is also a large assortment of ornamental trees and shrubs, and a good collection of herbaceous and Alpine plants, florists' flowers, &c. The ranges of glasshouses are also located here.

Forest Trees.

Of Larch and Scotch Pine there are breadths of healthy young trees from one to five years old. There are also large quantities of untransplanted seedlings in beds that were raised from home-grown seeds. Trees so raised are more suitable for the Scotch climate than those raised from Continental seeds. The two and five-year-old seedling Spruces (Picea excelsa) are very healthy, and transplant readily till they become of large size. The common Silver Fir (Abies pectinata) is frequently planted as a forest tree in Scotland, and often attains an immense size. There is a considerable quantity of four-year old seedlings in the nursery. Then there are Beeches three years old, Thorns three years, Birch two years, Scotch Plane or Sycamore four years and from 1 ft. to 3 ft. high, Norway Maple two years, Cherry, Ash and Laburnum from one to three years, Oaks, Spanish Chestnut and Elms from 1 ft. to 2 ft. high, and Black and Taurian Poplars from 1 ft. to 3 ft. high. There is also a collection of Limes, Planes, Willows, Poplars, and other subjects from 6 ft. to 12 ft. high.

Ornamental Trees and Shrubs.

Conifers are represented by healthy young trees of Abies nobilis, A. n. glauca, Araucaria imbricata, Retinospora plumosa, in various forms ; Cupressus Lawsoniana, C. L. lutea, and C. L. Fraseri, columnar plants of great beauty, differing from C. L. erecta viridis in its close habit and glaucous colour, while the latter is green. C. L. nana, and the silvery glaucous C. L. elegans, are represented by plants from 1 ft. to 2½ ft. high. Then there are Thuyas in plenty, and Thujopsis dolobrata. The Colchicum Laurel is a more rapid grower than the common Cherry Laurel, is hardier, and more handsome. Borders are planted with Mahonias and Box, from 1 ft. to 2 ft. high, and Portugal Laurels are about the same height. There are also large quantities of seedlings of Rhododendron ponticum and named hybrids. Green and variegated Hollies, named sorts, also receive considerable attention. Amongst deciduous trees we noticed double-flowering Thorns, red-berried Elder, Copper Beeches, Weeping Willows and Elms, and healthy strong-growing specimens of Dimorphanthus mandshuricus, with large bipinnate leaves. Amongst fruit bushes, there are good quantities of Black Currants and Gooseberries, from one to four years old.

Herbaceous Plants and Hothouses.

The last week of September was not a very suitable time to see herbaceous plants in great variety, yet some choice subjects were in flower, including Galtonia candicans, Lilium tigrinum, L. longiflorum, Colchicums, Gaillardias, and Pyrethrums, both single and double, flowering plentifully the second time. Christmas Roses are also grown to some extent, and large collections of Pansies and Violas.

The greenhouses at that time were bright with White Queen, Madame Desgranges, and M. G. Wermig Chrysanthemums and tuberous Begonias, as well as B. Ascotensis and B. Weltoniensis. Camellias, Azaleas, Acacias, Roses, Eupatorium odoratum, and Aralia Sieboldii, are also grown in quantity. The stoves and pits were occupied by a mixed and varied collection of different subjects, including some batches of seedling Gloxinias in flower. Stephanotis, Pandanus Veitchii, Clerodendron Thomsonæ, Ananassa sativa variegata, and Calathea zebrina, are indispensable decorative subjects, and to be found in most establishments, as well as Selaginella Kraussiana, S. K. aurea, and S. K. Brownii, so useful for decorative work.

THE INTERMEDIATE HOUSE.

Winter-flowering Plants.

In this particular department it cannot be said that there is, during the winter months, what may fairly be called an abundance of bloom ; still there are many plants which will tend to render the house, if not gay, at least cheerful, and it is because of their flowering at this period that they are so welcome. Among the number may be mentioned :—

Thyrsacanthus rutilans.—This is certainly a most desirable subject, and one that looks well in any collection. The flowers are tubular in shape, of a bright rosy pink colour, and borne on drooping racemes, produced from the axils of the leaves at the extremity of the growth. Their culture is simple ; in the spring, cuttings may be taken, which, with bottom heat, will soon strike and root freely ; pot them on as soon as ready, so that no check is received in their growing period for want of root room, and consequently, nourishment. Pinch, to induce the formation of a dwarf habit, which increases their value. Soil composed of loam, leaf-soil, silver-sand, with a little peat, will suit them admirably. Water can be freely given, and liquid manure in weak doses will be found beneficial ; the syringe should also be used frequently. Plants thus treated will furnish good results, and with a fair number of shoots will make an attractive show when in bloom, especially showing to advantage when raised up. Old plants may be grown on, but these will, in time, become unsightly, when the cuttings may be taken and treated as above.

Plumbago rosea.—This beautiful species deserves to be more frequently met with than is generally the case. The flowers are small, rosy pink in colour, borne on long spikes which proceed from the shoots at their extremities. Their blooming period is prolonged on account of its continuity. Cuttings may be taken to increase the stock, but old plants cut back are the best for making a show, and whether used for grouping or as cut flowers, are always admired. Its cultural requirements differ little from the foregoing, and both may be grown side-by-side.

Begonia insignis.—This may be called an autumn bloomer ; so it is, and will continue in full beauty for weeks to come. Profuse flowering is characteristic of this species, small flowers being of a blush-pink, and very pretty. It is an evergreen variety, requiring much the same treatment all the year round. Loam, leaf-soil, and sand will suit very well. After blooming, the long growth should be cut back to keep the plant within reasonable proportions, also the old wood gradually dies, and these are quickly replaced by new shoots issuing from the base of the plants, which under favourable conditions grow rapidly. They are benefited by being placed in a greenhouse during the summer months to ripen them up, afterwards introducing them into a warmer house to flower.—*F. R. S.*

PARAFFIN IN THE GARDEN.

I am glad to see that your correspondent, Mr. Alex. Wright, has again taken up the question of paraffin oil, recommending its use in various ways. I have written strongly in its favour previously in your journal as an insecticide, and as a remedy against the attacks of birds, mice, insects, &c., on seeds and young seedlings; and further experience has convinced me that, in my opinion at least, it cannot be equalled by any known remedy, as it is both effectual and economical.

I cannot agree with Mr. Wright that steeping Peas in paraffin oil can have any effect upon the young plants as they appear above ground. I should imagine that if the seeds were steeped for two or three minutes it could not penetrate their coats in that time so as to affect the germ; seeds will absorb water very quickly, but paraffin being an oil would not penetrate the seed in that time; but supposing it did so, all taste would disappear before the plants appeared above ground. I have never found it had any effect that way, but have often been obliged to syringe the young plants two or three times to keep off the depredators. But, still, too much cannot be said in its praise, as it is a great boon to gardeners. I have used it sometimes once or twice a week in syringing stove plants or other subjects likely to be subjected to the attacks of insect pests, such as mealy bug, thrip, red-spider, &c., as I believe in the old adage, "Prevention is better than cure," and have never found it injurious to vegetable life if carefully administered; and I really think with Mr. Wright that plants are benefited by it. I have had to deal with places where plants were smothered with mealy bug, and have given them a thorough drenching with an admixture of paraffin and water in about the same proportions as Mr. Wright recommends, until the soil in the pots has been completely soddened. In one instance only have I seen any ill effects, and that was in the case of a variety of Begonia Rex, the leaves of which were injured a good deal. I can only account for the injury done in this way: the oil not being properly mixed with the water floated on the top, and was thus drawn into the syringe; the plant had, therefore, an extra strong dose, and the stem and leaves being rough and hairy, retained the oil upon them in large globules for a long time, which the plant could not put up with.

In the stove, especially where the attacks of insects are so prevalent, I would strongly recommend frequent syringing with paraffin oil, which will materially assist in keeping the plants clean and healthy. For Roses, both outdoors and in, it is very useful to clean the bushes of aphides and maggots, and also in all cases where insect life is injurious to vegetation, as well as in other instances which Mr. Wright recommends. It is the best remedy I have yet found against the attacks of red-spider, that insect pest which is so troublesome to gardeners. Then I find it best to thoroughly syringe the trees, first with clean water, in order to wet all the leaves, stems, and branches, and then syringe well with the paraffin so that it spreads all over the surface of the trees, which it will quickly do if treated in this way.

Peaches and Nectarines will take a pretty strong dose, and as those trees are very much subjected to the attacks of red-spider, two or three good doses will effectually get rid of the pest. I should think farmers would find it a very useful and cheap article to soak Wheat and other seeds in before sowing, although many use gas-water, which is very good for this purpose when it can be easily got. I hope other gardeners will give us the benefit of their experience on this subject, as I believe with Mr. Wright, that the more it becomes known the more general will be its use.—*Alfred Gaut.*

As a remedy for American blight, I know of nothing better than paraffin oil when rightly applied, and having used it for several years and for various purposes in the garden, I can endorse nearly all that Mr. Wright says regarding it in your issue of the 8th inst, at p. 229. As to its power of preventing the ravages of rats and mice on early-sown Peas or Beans by steeping for a short time in the oil, I have observed that after the seeds so treated have been in the ground a little while, these vermin will attack and eat them, and this possibly arises from the deodorising power of the soil in being able to deprive the seeds of their objectionable smell. At all events, to whatever the cause is due, the rats and mice will be looking for the seeds just about the time they will begin to break the surface; but by sprinkling the latter, if an attack occurs at this time, with a mixture of paraffin and water a few times, the smell, while it lasts, will keep them off. With regard to its application to Carrots, I may mention that by its use I have had sound crops of these roots off soil where the grub was known to destroy them every year; and a gardener who had the same conditions to contend with, and to whom I recommended a trial of paraffin oil, succeeded, like myself, in obtaining sound crops after using it. One troublesome point about it is the difficulty of getting the oil to mix with water, and although dissolved soft-soap is a good medium to use it with, this is not at all times on hand, and it frequently happens that means are not available for boiling down the soft soap. I remember several years ago the late Dr. Newington, of Ticehurst, recommended the use of milk as an agent having considerable affinity for mixing purposes with paraffin oil, and having tried it, I believe it to be most useful, when obtainable, for distributing paraffin oil on plants, &c. For cleaning dirty wood-work, Mr. Wright remarks that paraffin oil is most useful, and so it is, and further, it cleans and brightens brass-work as well. If applied to painted wood-work to cleanse it, it should be rubbed on with a cloth, following immediately with a dry one, so as to leave no trace of it on the paint, for if rubbed on and left for any time, the paint will fall off. Another use it might be put to in gardens, is to remove old hard putty from sashes where glass repairs are wanted to be made. If pure paraffin is rubbed on the old putty a day or so before attempting the repairs, it will come away quite easily, and I need hardly add that the job of "hacking" out old putty is often a tedious and laborious one.—*W. D., Dublin.*

Allow me to thank your correspondent, Mr. A. Wright (of Devonhurst, Chiswick, I presume), for his valuable contribution on the use of paraffin in the garden, published in your last number. Such information as he gives, when it has been obtained by practical experiment, and is the result of actual experience, is of the utmost value, both to us amateurs and his brother gardeners. In the interest, however, of those who only possess small gardens, and consequently cannot afford to run many risks of loss or partial failure in making experiments, would you allow me to ask Mr. Wright if he would increase our obligation to him by telling us on what he has tried the paraffin without success as an insecticide, or if in any case it has injured the plant. An accurate record of failures or disasters arising from carefully made experiments is really much more valuable to the uninitiated in showing them what to avoid, but how few there are who have the courage to face their fellows with such a record. Can Mr. Wright or any other reader tell us if the paraffin will kill wireworm, and to what crops it can safely be applied without injury to the plants; for instance, can it be applied with safety to Tomatos in pots and in the open ground that are attacked by wireworms?—*Amateur.*

NOTES FROM SCOTLAND.

Notes from Perth: Chrysanthemums.—Considering the difficulties which "Mum" growers have had to contend with this season, it is all the more gratifying to find how admirably successful many have been. Having a few hours to spare the other day when in the fair city, I took the opportunity of having a look at a couple of the collections in the locality of which I had heard good reports. The few mental notes which I now jot down are inadequate to give a fair idea of the treat I enjoyed, and which can only be had by "going and seeing."

Garry Cottage.

A new house has been built here for the accommodation of the queen of autumn, and the display in it at present is one which Mr. Blackley, the gardener, may well be proud of. On the side stages an admirable lot of carefully trained dwarf specimen plants are covered with medium-sized fresh blooms, which make a gorgeous display. Where plants are grown for conservatory decoration, this method of training possesses many advantages; the blooms are easily seen, and the plants on the whole have a neat and tidy look about them. The tall-grown plants may produce superior flowers, but these are fewer, and not so easily seen to advantage, the plants being tall and ungainly.

The centre of the house at Garry Cottage is filled with a representative collection of all the best new varieties, which are carrying fine exhibition blooms. Amongst the sorts which we noticed as particularly fine were Edwin Molyneux, Val d'Andorre, M. Lacroix, Elaine, Peter the Great, and many others with well-developed blooms, which would have done credit to any exhibition stand.

Pitcullen.

Here Mr. Leslie has grown all his plants on the big bloom system, and he has certainly been highly successful, as the bank of flowers which he has now in the greenhouse would take a lot of beating. Commencing with dwarfish plants in front, and gradually increasing in height towards the back, all the varieties are seen at a glance, and what a gorgeous sight of varied colour and form they present! Although not quite up to last year's standard, Mr. Leslie is to be congratulated on the high-class culture which the entire collection under his charge amply bear record of. Maiden's Blush we noticed exceptionally fine; Elaine, although a little past its best, would be hard to beat; M. Lacroix, splendid; Peter the Great, extra fine; Fair Maid of Guernsey, E. Molyneux, and Meg Merrilies, a little late, but will be grand. Mrs. Wheeler, Boule d'Or, Comte de Germiny, Coquette de Castille, Madame C. Audiguier, were also conspicuous among the Japanese, while the incurved were well represented by Barbara, Cherub, Mrs. Rundle, Jeanne d'Arc, &c.

We cannot close this note without mentioning the splendid crop of Grapes which we saw at Pitcullen. Whole houses of Black Alicante and Gros Colmar bear ample testimony to Mr. Leslie's abilities as a Grape grower. A few bunches of Muscat of Alexandria were still hanging, which for size of berry, colour, and high finish, we have not seen surpassed this year. In fact everything under Mr. Leslie's charge bears the mark of high cultural skill.—*Arbutus.*

Scottish Horticultural Association.—The monthly meeting of this association was held on the 4th inst., at 5, St. Andrew Square, Edinburgh—Mr. Dunn, Dalkeith Palace, in the chair. There was an unusually large attendance. Mr. Alexander Porter, Leuchie, read a paper on the "Culture of Asparagus," in which he sketched the course to be followed during the first three years. One potent cause of failure was its being planted in clayey soil, the material in which it grew best being sandy. One important factor in its successful growth was to obtain large individual plants to start with. Mr. Porter's system was based on the French one, from which he did not differ much. The growth of Asparagus had fallen off, he said, considerably in England, and the French growers were beating them on their own ground. Mr. Porter believed, however, that under proper management and from a calculation which he had made, that £126 per acre could annually be made, although there would be virtually no return for the first three years. In the course of the discussion on the paper, a member stated that Asparagus was supplied for the famous dinner of the Northern Lights Commissioners at 35*s.* per 100. A vote of thanks was awarded Mr. Porter for his paper. The following exhibits were placed on the table:—Thirty-six blooms of Chrysanthemums—twelve of them new varieties this year—from Messrs. R. B. Laird & Sons; Orchid blooms and a collection of Roses cut in the open air, from Dr. Paterson, Bridge of Allan; fifty bunches of cut flowers cut in the open air, from Messrs. Munro & Ferguson, Abercorn Nursery, Piershill; and a new protector for trees on walls, from Mr. Fairgrieve, Dunkeld.

Notes from Edinburgh Chrysanthemum Show.—While taking notes at the most creditable exhibition of fruits and flowers recently held in Edinburgh, where such shows have long been distinguished by able management, our attention was directed to a white Grape, which appeared to be identical with the White Tokay, such as we grow for our latest white—not a first-rate kind, but better than many of the late whites which are kept to give supplies during March or April. Our Vine of White Tokay came from Messrs. Rivers' Nurseries in the first place. White Tokay had been written on the exhibit referred to at Edinburgh, but a second name was placed over the first, apparently as a correction, and it is of primary importance that we should have correct names. Looking over several fruit catalogues before us, we find the descriptions of some fruits—Grapes especially—are very dissimilar. The old Vine at Harewood House, Leeds, is often named Tokay, but is certainly a good old Muscat of Alexandria. The black Grapes exhibited by Mr. Murray (Culzean) were really good, and the bunches fine; so were his Pines, The Queen especially, a kind seldom seen good at northern shows of late years; the form of the fruit was a model, the ripening being perfect. It would be interesting to readers if Mr. Murray would inform us if he uses the Clovenfords Vine and Plant Manure with his Pine soil; if so, in what proportion? We know the value he places on this stimulant in Grape and Onion growing; the latter attain such size and general excellence at Culzean as we believe is not surpassed in any of the notable Onion districts in the United Kingdom. The Pears from Galloway House were mostly of special merit, the colour being unusually fine. Our attention was repeatedly called to as pretty an arrangement of cut Chrysanthemums mixed with Ferns as we have seen at any show; we thought the taste displayed on this table was superb, and many other persons must have been of the same opinion judging from the remarks made by them. This is another instance of what can be done when simplicity is carefully studied and undue formality avoided. The cramming of flowers and plants together when decoration is performed, concealing the beauty of outline as well as being extravagant in the use of them is a prominent evil at horticultural shows as well as in private gardens. The table of Messrs. Methven referred to above is an example of what might well be imitated.—*Caledonian.*

FLORICULTURE.

Primulas and Cyclamens at Reading.

HAVING seen the Messrs. Sutton's plants for many consecutive years, and almost as often expressed my opinion that improvement of the strains had reached the zenith, I am this year compelled to acknowledge how very little I knew of the subject, and hereby confess that my notions of perfection have fallen far short of that which this season has been attained, not more in respect of cultivation, great as the strides made in that direction have been, than in the improvement of the strains of both genera. I was going to say, of Cyclamens in particular, but this would not be just to the Primulas, for both are alike perfect. Referring to Cyclamens, I was a visitor to the recent show of the Birmingham Chrysanthemum Society, and the Messrs. Sutton sent to that meeting some scores of plants so completely alike, in all but colour and size of flowers and foliage, as to forcibly remind one of their having been cast to order in a mould; and if one may judge by the crowd that was constantly viewing the plants, as well as of the remarks made, not a few were of the same opinion. That the judges were, the granting of seven First Class Certificates for as many superb new varieties speaks for itself.

Several of these grand new types the Messrs. Sutton intend to offer next year, and as any description I might give would convey but a very faint idea of their beauty, I will not attempt the task, but say, go and see the plants, and those who cannot go may take my word for it that they are even better than represented. Personally, I give preference to the Persicum varieties, as the plants are of such compact growth and the flowers more numerous than the Giganteum type, and the size of the flowers are now very nearly as large, with such stout flower stems that a good shake does not move them. I do not give these particulars with a view of disparaging the Giganteum section, for, as seen at Reading, nothing could be more perfect or more floriferous, and the marking—shall I call it marbling?—of the foliage more beautiful.

On inquiring of Messrs. Sutton & Sons' grower, as to what he most attributes such marked success in the cultivation of Cyclamen, he replied, "A good start, *i.e.*, a good seed bed, no check of any kind, cleanliness, freedom from insects, plenty of humidity right up to the period of flowering, shade in summer, and plenty of light in winter." How simple, yet to most of us how difficult, because, instead of one species of plant, we are required to grow in our houses several. Would that our employers would just now pay a visit to Reading, and inquire why we fail: I know the answer would be honestly given, and as a consequence, some of us might get a structure that would honestly be called a Cyclamen or a Primula house.

Like most people I have a preference for doing the most agreeable work first. It is, however, open to question whether I have done so in this instance, for really I think that, perfect as they are, the excellence of the Primula exceeds that of the Cyclamen. The diverse forms, colour of flowers, and leaf-stems—Fern-leaved, Moss-curled, round, and oblong-shaped—are just as wonderful in their way as are the size and brilliancy of the flowers. The Reading strain of the semi-double varieties is, I think, unique, but the cry is "still they come," and next year will witness the *début* of two or three that must surely cause a flutter amongst florists generally; a variety called "Giant Crimson," and another, "Double Rose," with Fern-leaved foliage, are assuredly destined to become famous. Their names describe the colour of the flowers, which are borne well above the foliage, in clusters of from six to twelve to the stem; and from present appearance I should pronounce the doubles to be more free flowering than the singles. The variety called "New Giant White" is far and away better than the old Double White, the propagation of which has puzzled so many of us, as, in fact, the growing has too. All the kinds come perfectly true from seed, so there is an end to the bother of propagation by cuttings; and seedlings make infinitely better plants in something like half the time that it takes to grow plants of the old Double White a respectable size. The colours of the doubles are as rich, numerous, and varied as are the singles; for besides the white there is scarlet, rose, carmine, carnation-flaked, lilac, and a *so-called* blue—certainly as near that colour as any I have yet seen, but a horrid dingy lead colour for all that. A blue Primula has yet to be raised, else I am colour-blind in respect of the *blue* Primulas.

Referring to the single varieties, which are very numerous, the most novel and as pretty as any is the Fern-leaved Gipsy Queen. This variety has all but jet-black flower and leaf-stems, and deeply serrated dark brown foliage and white flowers, which by contrast with the leaves are strikingly beautiful. It is an early and free-flowering variety, and continues a long time in perfection, the white flowers with age becoming diffused with rose, which is a characteristic of many white flowers. Giant White is my next favourite; in habit of growth it is dense and robust, with flower-stems of great thickness and blooms as large as the biggest Primula ever seen. The substance of the petals is sufficiently indicative of its power to withstand damp. Other first-rate whites are the Fern-leaved Snowdrift, the earliest and freest flowering of all; and Pearl, later flowering, but as good in its way as Giant White.

The coloured varieties are numerous, but I name only those that took my fancy most. They are Advance, a light rose, with a deeper tint of rose round the edge, fine truss, and thrown up well above the foliage; Reading Pink, as free flowering as Snowdrift, and possessing all the good qualities of that fine white variety; Reading Scarlet has flowers of immense size, good substance and freely produced; and Ruby King is an older but still a grand variety. Of other Fern-leaved varieties the best are Rosy Lilac and Rosy Queen. Several others are worthy of mention—indeed, after viewing such a collection the difficulty is to know at which variety to stop. I shall therefore settle matters by ending now, but assuring my readers that this list by no means exhausts the splendid varieties of Primulas now to be seen at Reading. As regards cultivation, I can bestow no higher praise than by saying that it is quite on a par with the excellence of the strain or varieties.—*W. W.*

Pansies in December.

A BOX of Pansies containing a dozen or so of named sorts besides some unnamed kinds has been sent us by Mr. F. Hooper, Vine Nursery, Widcombe Hill, Bath. They are as fresh and some of them as fragrant as if produced in summer, and illustrate the remarkably mild nature of the weather at this period of the year. Dr. Scott is a brilliant yellow, with a large brownish black velvety blotch on each of the five segments. Another superior yellow is Harry Hooper, with a broader and paler yellow margin. Mrs. Robinson is a rich purple, with a striking white margin to the three lower petals. Annie Lakin differs in having the two upper petals white as well as the margin, while Mrs. Lakin has the upper petals shaded blue. In Mrs. Douglas the latter are of a creamy yellow, and the flower of great stze. The velvety black blotches extend over nearly the whole flower in A. J. Wray, and constitute the most conspicuous feature of a fine round flower. A large-sized flower is Her Majesty, but the colours seem somewhat unnaturally tinted, owing probably to excess of moisture and lack of sunshine. Richard Lockyer is even larger but more regular, of better substance, rich plum-purple and heavily shaded with blue at the margin. A yellow-ground coloured variety is King of the Pansies, with the central blotches and the upper petals of a rich brownish purple. Mrs. Barlow is also a very striking, perfectly round flower, with a large yellow blotch on the upper petals, and the three lower ones are richly flamed with brownish crimson. The whole flower is bright, fresh, and in no way tarnished or soiled. The same might be said of an unnamed variety of a rich velvety plum colour, heavily suffused with red. Mr. Hooper says they were picked from the open ground, where they have not had shelter of any kind.

National Auricula and National Carnation and Picotee Societies.

A LARGELY attended meeting of the committee of the Southern Sections of these societies took place at the Hotel Windsor on Tuesday, the 11th inst., the Rev. H. H. D'Ombrain in the chair. The minutes of the last meeting having been read, it was resolved that the offer of the Council of the Royal Horticultural Society to give the sum of £10 to each of the societies be accepted, and it was arranged that the annual exhibition of the National Auricula Society should take place in the Drill Hall, Westminster, on April 23rd, and that of the National Carnation and Picotee Society on July 23rd. The Council having expressed a desire that something in the form of a conference should be held at each of the shows, a sub-committee, consisting of the Rev. H. H. D'Ombrain, Messrs. H. S. Leonard, R. Dean, and J. Douglas, was appointed to make arrangements for the same. The schedule of prizes of the Auricula Exhibition was passed in the form in which it appeared last year; and a few alterations were made in that of the Carnation and Picotee Exhibition. Yellow-ground flowers can no longer be shown with selfs and fancies; and the class for twelve yellow-ground flowers was reinforced by one for six varieties also, it being understood that yellow selfs could also be shown in this class. Mr. Douglas having stated that there was a balance in hand from the two societies amounting to £40, suggested that a portion of it should be invested as a reserve fund, and eventually the sum of £25 was set apart for this purpose, it being left to the Rev. H. H. D'Ombrain, Messrs. H. S. Leonard, and J. Douglas to make the best investment they could. The proceedings closed with a vote of thanks to the chairman.

Primula sinensis, Cannell's Pink.

A NEW variety under this name appeared at the Drill Hall, Westminster, on Tuesday last. It is dwarf and stocky, of great substance, and with dark green leaves of the ordinary ovate and lobed type. The flowers are of great size and substance, of a beautiful pink, a soft and agreeable shade of colour, with a large deep yellow five-lobed eye. The segments of the corolla are flat and greatly overlap one another. It was exhibited by Messrs. H. Cannell & Sons, Swanley, Kent, and received a First Class Certificate from the Floral Committee.

CATTLEYA DOWIANA.

THE leading authorities now regard this as a variety of Cattleya labiata, differing chiefly in colour, and we do not doubt the correctness of their opinion; but for garden purposes it is convenient to retain it under the best known name. It was originally discovered by Warscewicz somewhere about 1850, in Costa Rica, a district lying some distance north of the isthmus of Panama, and therefore in North America. Specimens sent home then failed to reach this country alive; but it was again discovered, sent home, and flowered in 1865. The sepals and petals are nankeen-yellow; the lip, on the contrary, is of the richest crimson-purple, beautifully striated with golden or orange-yellow lines. This, the typical form, may be best understood by reference to Veitch's *Manual of Orchidaceous Plants*, part ii., Cattleya and Lælia, opposite p. 15. C. Dowiana aurea differs in the more copious orange lines which almost merge into one another in suffused masses in certain places on the lip. This can be seen by reference to the accompanying illustration of it. Gustav Wallis discovered it in the State of Antioquia, in New Granada, South America, about 600 miles from the home of the typical form.

As fresh importations continue to arrive and come into flower, we may expect variation more or less in this grand autumn and winter-flowering Cattleya. A specimen now flowering at Kew differs from the two well-known named forms in cultivation, namely, the type and C. Dowiana aurea, in being paler in all its parts. It is nevertheless very pretty, and ought to receive a distinctive name. The sepals and petals are pale nankeen almost sulphur-yellow, while the lip is of a rich purple, but devoid of the usual crimson hue. In the lower part of the tube it is richly reticulated with yellow on a pale purple ground; towards the opening of the tube the yellow lines become merged or suffused into one another, resembling in this respect C. D. aurea, which in that part is of a decided orange hue. The terminal portion of the lip is deeply bifid and beautifully striated with white on a purple ground, from the margin inwards.

This variety may best be diagnosed by reference again to our figure of C. D. aurea. The sepals and petals are paler, and the mass of suffused orange-yellow lines are also much paler, as well as the crimson-purple ground colour. In addition to this, we have the white lines extending from the margin inwards, but which are represented in the figure by dark lines or veins.

THE ONION.

THE Onion is a plant of great antiquity, and is a native of Central or Western Asia. It is a biennial, although sometimes perennial, as in the case of the Potato Onion, which does not produce seeds, but propagates itself by division of the roots where bulbs are produced. Sometimes, instead of flowers, a head of small bulbs is produced. This may occur exceptionally in any of the varieties, but it is an invariable characteristic of the Tree Onion, which is thence named the bulbiferous Onion. I may state respecting the Potato Onion that it neither produces an inflorescence or bulblets, as in

the case of the Tree Onion, and it is therefore propagated only by the bulbs which are formed underground. Messrs. Vilmorin & Co., in their *Vegetable Garden*, say: "If pretty strong bulbs are planted immediately after winter, well-grown Onions may be gathered from them in the following June; but if the plants are allowed to attain full maturity, instead of a single bulb from each, seven or eight will be produced of various sizes. The strongest of these will also in their turn produce a number of bulbs, while the weaker ones generally grow into a single large bulb. The flesh of the Potato Onion is very agreeable to the taste, and of good quality. The larger the bulbs are the worse they keep." In the case of the Tree or Egyptian Onion the plant throws up an inflorescence, but instead of furnishing seeds, the stem produces at the extremity a cluster of bulblets or small bulbs of a brownish red colour, about the size of Brazil nuts, and from these the plant is propagated. When planted in spring these small bulbs form large ones by the end of the year, but do not produce any bulblets until the following year. The bulbs soon decay, but the bulblets keep very well. We may look upon these two forms as curiosities in vegetation among Onions.

I have stated that the Onion is a plant of great antiquity. By the ancient Egyptians the Onion was regarded as a plant partaking of a sacred character, and as a symbol of the universe. "With them," states Mr. Folkard, "it was a common object of worship," and their veneration for this and other vegetable products is ridiculed by the *Satirist Journal*:

"How Egypt, mad with superstition grown,
Makes gods of mortals, but too well is known
'Tis mortal sin an Onion to devour,
Each clove of Garlic has a sacred power;
Religious nations sure, and blest abodes
When every garden is o'errun with gods!"

Clove is used in the same sense as bulbs. The Onions of Egypt, which are said to have been of large size and exquisite flavour, were remembered with regretful longings by the discontented Israelites in the wilderness, and although the priests of ancient Egypt were forbidden to partake of them, yet they were admitted among the offerings placed upon the altars of their gods.

That the Onion was known and cultivated in Britain at a very early period does not admit of doubt. It is thought that the plant was first introduced into England from the central part of continental Europe, although it may have been originally a native of countries further to the south, and have been rendered hardier and less prone to degenerate from its gradual change of climate.

I have a catalogue of Onions, published in 1817, which gives eight varieties as in cultivation in those days—the common, Deptford Globe, James's Keeping, Blood Red, Silver-skinned, Strasburgh, and White Spanish. In these days the foregoing still remain our leading types, but by cross-fertilisation and selection many remarkably fine varieties have been produced, and the Onion has reached a degree of development undreamed of years ago. At the last exhibition of the National Chrysanthemum Society, held at the Royal Aquarium, a dish of twelve Onions, named the Lord Keeper, was shown by Mr. Henry Deverill, seedsman, of Banbury, which weighed 19¾ lbs., the largest bulb just turning the scale at 2 lbs. This beat all previous records, and it is a sign of the horticultural enterprise of the day that Onions reaching this great weight can be produced. Mr. Deverill has already put into commerce the following fine varieties:—Rousham Park, Anglo-Spanish, Improved Wroxton, Ailsa Craig, and Cocoa Nut, but the Lord Keeper distances them all.

CATTLEYA DOWIANA AUREA.

This huge variety is of this season's production, and was obtained by Mr. Doherty, gardener to Lord North, at Wroxton Abbey, Banbury. Mr. Doherty obtained six of the largest bulbs of imported Spanish Onions he could obtain at the shops, and planted them out, and by their side six large and handsome specimens of the Anglo-Spanish. When they were in flower the blossoms of the imported type were impregnated with pollen from the Anglo-Spanish; this was done in 1887. The seed was sown, and this season has produced eighty bulbs, the entire stock. The skin is of a pale straw colour; the bulbs are very large, handsome, deep in the flesh, and have a small neck; it partakes of the general character of Rousham Hero. It was named the Lord Keeper by Lady North, after one of the Peers who held the office of Lord Keeper of the Great Seal, and who originally laid out the gardens at Wroxton Abbey. It has every appearance of being a good keeper. For exhibition purposes it would be difficult to name a variety so fine in all respects.

The Onion has played its part in the folk lore of this country; with the English Druids the Onion was the emblem of Deity, and to this day it is a custom in some parts of England for girls to divine by it. In olden times country lasses used to resort to a method of divination with the Onion, named after St. Thomas; this they peeled and wrapped in a clean kerchief, then placing it under their heads, they repeated the following lines:—

"Good St. Thomas, do me right,
And let my true love come to-night,
That I may bless him in the face,
And him in my fond arms embrace."

In the south of England Mr. Folkard states that this species of divination is still extant, but the procedure is different. When the Onions are bought the purchaser must take care to go in by one door of the shop and come out by another, a shop being selected that has two doors. These Onions, placed under your pillow on St. Thomas's Eve, are sure to bring visions of your true love—your future husband. To dream of Onions is considered of evil augury, portending sickness and misfortune.

"To dream of eating Onions means
Much strife in thy domestic scenes;
Secrets found out or else betrayed,
And many falsehoods made and said."

—*R. D.*

THE AMATEURS' GARDEN.

The Fringed-leaved Saxifrage.

When planted in a sunny sheltered position Saxifraga ligulata is one of the earliest Saxifrages to bloom, and it is certainly the first of the large-leaved kinds known under the name of Megasea. It is also a valuable and ornamental plant for the decoration of the greenhouse, and if amateurs would take it in hand, they would be amply rewarded by the production of flowers in winter, when it is a difficult matter to keep the greenhouse gay. It flowers naturally much earlier when grown in pots and sheltered by a frame or greenhouse; but it may also be forwarded by putting it for a short time in heat, after which it should be removed to a lower temperature, where it will last in good condition for some time. The flowers are rose-coloured or pink, and produced in panicles proportionate to the size of the plant. After growth has been completed in autumn, the largest crowns may be taken off with a knife and inserted in a compost of sandy loam and leaf-soil, using 3-in. or 4-in. pots, according to the size of the cutting. Stake the latter, as it will be top-heavy, and few or no leaves should be removed. They will root during the autumn in a cold frame, and flower the first winter or spring, according to the temperature. In spring pot them into larger sizes, using a more substantial compost, and stand out of doors during summer.

Violets.

Should the weather continue mild, Violets in frames will give all the more satisfaction if the lights are taken right off night and day, except during heavy rains. Mats and other means of protection should always be held in readiness in case of frost. Ample ventilation should be given, however, on all favourable occasions if it is necessary to keep on the lights in case of rain.

Show and Fancy Pelargoniums.

As the young shoots are now attaining considerable length more space should be given the plants, keeping them as near the glass as possible to prevent their becoming drawn. The stakes or framework necessary for the training of large specimens should now be put in or fixed in position, so that the tying down of the shoots may be commenced at once. Training will also allow free access of air and light—a matter of great importance at all times, but especially so at present. Towards the end of this month pinch out the tips of the shoots of those plants intended for flowering in June. Very little watering will be required for some time to come; but at the same time they must not be starved, otherwise the leaves will suffer in consequence. Zonal Pelargoniums not in flower may be kept tolerably dry.

Ferns and Fern-cases in Windows.

Very little watering will be required at this season, but the Fern-cases must not on that account be neglected. If allowed to get dust dry the small evergreen kinds will suffer much harm by losing their fronds, even if they do not get killed. The safest plan is to thoroughly inspect the case at intervals of not less than a week to see the soil is quite moist, not necessarily saturated, and after watering ventilation should be given to dry up the superfluous moisture. Generally speaking Ferns in pots stood in the window will not require more frequent watering, but their fronds are liable to get dusty. The best plan in this case would be to take the Ferns outside, lay them on their sides to prevent an excess of water from getting into the pots, and give them a good syringing or a heavy watering through a rosed watering-pot to clean the fronds. Afterwards shake them and allow them to stand in the open air for a short time if the weather is mild till they get partly dried, after which replace them in the window.

Variegated Plants for Winter Decoration.

Unless a temperature of about 50° Fahrenheit be maintained in the greenhouse, a good display of flowering plants—that is, great variety—cannot be obtained. It may, however, be interesting to amateurs to know that there are many beautiful and evergreen variegated subjects which may be grown perfectly well in a greenhouse from which frost is merely excluded. There is a strikingly variegated form of the Indiarubber Plant (Ficus elastica) now being extensively propagated and disseminated throughout the country, and it will, no doubt, be much appreciated as a window plant when it can be obtained cheaply. The New Zealand Flax (Phormium tenax) may also be safely wintered in a greenhouse, and the variegated form (P. t. variegata) is certainly a handsome plant. It requires a good supply of water when growing. Aspidistra lurida variegata is well known and indispensable for window decoration as well as the greenhouse. Then there is Aralia Sieboldii variegata, Eurya latifolia variegata, the variegated Euonymus, Senecio Kæmpferi aurea maculata, and the graceful Vinca major variegata (the greater variegated Periwinkle), which may be used for basket work.

EFFECTS OF SMOKE ON TREES.

In an address on "Trees in Towns and Suburban Gardening near large Cities," recently delivered at a soirée of the Manchester Field Naturalists and Archæologists Society, Mr. Robert Holland, of Frodsham, said:—The members of that society did not require to be told that without vegetation it would be impossible for animals to exist on the face of the earth. Plants were placed on the earth in order to purify the air for the respiration of animals. In well-wooded countries man lives with greater comfort and better health than he does in places that are badly timbered. The question might be put: "Then how does it come about that the inhabitants of Greenland, where vegetation is absent, or at any rate very meagre, manage to live?" His answer was that that was due to the law which chemists called the diffusion of gases. In one country the air was purified by plants, the wind currents did their work, and gradually the purification of the air reached all parts of the world. At last Greenland was reached, and so the inhabitants were able to live. It was the greatest possible mistake to denude a country of its timber, and he had not the slightest doubt that the Americans would some day see that they had done wrong in setting fire to so many of their primeval forests, even though it be to grow corn in their stead. A similar remark applied to our colonies. Trees might be planted with great advantage in many countries which were not so exposed to smoke as England. He was, however, afraid we should never again have the fine vegetation that existed in this country some centuries ago.

He would like at this point to say a word or two about that vegetation, and in order to do so he would carry the audience in imagination into the recesses of Sherwood Forest. Four or five years ago he was one of a small party of gentlemen who visited that grand old forest. They started from Worksop, and were soon amongst the immense number of magnificent veteran Oaks of the forest. The trunks were of great girth and diameter, the branches far-spreading in all directions; some showed unmistakeable signs of the ravages of time, but they were still fresh and green. Ten members of the party sheltered at one time from a passing shower of rain in the hollow trunk of the Major Oak. He had been told that fifteen people had been accommodated in the same place, and could readily believe the statement. Many of the old branches were broken, but new ones were full of sap, and were as green and fresh as their predecessors had been three or four centuries ago. He was afraid that we should never produce such trees as these again, as the air of England and many other countries has been permanently vitiated by poisonous gases and coal smoke. Trees could not be grown anywhere near our large towns such as those which thrived in former times, and he attributed the great amount of the deterioration which had taken place in our vegetation to the effect of common coal smoke. Our population doubled itself in something like every fifty years, so that we had a like increase in the number of dwelling-house fires in the same period, and there were also double the number of chimneys of works and manufactories pouring forth smoke into the atmosphere.

At the meeting were Dr. Alcock gave his lecture he (Mr. Holland) among other things gave utterance to the thought that carbon in smoke did no harm whatever to plant life. Mr. Grindon corroborated the statement. He was now about to make a recantation. In the interval that had elapsed he had seventeen years' experience of coal smoke, and had come to the conclusion that it did an incalculable amount of mischief to our vegetation. It was quite true that soot was an antiseptic, and formed good manure when placed upon the fields, but acted differently when sent into the atmosphere. Coal smoke excluded a considerable number of the sun's rays, which it was important should reach the vegetation, if it was to thrive well. In a town like Manchester there was a constant cloud of black smoke hanging overhead, and the effect was shown in the quality of the vegetation. In consequence of the exclusion of the sun's rays the leaves did not obtain a sufficient amount of life, they came into life a little later than they ought to do in the spring, and fell from the trees a great deal earlier than they should do in the autumn. The trees were not able to carry out their functions for a sufficient time each year, and, therefore, their growth was very small, stunted, and the whole plant became somewhat sickly.

Could anything be done to counteract the damage that was being done by dense smoke and chemical vapours? He answered yes; a great deal might be done. An Act had been passed to compel manufacturers to do away with the smoke nuisance in connection with their works, and means should be taken to see that it was carried out. That done, the vegetation in the neighbourhood of large towns like Manchester would be greatly benefited. It would be to the advantage of this city and other places to try and promote the cultivation of plants in the locality as much as possible. Everybody had a love for the flowers, plants, trees, and green fields of the country, and as all people could not go to the country something should be done to bring the country to them. Could that be done? Yes, to a certain extent, even in this city, by the selection of trees, plants, and flowers that would successfully withstand the vitiated atmosphere. He held in his hand a long list of the names of suitable trees, plants, and flowers. The trees included the Wych and weeping variety of the Elm, the Lime, Beech (the copper-leaved variety he fancied thrived the best in towns), Oriental Plane, Silver and other varieties of the Poplar, the common Apple tree, from which, however, no fruit must be ever expected, and the Sycamore, which grew quickly, and so repaired any mischief that might be done to it.

Among the trees of smaller growth were the Laburnum, Lilac, Hawthorns of various kinds, Tulip tree, Almond, Mountain Ash, common Willow, Elder, Mulberry, Privet, Laurel, Hollies of various sorts, and Rhododendrons. There were also the climbing shrubs, including many varieties of the Ivy, Virginian Creeper, Fig, and Vine; herbaceous plants, bulbs, Ferns, and the well-known group of annual and biennial flowers. A great deal might be done near large towns in the way of window gardening, and from the list he had read to the meeting it would seem that it was quite possible to have gardens, even in the neighbourhood of smoky Manchester, in which flowers could be grown in the spring, summer, and autumn, and in fact almost all the year round.

NOTES ON VEGETABLES.

Long-Headed Savoy.

A variety of Savoy grown in the gardens of the Royal Horticultural Society at Chiswick, under this name, is strikingly distinct from most or all other kinds generally seen in cultivation, and appears to be a good one to grow for winter work, provided it prove sufficiently hardy to withstand the vicissitudes of our changeable winter. The heads are produced with great regularity, and are oblong, tapering slightly to the top in sugar-loaf fashion, and appear tender and good. The recent mild weather seems to be acting rather unfavourably upon them, causing the dark green outer leaves to unfold, slightly exhibiting the pale green and more tender leaves. In spite of this, however, it may prove a useful kind for general cultivation. The specimens under notice are grown between the lines of Pear trees, where, although they receive a fair amount of light, the soil is impoverished by the roots of the trees, otherwise the heads would be larger. For table use, however, very large heads are not desirable.

Asparagus Chicory.

A sample of this little-known vegetable was again exhibited at the Drill Hall, Westminster, on Tuesday last. As used, the fleshy stems and leaves together measure about 12 ins. or 15 ins. in length, and the latter resemble those of Chicory or Dandelion, but greatly elongated, narrow, linear, wavy at the margins, and more or less coarsely toothed. They are used in the same way as Chicory or Dandelion leaves, that is, cut green and boiled, a process requiring only about twenty minutes. Some were cooked on Tuesday and were found to resemble Dandelion, and pleasing enough to the taste. It may also be said that the roots can be obtained for forcing purposes, whereas those of Dandelion cannot be so procured. The plants are said to be tolerably hardy. It was exhibited by Mr. J. Willard, Holly Lodge Gardens, and received a First Class Certificate from the Fruit Committee. Mr. Barron has also had the same vegetable under cultivation at Chiswick this year, from seeds supplied by the Novelty & Seed Co., Newton-le-Willows, Lancashire.

THE R. H. S. COMMITTEES.

As some alterations in the committees have been suggested by a sub-committee, and adopted by the Council, I think it might help those who are considering the system of Floral Certificates again to state how they are now awarded, and why members are not asked to vote on plants with which they are not familiar. When a beautiful Orchid is exhibited, the award of a Certificate often depends upon its being sufficiently distinct from others already in cultivation; the judgment, in this case, must mainly rest with the Orchid experts on the committee; the majority of the other members have not sufficient knowledge of the subject, and therefore, in many cases, do not vote, I think wisely, and many of the Orchid experts act similarly in the case of rare Alpines and other hardy plants.

Some flowers bring out many voters—Chrysanthemums, for instance; but even here the opinion of experts as to novelty carries great weight. Alpines, perhaps, have fewest votes, though with them I have never known a "verdict of two or three out of twenty or thirty then present." Friends have asked if it was right that a single Dahlia should get a First Class Certificate, and that a grand new Orchid, such as Cattleya exoniensis, only got the same award. I have for years suggested that some special distinction should be devised for plants of very exceptional merit, but this has to be done by the Council—not by the committee. At present a First Class Certificate means only that the plant is considered a novelty of great merit, or a very pronounced advance on plants of its class. There is no comparison with plants of other classes any more than when the same words of praise are given to a Cattleya and a Primrose—"What a remarkably fine flower!"

Again, I have been told that too many Certificates have been given at one meeting to Dahlias, and off hand this may appear to be correct, but those on the spot see differently. Once or twice in the season the principal growers make a great effort, and send up the cream of their seedlings, selected from a vast number. As Dahlias are of many colours—red, white, crimson, purple, variegated, &c.—each colour stands on its own merits. It sometimes happens that great improvements in colour or form have been made in most of the colours; in this case many Certificates are necessarily awarded. As I cannot fall in with many of the suggestions which have been adopted in connection with the Floral Committee, I have given up my seat after this year; but though freed from responsibility, I need hardly say that I wish to see it as efficient as possible, and hope that it will keep as free from undue influence as I now believe it to be.—*George F. Wilson, Heatherbank, Weybridge Heath, Dec. 6th.*

GARDENING MISCELLANY.

Bouvardias and Double Primulas at Childwickbury.

Among the many things that are well done at the country residence, near St. Albans, of J. B. Maple, Esq., M.P., I was much struck with the above, which are grown in large quantities. The Bouvardias occupy a span-roofed intermediate house, and at the time of my visit, a few days ago, they presented a grand display. Mr. Nutting, the able gardener in charge, informed me that the whole of the plants were planted out on a very slight hot-bed early in June, which no doubt helped them considerably during the cold wet weather of the past summer. The plants are of large size, having made strong growths, and are covered with bloom, the trusses being exceptionally large. They were taken up and potted at the end of September, the balls being carefully cut round three or four times previous to lifting. The plants after potting were kept close and shaded for a few days, and a liberal supply of Messrs. Wood & Sons' Fertilising Moss was used in the compost. This is held in high esteem by Mr. Nutting. Most of the best kinds are grown, but among the cream I noticed Alfred Neuner, President Garfield, Dazzler, Blushing Bride and the Bride. Seldom have I seen the old Double White Primula in better condition than at Childwickbury; the plants are grown in 6-in. pots on shelves near the glass, and are in the very best of health and well flowered. This is one of the most useful things grown for cutting purposes at this season of the year. Gardening at this establishment is well carried out in all departments. I found Mr. Nutting busy superintending the moving of a number of large trees in the park, such as Horse Chestnuts, Limes, Birch and Oaks, the heights of which ranged from 30 ft. to 50 ft., and I was much interested in seeing one taken up, moved and replanted some distance away. It was easily done with the aid of a good machine, kindly lent by Miss Rothschild, of Eythrope, and fourteen men and eleven horses.—*E. Beckett, Aldenham, Elstree.*

Peach Lore.

In the very interesting paper of Mr. Rivers' on the above subject, reproduced in your last issue, it is remarked that the Peach cannot be stored for future consumption like the Apple, which is, of course, true in the ordinary sense. But there is one method of storing both Apples and Peaches, which I have seen, when a lad, practised in American farmhouses, and which is to peel them, cut them into pieces, and hang them up until dried. I remember well bringing out something like a sack of these dried Peaches, which, however, never found their way into the pies or puddings which should have been their destination, but were discussed *au naturel*, so to speak, with every expression of approbation by appreciative connoisseurs of my own age. I have often wondered why these American dried Peaches have never found their way to this country among the many things we import from the other side.—*M. R.*

Skimmia Foremani.

The plant to which this name has been given is stated to be a hybrid between S. oblata as the seed parent and S. fragrans as the pollen parent. The stock has been grown by Mr. Frederick Foreman, Eskbank Nursery, Midlothian, N.B., for the last twenty years, and is evidently of very slow growth, but extremely floriferous, while it bears a great quantity of globular scarlet berries about the size of peas. The leaves are obovate-lanceolate, leathery, evergreen, of a rich dark colour, and much broader than those of Skimmia japonica. A group of some thirty-two plants of various sizes was exhibited at the Drill Hall, Westminster, on Tuesday last, and it has taken about twenty years to work up the stock, which has been propagated by grafting. They were grown out of doors, and have been subjected to 34° of frost, so that they are perfectly hardy. They were exhibited by Mr. F. Foreman, and received a First Class Certificate.

Butter-nuts.

Under this name, the fruits of Caryocar nuciferum, a tropical South American tree, have been exposed in the shops in Covent Garden Market for the past month or six weeks. Their high price, namely 1*s.* to 1*s.* 6*d.* a pound, will prevent any large consumption of the fruits in this country. Owing to the hard, thick, and woody nature of the shell, the kernels, when removed from a pound weight of fruit, constitute but a small part of the whole. The hardness of the shell will also prevent the nut being broken with an ordinary nut-cracker; the kernel is, however, very pleasant to the taste, reminding one of the Brazil-nut, although both belong to different orders; but it is much softer, with a greasy or buttery consistency when chewed. Hence, no doubt, we have the application of the name, Butter-nut, otherwise known as the Souari-nut. The shell is reddish brown, somewhat kidney-shaped, compressed on the sides, and covered with rough, warty protuberances. Four of these are borne in a fruit with its full complement, which would be about the size of a child's hand.

Impatiens Hookeriana.

It is to be regretted that this fine species is not so easily grown or flowered as I. Sultani, otherwise it would become very popular. It naturally flowers in winter, but must have had some previous preparation in order to enable it to produce bloom. Being of a fleshy shrubby character, it must attain some size and have its wood well ripened off during the latter part of summer after it has made good growth. A light position near the glass with plenty of ventilation is also good for it; or the plants may be stood in the open air during autumn and receive but a moderate amount of water. The flowers are of great size, pure white with crimson-red stripes on the lateral petals, and are borne in trusses or umbels of from two to six. These umbels are carried clear above the foliage, displaying the curious long curved white spur. There is a well-flowered plant of some size in the stove at Kew. It is a native of the mountains of tropical Ceylon, where it ascends to an altitude of 3,000 ft. to 5,000 ft.

Gardeners of the Future.

In your issue of December 1st, "W. B. G." points out that young gardeners, in order to acquire a leading position in after life, should obtain a knowledge of botany, chemistry, and entomology, and a first-rate suggestion it would be, provided the young gardeners had the means to follow it out. As "Southdown," in your last issue, says, "many are the sons of poor agricultural labourers, and the parents of such are glad to get them installed in a gentleman's garden," and "W. B. G." should pause and think of the wages they receive. The average pay of journeymen gardeners is 16*s.* per week, and if they have to take part in the decoration of the house, are always expected to keep up a respectable appearance. I do not say for one moment that these subjects are of no use to such men. On the contrary, a knowledge of chemistry is the greatest boon to any gardener; but at the same time it is an expensive science, and if the uninitiated take to experimenting, a dangerous one too. Would that some of our leading lecturers came forward, to write a series of papers upon the subjects mentioned, that could be published in The Gardening World or some other weekly gardening periodical, so that young gardeners could acquire the knowledge they thirst after, and which, from their means and isolated positions, they are unable to obtain. I feel sure their efforts would be greatly appreciated. I quite agree with "Southdown," that the head gardeners of the present day do not take so much interest in their employés as they should do. As long as their men do the work allotted to them to their satisfaction, all is well; but a few useful hints from them would go a long way towards the making of a young gardener. Alas! now they are mostly allowed in their spare hours to follow the bent of their own inclinations, and, I fear, too often pursue the course mentioned in the concluding words of "W. B. G.'s" letter. A great many of them live in isolated country places, where they cannot obtain access to public libraries, and where they have not the chance of attending lectures. What are they to do? A few good articles from leading men would go further with them than a dozen of books, which are mostly dry in detail, and contain a great deal that is confusing to even the more intelligent of young men. I trust that something in the way I have suggested may be carried out for the benefit of young gardeners like myself, so that when we rise to the position of head gardener we may be able to give advice to those under us, and also to give satisfaction to those by whom we are employed.—*E. H. C.*

Anthracite Coal.

Reverting again to this subject, allow me to corroborate the remarks of "W. B. G." at p. 224, both with respect to Anthracite Coal and the insufficient power of many heating apparatuses. Admitting that the fire-bars are liable to be melted with ordinary coal

and coke, I am, nevertheless, still disposed to believe that this sort of accident is more apt to occur with Anthracite, and the cause of this I attribute to the caking nature of the coal, for when it is well burned through it cakes and lies much closer on the fire-bars than either ordinary coal or coke. Perhaps there are different qualities of Anthracite, and one sort that is more given to caking than another. However, be that as it may, Anthracite is certainly excellent fuel, and cannot be too highly recommended for horticultural purposes. I am not sure if it can be recommended for household purposes, because on one occasion when a small quantity was taken to the kitchen I received strict orders from the cook not to send any more there, because it had almost spoilt all that she had in hand for dinner that day. I was informed that the fire-bars to which I referred when I wrote last had stood three or four years firing with ordinary coal or coke, and that shortly after Anthracite was used they were melted out. Certainly, insufficient boiler power and piping has much to do with the heating of houses, and when the water boils in the boiler, and the pipes are as hot as can be made, while the temperature keeps low, a catastrophe is inevitable sooner or later. On calling a friend's attention to the paragraph on p. 224, he informed me that when he was under gardener in a situation in the neighbourhood of Wimbledon, he had the management of the fires there, and found it absolutely necessary to go to one furnace every half-hour, it being impossible to maintain the requisite temperature, simply because of insufficient piping, and for many nights in succession he had to stay up till two o'clock in the morning. Then the head gardener would get up at four o'clock and go on stoking!—*J. Peebles.*

Lilium candidum.

I SAW a batch of this Lily coming into flower early in November in the nursery of Mr. Eccles, Belmont, Southport, and as I have no recollection of having seen such a sight at that time of year, it may be worthy of record in your columns. The flowers are always saleable, and Mr. Eccles grows large quantities to supply his depot in Southport Market. Practically speaking, Mr. Eccles has had flowers of this beautiful Lily for the last twelve months by growing successional batches, and those that I saw have not come now as a mere accident, but are the results of a well-planned scheme. —*R.* [We beg leave to doubt the well-planned scheme, in so far that we question if Mr. Eccles can again repeat the scheme, whatever it may be, with success. French-grown bulbs of Lilium candidum have played other growers the same trick, that is to say, from some cause or other—a check at some time, or too hard forcing—the imported bulbs have first thrown small and poor flowers, and immediately developing fresh crowns, have come into flower again, more strongly than before, and of course out of season. Such early flowers are the result of accident, and cannot, we believe, be produced at will.—ED.]

Davallia Assamica.

THE species of Davallia are fairly numerously represented in this country; but the species under notice, which comes from Assam, does not appear to have been introduced to this country previous to its appearance in the nursery of Messrs. Hugh Low & Co., Clapton. The fronds are very different in general aspect from those of other species in cultivation, and being lance-shaped bear considerable resemblance to those of a Nephrodium. They are bipinnate and toothed, dark green, opaque, with a purplish red flexuous midrib, and grow from 12 ins. to 15 ins. in length, assuming a gracefully arching or drooping habit. They are also equally pretty on the under surface owing to the presence of numerous bright orange spores, which the plant has only become strong enough to produce quite recently. At present it is grown in a pan; but from its habit it would no doubt form a very appropriate subject for basket work.

Laportea moroides.

THE Laporteas or Nettle Trees number some twenty-five species, few of which have, however, been introduced to this country—a matter that is not greatly to be regretted, seeing the difficulty that there is in handling them without exercising the greatest care in order to avoid being stung. They belong to the Nettle family, and although the members belonging to it that sting are comparatively few, yet many of the Laporteas are very virulent in their action, the irritating effects continuing for many days. Some of the species have, however, large and ornamental leaves suitable for stove decoration, and on that account merit cultivation. The species under notice is known as the Poison Tree of Queensland, and has obliquely heart-shaped and peltate leaves of no particular beauty certainly, and any ornamental value to be attached to this plant depends upon the fruit, which is borne in long pendulous panicles, consisting of clusters resembling in no small degree Raspberries. They are of a rosy flesh colour, and the specific name is derived from the fact that they have been likened or compared to a Mulberry. The fruit really consists of clusters of flowers, the perianth of which has become fleshy. A fruiting specimen may be seen in the stove at Kew.

Garrya elliptica.

SPECIMENS of this plant in flower, sent us by Mr. James McDonald, View Vale Gardens, Bannockburn, again remind us of the beauty of this hardy evergreen shrub, which might be more extensively planted than it is, notwithstanding its being more generally cultivated than any of its congeners hitherto introduced. About a half only of the known species, together with a hybrid, is in cultivation in this country, and although some of them may be tender, G. elliptica may be grown with perfect freedom in the open air as far north as the Moray Firth. The flowers being small, and greenish white or yellow, are by no means conspicuous individually, but the long, drooping, catkin-like and compound spikes of the male flowers are very attractive, suspended as they are from the tips of the branches and from amongst the cheerful-looking evergreen leaves. The specimens were gathered from a hedge running east and west. The species of Garrya were formerly placed in an order by themselves, but the Garryaceæ now form a tribe of the Dogwood family (Cornaceæ). The chief distinction lies in the male and female flowers being on separate plants.

Begonia, John Heal.

THIS is certainly an acquisition, and in all probability it is destined in a short space of time to become very widely known. In going through Messrs. J. Veitch & Sons' Nursery, at Chelsea, a short time back, I had the pleasure of meeting with it for the first time, and shall not easily forget such a massive and charming sight as was presented by a large batch of plants then in flower. The latter are of a beautiful bright rose-carmine in colour, and are produced in loose racemes on drooping scapes well above the foliage, being individually from 1½ to 2 ins. across, and are said to be very persistent, in itself a valuable property. For decorative purposes at this time of the year, I do not doubt that it will become highly popular when better known, and as an indication of its value for this kind of work, one may mention the fact that it is free flowering, and of easy culture and propagation. The whole of the plants in flower at the time of my visit were rooted from cuttings so recently as July and August. Unquestionably such bushy plants, a foot or more high, loaded with flowers, and furnished to the rims of the pots with dark healthy green foliage, would lead one to suppose that obscurity is impossible and that it will ere long become a great favourite with market growers. The variety is a cross between B. Socotrana and a seedling of the tuberous section, the hybridiser and raiser being the estimable man whose name it bears.—*J. Horsefield, Heytesbury.*

Insufficient Boiler Power.

ALLOW me to endorse the remarks of your correspondent, "W. B. G.," at p. 224, especially as to the boon that would be conferred on the gardening fraternity by the rather summary demolition of inefficient heating apparatus, puny boilers and too little piping. I am afraid that in heating horticultural buildings the old adage about "spoiling the ship for a ha'porth of tar" too frequently holds good; expense is with many a serious item, though in such cases first economy is dearest in the end. A puny boiler and insufficient piping are about as bad as anything a gardener has to contend with, and that I have proved, having had to stoke into the small hours of the morning during severe weather, and then got up half afraid that Jack Frost had gained admittance. Hard driving means ruin to the boiler, waste of fuel in half the heat going up the chimney, and the production of red-spider. Stoking is a subject on which much has been said and written, and it is work that is mostly performed in a slovenly manner. That "a clean stoker makes a good forcer," is a very true saying, but too many young gardeners consider being "on duty" a bore; they have other attractions, and very frequently perform their "banking up" without a light, or even taking the trouble to go into the structures under their charge, to ascertain the heat in the pipes or the state of the temperature. Stokeholes should always be drained, particularly those well-holes which are necessary for some boilers, as water is always a nuisance when it finds its way through the brickwork into such places, which it is sure to do in such districts where the soil is so heavy that the water cannot freely percolate away. Drains should be put in when the boiler is set, and should form an item in the contract, as it is often difficult to get it done afterwards. Having had to do with not a few forms of boilers, had I the preference, I should certainly imitate the market men, by going in for the make most popular with them.—*Pathfinder.*

ORCHID NOTES AND GLEANINGS.

CYPRIPEDIUM VENUSTUM BY NIGHT.

As a rule, little value is attached to this old-fashioned plant, owing to the dark and dull colour of its foliage, and also to its dusky and green-veined flowers. By daylight the petals appear tipped with a rather dull purple, but by artificial light they appear of a brilliant crimson for about one-third of their length. On this account the plant may prove valuable for decorative work at night, and if so it would be rescued from the oblivion into which it is falling. C. insigne is now being grown in large quantities for cut flowers, and as C. venustum is equally hardy and easily grown, it would form a suitable companion, as it has before in many a greenhouse or vinery throughout the country. The yellow glandular organs on the claw of this species are very curious, and the interior of the pouch is covered with a dense coat of hairs, that are nearly always tipped with a gland or globular mass of clear fluid. These hairs obviously perform some important physiological function in the economy of the plant. The species is now flowering at Devonhurst, Chiswick, where Mr. Wright noticed the effect of candle light on the petals.

CŒLOGYNE GARDNERIANA.

THIS is by no means a plentiful species in this country, although originally introduced in 1837 from Kashia. A striking peculiarity of the plant is the long bottle or flask-shaped pseudo-bulbs, which are different from most if not all other species in cultivation. We noticed about half a dozen plants of it in the nursery of Messrs. Hugh Low & Co., Clapton, and which were in full bloom. It is naturally a winter-flowering species, and very suitable for suspending on a piece of tree Fern stem, where the drooping raceme of flowers will be seen to best advantage, and where it will have free play for extension without coming in contact with the staging or other objects surrounding it. The flowers are comparatively large and drooping, but nearly closed, and pure white with the exception of the crest which is lemon-yellow. Cymbidium elegans is another plant with a very similar but longer inflorescence.

CYPRIPEDIUM HAYNALDIANUM.

THERE is a considerable resemblance between this species and C. Lowii, but a little close observation will serve to show that they are abundantly distinct. The most noticeable feature is, perhaps, the upper sepal, which is larger than that of C. Lowii and far more brightly coloured, being suffused with white and purple with a green base. The petals are greenish yellow, plentifully marked with large purple blotches, and having a rosy purple upper end where they are slightly twisted. C. Lowii, on the other hand, has a greater profusion of smaller purple spots, and can readily be distinguished by these markings, while the petals are rather narrower. Both species are extremely handsome and choice in their way and should never be absent from a collection of Orchids. One or other or both are nearly always in flower, and we noticed both the other day in the nursery of Messrs. Hugh Low & Co., Clapton, where they are grown in great numbers.

CYPRIPEDIUM SANDERIANUM.

IN this we have indeed a rival to the long-tailed Selenipedium caudatum, and when the plants get thoroughly established in this country, we may reasonably expect that the petals will be equally long. Even during the present unfavourable time we measured the petals of C. Sanderianum 19½ ins. in length, in the nursery of Messrs. Hugh Low & Co., Clapton. Petals have already, however, been measured 25 ins. to 27 ins. long on other plants some time ago, while 30 ins. is generally considered about the maximum in Selenipedium caudatum. The nearest ally of C. Sanderianum in

cultivation would seem to be C. Stonei, to which the lip, in its long claw and general outline, very closely corresponds. The upper sepal, too, is similarly marked to the standard of C. Stonei, but is richer inasmuch as it is closely striped with a rich ruby-red and yellow. The petals are mostly purple, except at the base, where they are yellow and more or less spotted. It seems to be a slow-growing species; but a little more experience with it in this country is necessary before we may definitely pronounce upon this point.

Oncidium curtum.

The habit of this pretty and distinct species is similar to that of O. crispum, or perhaps more like the graceful O. prætextum, but it is rather more sprightly or cheerful than either. A great quantity of flowers are produced on branching spikes, and at this dull season of the year are most attractive. The upper sepal is concave, yellow and banded with brown; the petals are much larger, as in its allies, nearly round, of a deep chocolate colour spotted with yellow. The lip, as usual in this group, is the largest and most conspicuous feature of the flower, being reniform and of a bright golden yellow, marked at the base and apex with brown. It is a native of Brazil, and was introduced as recently as 1875, but it is still far from common in this country. We noticed it the other week in the nursery of Messrs. Hugh Low & Co., Clapton, where it was very attractive and pleasing. The cultural treatment required by Oncidium crispum and O. prætextum will suit the present species very well.

Phalænopsis at Clapton.

Although anything but the best time to examine the Phalænopsis, yet we noted a few the other week, together with certain peculiarities of P. amabilis, better known in gardens as P. grandiflora, and P. Aphrodite, better known as P. amabilis. The true P. amabilis is generally supposed to be readily distinguishable by its long, strap-shaped, pale green leaves. When in flower it is, as a rule, readily distinguishable by the long, narrow, terminal lobe of the lip. P. Aphrodite is, however, extremely changeable, and importations come home having long narrow pale green leaves, resembling to a great extent those of P. amabilis. Other slight varieties have broad, rounded, or obovate leaves of a dark green, or more often tinted with reddish purple, especially beneath. Experience has shown that these forms with the broad rounded leaves have flowers to correspond in the breadth of their component parts. These peculiarities we noticed in the nursery of Messrs. Hugh Low & Co., Clapton, where the collection of Phalænopsis is both extensive and rich in species. The leaves of P. Sanderiana resemble those of P. Aphrodite. A beautiful little species from the Philippine and Sunda Islands, namely, P. amethystina, was also in flower. The leaves are rather stiff, oblong, from 2 ins. to 4 ins. in length, and bright green. The flowers are small but very pretty, with white or blush-coloured sepals and petals. The three-lobed lip has the lateral segments beautifully striated with rosy purple and white, while the middle lobe is purple shaded with white and emarginate. Many species will be in flower in the course of a few weeks.

Spathoglottis Viellardi.

It is rather to be regretted that Orchids, or, indeed, plants of any kind should get distributed in gardens under names which they are not likely to retain for any length of time, because gardeners are so conservative in the matter of names. Many years always elapse before they can be induced to alter a garden name for the proper one, if indeed they alter it at all. The Orchid under notice is certainly not yet widely distributed in this country; but then it is known in those collections under the name of S. angustorum, while the above one has been given to it by Professor Reichenbach. Compared with the older and better known species it is vastly different in general appearance, and certainly a great improvement, and very similar in habit and size to S. Kimballiana. The scape rises to a height of 3 ft. or more, and bears at its upper end a raceme of flowers which may be compared to those of a good-sized Phalænopsis. The sepals and petals are rosy blush, while the three-lobed lip is parti-coloured. The lateral lobes are of a deep fulvous or tawny orange, while the terminal, obcordate lobe is rose, with a long claw or stalk. The prominent two-lobed crest and the disk are deep orange-yellow. The long-stalked leaves are strongly ribbed or plaited, and about a yard long, more or less proportionately to the size of the plant. It is now flowering at Kew.

The Gardeners' Calendar.

THE STOVE.

Bouvardias.—In view of the quantity of flowers that will be required by Christmas, there will be an inclination on the part of gardeners to cut down anything that will yield a handful of flowers; but those who depend upon cuttings for their annual supply of plants will do well to remember that if put in early they have the advantage of a whole season before them to make a good growth before the following autumn. A plant or two, according to requirements, of each variety grown should therefore be placed in a cool house, and gradually allowed to become dry. Then prune them hard back, and place them in a forcing pit to cause them to break freely. Keep them watered, and when the cuttings have attained a length of 2 ins. take them off and insert in thumb-pots, placing them in a close frame or hand-light.

Winter-flowering Begonias.—Those who are fortunate in possessing John Heal, Adonis, or other of the winter-flowering kinds, will now be enjoying a profusion of bloom in bright, but by no means glaring, colours. The plants should always enjoy a light position near the glass, with ventilation on all favourable occasions. Do not be disappointed if a series of dull foggy days cause the flowers to drop. In the course of a week—in the case of John Heal especially—should the weather prove bright, they will be as brilliant as ever.

THE GREENHOUSE.

Cinerarias.—The late batch of these useful plants should now be put into their flowering pots. It is no advantage to allow them to become stunted and pot-bound, otherwise they will throw up but a very weak or indifferent flower-stem, yielding but a small truss of puny flower-heads. When potted re-stage them, giving them the most advantageous position with regard to light, with ample space for the foliage between each plant. Liberal treatment only will insure the retention of large healthy leaves, covering the pots when in full bloom. Let it be remembered that a very short time is sufficient to injure the foliage beyond recovery, owing to its thin and membraneous texture, a fact which applies to all other plants of soft herbaceous texture.

Plants in Flower.—As the Chrysanthemums go past their best have them removed from the show house or conservatory, and their place supplied by other subjects which have been grown on for the purpose. A sprinkling of these flowers can, however, be maintained for weeks to come by growing late varieties and by special treatment. Tree Carnations will supply a quantity of much appreciated flowers. Several species of Salvia will now prove useful, together with Eranthemum pulchellum, Peristrophe speciosa, Sericographis Ghiesbreghtii, Eupatoriums, Ageratum mexicanum album, Heaths, Cytisus and Coronillas. Amongst climbers Cestrum elegans is still in fine condition, and C. aurantiacum affords a welcome change in the way of colour.

THE KITCHEN GARDEN.

Fruit Trees and Insects.—Now that the leaves are off, a vigorous search for insect enemies of all kinds should be made; and while the pruning is being performed, any eggs or pupæ that may be detected should be destroyed. Apple, Pear, and other trees affected with scale should have their shoots well scrubbed with an old and rather hard brush which is almost useless for painting. While so doing, the brush should just be kept moist with paraffin, so as to destroy not only the scale, but the young or eggs that may be harbouring beneath the old shell of the mother. Paraffin should also be vigorously rubbed into the crevices of the bark wherever any traces of the Woolly Aphis or American blight makes its appearance.

Digging.—As pyramid and standard trees in the squares get pruned, have the cuttings cleared away to a heap, where they may be burnt on some convenient occasion. If any vegetable crops are to be planted between the trees, a quantity of manure should be spread on the ground before digging. The latter operation should be performed as soon as possible, so that the soil may have the benefit of the winter's frost.

THE FORCING HOUSES.

The Vineries.—Where Grapes are still hanging a dry atmosphere should be maintained, with a temperature of about 50° at night. Look over the bunches frequently and remove any berries that may be decaying, otherwise the bunches will soon be spoiled, owing to the continued damp mild weather. In the early vinery the night temperature may be raised to 55°, allowing a rise of 10° by day with ventilation while the weather continues favourable.

Peach Houses.—The trees in the late houses should now be pruned without further delay, removing as much of the old wood which has already borne fruit as possible, so that what remains will cover the wirework at distances of 5 ins. apart. Be careful to tie all the main limbs of the trees, and as many of the others as possible, at the same angle from the stem, so that the tree may be maintained. If affected with scale, use a wineglassful of paraffin to a gallon of the mixture used for washing the trees.

Cucumbers.—Remove all fruits from those bearing as soon as fit for use. Nothing is more exhausting to the plants at this dull season of the year than a heavy crop. Sow seeds to obtain a succession to those now bearing.

CHRYSANTHEMUM SHOWS.

Eccles, Patricroft, Pendleton, and District.

November 30th and December 1st.

This exhibition was held in the Town Hall, Eccles, and notwithstanding the late unfavourable season and advanced period of the year, was admitted to be one of the best held in the district. The hall was tastefully decorated with a number of Palms, Crotons, Ferns, and other decorative plants, which were kindly lent by Mrs. Thos. Agnew, Fairhope, Eccles; Oliver Heywood, Esq., High Sheriff, Pendleton; and Stewart Garnett, Esq., Pendleton, and which gave to the hall a charming appearance. The groups of Chrysanthemum plants were very bright and fresh, and the first prize in this class was awarded to G. H. Leigh, Esq., Swinton (gardener, Mr. J. Belshaw); the second being taken by N. A. Earl, Esq., Kersal (gardener, Mr. H. J. Bennett). In the other classes for specimen Chrysanthemum plants N. A. Earl, Esq., secured the first prizes; Frank Reddaway, Esq. (gardener, Mr. F. Glover), being second. For Pompons N. A. Earl, Esq., again took first honours, Mr. W. Russell, Swinton, being next. For the most effective group of miscellaneous plants Mrs. Thos. Agnew, Fairhope, Eccles (gardener, Mr. W. Elkin), received the first award. The groundwork of Maidenhair Ferns, dotted here and there with Dracænas and other choice plants, made a pretty group. In this class N. A. Earl, Esq., received the second prize. For table plants Mr. John Pountain, Bolton, and N. A. Earl, Esq., were first and second. For Roman Hyacinths the first prize was given to Frank Reddaway, Esq., whilst Mr. W. Russell, Swinton, took the second. For three large pots of Poinsettias N. A. Earl, Esq., was again the successful winner of the first prize, as also for Primulas and Orchids. For the latter a special prize was awarded to him by the judges. For cut blooms the first honours were given to Col. Wingfield, Onslow, Shrewsbury (gardener, Mr. J. Lambert), who took the first prizes for eighteen cut blooms, twelve large incurved, twelve large Japanese, and twelve large blooms (six Japanese and six incurved). These were really splendid blooms, and came in for more than usual attention. Other prize winners in the classes for cut blooms were Mr. John Walker, Stockport; N. A. Earl, Esq., Kersal; and A. Knowles, Esq., Bolton (gardener, Mr. G. Corbell). For the best hand and bridal bouquets Mr. John Mosley, Bolton, was awarded the first prize for two magnificent bouquets, Mr. W. Russell, Swinton, taking the second prize.

The amateur classes were also well represented, and their plants and blooms were greatly admired. The principal prizes in these classes were awarded to Mr. H. Huber, Winton; Mr. James Royles, Swinton; Mr. A. B. Wimpoly, Eccles; Mr. W. Crawshaw, Ramsbottom; Mr. Ch. Musker, Swinton; Dr. Crocker, Eccles; Mr. R. Johnson, Barton; Mr. J. Smethurst, Winton; Mr. R. Blundell, Monton; Mr. James Parr, Barton. Blooms, plants and fruit, not for competition, were exhibited by the following seedsmen and nurserymen:—Messrs. W. Clibran & Son, Manchester and Altrincham, exhibited ten dozen cut Chrysanthemum blooms, which were of special merit. They showed also a good collection of Ferns, table plants, Roman Hyacinths, and some beautiful trusses of Pelargoniums, &c. Messrs. Dickson & Robinson, and Messrs. Dickson, Brown, and Tait, of Manchester, each exhibited splendid collections of table plants, Ferns, Roman Hyacinths, Cyclamens, Ericas, &c. Mr. W. Grange, of Eccles, exhibited a fine collection of table plants and fruits. Messrs. R. Smith & Co., Worcester, had on view a splendid collection of Apples and Pears, such as had never been seen in the district before. Mr. James Derbyshire, Patricroft, exhibited thirty dishes of Apples grown in his orchard at Barton, for which he was awarded a special prize. Messrs. W. Clibran & Son also showed some fine blooms of Chrysanthemum Thomas Stephenson, a distinct terra cotta-coloured sport from Criterion, to which the judges awarded a First Class Certificate.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*December 11th.*

THE last meeting of the season at the Drill Hall, Westminster, was held on Tuesday, when, as might be expected from the raw, cold, and foggy nature of the weather, very few plants of any kind were brought out, and anything more dreary could not well be imagined. Mr. F. Foreman, Eskbank Nursery, Midlothian, N.B., exhibited a group of Skimmia Foremani, consisting of thirty-two plants of various sizes, lifted from the open ground and put in pots. They were heavily laden with fruit. Messrs. H. Cannell & Sons, Swanley, Kent, showed some blooms of Primula sinensis, exhibiting red, crimson, salmony red, pink, and other colours, together with a named variety, Cannell's Pink, which was certificated. Some well-flowered plants of Primula obconica, with much larger clear rosy lilac flowers than the original, were shown by Mr. D. Campbell, gardener to Dr. Wood, The Priory, Roehampton. A basket of Chinese Primulas was shown by Messrs. J. James & Son, Farnham Royal, Slough, for which a vote of thanks was accorded. A pan of hardy Pri mroses in full bloom was exhibited by Mr. R. Dean, of Ealing, who was also accorded a vote of thanks. A similar award was also made to Messrs. Collins Bros. & Gabriel, 38, Waterloo Road, S.E., for a Carnation named White Andalusia, which is fringed at the margin, and fragrant. Mr. John Odell, Goulds Green, Hillingdon, also had a vote of thanks for Cyclamen persicum Rosetta, with large bright rose-coloured flowers. Votes of thanks were accorded to Mr. Rowe, Nunfield Gardens, Dumfries, for Pleione maculata and a yellow Japanese Chrysanthemum; and to Messrs. Heath & Son, Cheltenham, for Masdevallia ignea rubescens and M. Lindeni, with scarlet flowers and violet nerves. The latter colour has been derived from M. Veitchii, which was used as one of the parents.

At a meeting of the Fruit Committee, Mr. W. Blackmore, Dunyard Gardens, Exeter, exhibited some Apples, amongst which was one similar in size and colour to Cox's Orange, and named Queen of the Exe. Another showy Apple, a seedling, was shown by Mr. J. Brown, Stamford and Peterboro'. A Cultural Commendation was awarded to Mr. Campbell for an exhibit of twenty well-grown and blanched plants of Batavian Endive. Some vegetables were also exhibited by Mr. R. Gilbert, High Park Gardens, Stamford, including Gilbert's Universal Savoy and Chou de Burghley. Asparagus Chicory was exhibited by Mr. J. Willard, Holly Lodge Gardens, Highgate. A curious exhibit, in the shape of a Lime tree with contorted or twisted branches, was made by Mr. G. Swailes, The Nursery, Beverley. It was one out of some hundreds that appeared amongst specimens that had been layered. A kind of artificial manure was shown by Mr. A. Dean, Bedfont, consisting of sea shells gathered and calcined in a small kiln by a Kentish pilot in his hours of leisure. Large collections of Turnips and Brussels Sprouts were brought up from the Royal Horticultural Society's gardens at Chiswick. Amongst the Turnips a continental strain of Yellow Finland was extremely neat, deep in colour, and of small size. Other good yellow kinds were Robertson's Golden Ball, Selected Golden Ball, and Dobbie's Golden Ball. Of the white kinds, Snowball, Silver Ball, and The Model were very fine kinds. The best of the purple-top varieties were Veitch's Purple-top, Early and Extra Early Purple-top Milan, and the Red Strap-leaf. White Strap-leaf was also a small and neatly-formed kind. Green-top varieties included some fairly good samples of Early Stone, Stratton's Green Round, and Covent Garden White Globe. The Long Red Tankard is certainly a curious kind, shaped somewhat like a Carrot, but is not likely to become popular. A collection of Brussels Sprouts included some nineteen of the leading varieties, which need not be particularised, as a recent report of them will be found on p. 228 of this volume.

QUESTIONS AND ANSWERS.

CYPRIPEDIUM INSIGNE.—*Exors*: A very good form, but not special extra. It does not come near C. insigne Maulei.

HELLEBORES.—*J. Wells*: The present is not a good time to transplant Christmas Roses, because they are now making a considerable amount of root-growth, which has been, moreover, proceeding for some time. If done in spring they have no time to re-establish themselves before the drought of summer sets in, although if planted in rich open soil and well mulched or kept watered they do fairly well. A very good time is September, just before the moisture of autumn induces them to send out fresh roots. If done later in autumn you are liable to injure the young roots; but their advancement will depend greatly upon the season as to moisture. Never divide your plants with the spade, as it is a barbarous method, destroying great part of the roots. Carefully remove the soil and pull the crowns apart with their roots intact, using a knife when necessary to severe the more firmly-attached pieces.

NAMES OF FRUITS.—*Geo. Weston*: 1, Apple, Blenheim Orange; 2, Court of Wick; 3, Pear, Beurré d'Aremberg; 4, Comte de Lamy. *A. Rettie*: 1, Pear, Forelle; 2, General Todtleben. *Thos. Lamb*: 1, Pear, Glou Morceau; 2, Apple, Mère de Ménage; 3, Cox's Orange; 4, Beauty of Kent; 5, Alfriston; 6, Tower of Glamis.

NAMES OF PLANTS.—*J. Robinson*: Catasetum macrocarpum. *J. Davis*: Odontoglossum maxillare, better known in gardens, perhaps, under Professor Reichenbach's name of O. Madrense, but the first name was previously given by Lindley, and is, therefore, the correct one. It is quite distinct from O. cristatum to which you referred it. *L. C.*: 1, Masdevallia Reichenbachiana; 2, M. polysticta; 3, M. ignea; 4, M. tovarensis. *H. McIntosh*: 1, Hellehorus niger altifolius; 2, Jasminum nudiflorum; 3, Hamamelis virginica; 4, Vihurnum Tinus; 5, Thuja (Biota) orientalis; 6, Thuja gigantea.

ONIONS ROTTING.—*A. L. Mudie*: There is no disease affecting the specimens sent us, and their rotting is merely due to the fact that they ripen badly all over the country owing to the absence of sunshine during summer, the low temperature, and the long-continued moisture about the time they are usually pulled and laid out to dry. Sort them over and remove all bad specimens at frequent intervals, and keep them as dry and airy as possible.

SPOTS ON APPLES.—*Henry Garland*: Your Apples are affected with a fungoid disease, named Cladosporium dendriticum. The malady no doubt commenced in the early part of the season, and although you may not have noticed anything particularly the matter with them when you gathered them, there can be little doubt that the disease was there, and has continued to spread in the fruit room, the atmosphere of which may be moist. There is no known remedy, and the only way of preventing the spread of the disease is to destroy all badly affected specimens during the growing season.

THYRSACANTHUS LOSING LEAVES.—*R. Miller*: A great many of the Acanthaceæ are very liable to lose their foliage in winter, especially the lower leaves. This may be brought about by the soil having got dry at any time, but it more frequently happens by the plant being badly situated as to light, and again when they receive a check through the sudden lowering of temperature. It sometimes happens that they are used for decorative purposes, and when removed to the low temperature, the sudden check causes the leaves to drop. Some of the causes may have been operating on your plants, but you do not give any conditions under which they have been placed. When being grown on from cuttings in summer, although a pretty high temperature is necessary to ensure a free growth, yet they must receive plenty of ventilation to harden them.

COMMUNICATIONS RECEIVED.—J. W. & Co.—R. D.—S.—F. R. S.—W. H.—W. P. R.—T. S. W.—Scorius.—S. C.—G. S. A.—Ascot.—C.—A. W.—G. F. W.

TRADE CATALOGUES RECEIVED.

JAMES CARTER & Co., 237 & 238, High Holborn, W.C.—Flower and Vegetable Seed Catalogue for 1889.

A. M. C. JONGKINDT CONINCK, Dedemsvaart, near Zwolle, Holland.—Wholesale Trade List of Hardy Trees, Shrubs, Plants, Bulbs, &c.

S. FOX ARMITAGE, High Street, Nottingham.—Fruit Trees, Roses, &c.

THE WEATHER.

AT the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending Dec. 8th was 29·91 in.; the lowest reading was 29·75 in. at the beginning of the week, and the highest 30·06 in. on Thursday morning. The mean temperature of the air was 49·1°, and 6·7° above the average in the corresponding weeks of the twenty years ending 1868. The mean showed an excess throughout the week, the warmest day was Wednesday, when the mean was 53·0°, and exceeded the average by 10·4°. The general direction of the wind was S.S.W., and the horizontal movement of the air averaged 12·7 miles per hour, which was 0·1 mile above the average in the corresponding weeks of sixteen years. Rain fell on three days of the week, to the aggregate amount of 0·17 of an inch. The duration of registered bright sunshine in the week was 11·5 hours, against 9·3 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report Clover seeds steady, Red Clover being firmly held, and a slight advance is paid for this article in France owing to a large German demand. Alsyke, White, and Trefoil are unchanged. Rye Grass keeps steady. There is no alteration in the prices of Bird Seeds. Blue Peas are unaltered.

COVENT GARDEN MARKET.

December 12th.

No alteration in prices of Fruits and Vegetables.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.
Aralia Sieboldi, doz.	6 0	18 0
Arum Lilies..per doz.	9 0	18 0
Chrysanthemums, per dozen	6 0	12 0
— large plants ..each	2 0	5 0
Coleus .....per doz.		
Cyclamen ..per doz,	12 0	18 0
Cyperus, ..per dozen	4 0	12 0
Dracæna term., doz.	30 0	60 0
— viridis, per dozen	12 0	24 0
Evergreens, in var., per dozen	6 0	24 0
Ferns, in var., per doz.	4 0	18 0
Foliage Plants, various, each	2 0	10 0
Ficus elastica each	1 6	7 0
Fuchsia, per doz.	3 0	6 0
Marguerites per doz.	6 0	12 0
Palms in variety, each	2 6	21 0
Pelargoniums, scarlet, per dozen	6 0	9 0
Poinsettia ..per doz.	10 0	15 0
Primula sinensis, doz.	4 0	6 0
Roman Hyacinths, per doz.	9 0	12 0
Solanums....per doz.	9 0	15 0

OUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.
Arnm Lilies, 12 blms.	3 0	9 0
Azaleas ....12 sprays	0 10	1 0
Bouvardias, per hun.	0 6	1 0
Camellias, 12 blooms	2 0	4 0
Carnations, 12 blooms	1 0	2 0
Chrysanthemums, 12 blooms	1 0	4 0
— 12 bunches	4 0	12 0
Cornflower, 12 hunch.		
Cyclamen..12 blooms	0 6	1 0
Eucharis, per dozen..	3 0	6 0
Gardenias, 12 blooms.	6 0	9 0
Heliotropes, 12 sprays	0 6	1 0
Lapageria, 12 blooms	2 0	4 0
Lilium longiflorum, 12 blooms	5 0	9 0
MaidenhairFern, 12hns	4 0	9 0
Marguerites, 12 hun.	3 0	6 0
Mignonette, 12 bun.	2 0	4 0
Pelargoniums, 12 sprys.	1 0	1 6
— scarlet, 12 sprays..	0 4	0 6
Paper White Narciss, 12 sprays	0 9	1 0
— — — French, doz. bunches	3 0	6 0
Poinsettia, doz. blms.	4 0	6 0
Primroses..doz.buns.	1 0	2 0
Primula, double, bun.	0 9	1 0
Roman Hyacinths, 12 sprays	1 0	1 6
— — (French), 12 bun.	2 0	4 0
Roses, Tea, per dozen	1 0	3 0
— Red .....per doz.	1 0	2 0
— Saffrano ..per doz.	1 6	2 0
Stephanotis, 12 sprays	0	8 0
Tuberoses, per dozen.	0 9	1 6
Violets ..12 bunches	1 0	1 6
— Parme, French, 12 bunches	3 6	5 0
— dark French, bun.	1 6	2 6
Wallflowers, 12 bnchs,	4 0	8 0
White Lilac, French, per bun.	5 0	7 0

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12, *from above, all different, my choice*, 9*s.*; 6, 5*s.*

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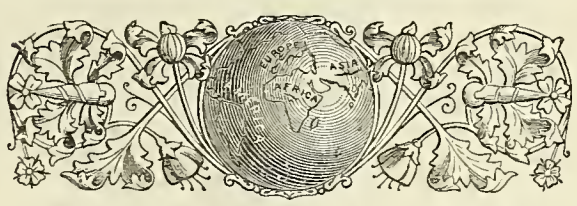

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, DECEMBER 22, 1888.

CURRENT TOPICS.

CHRISTMAS.—The Christmastide which we shall celebrate next week indicates the close of the year, but with whatsoever joy we may look forward to the advent of 1889, we shall at least part with the closing year without regret. For gardening and gardeners it has been a disastrous period; its weather will long be remembered, and probably quoted by our children as the particularly cold, wet, uncongenial year of 1888. Probably, too, in celebrating Christmas, most of our readers will rather welcome it, because it indicates the passing away of a bad time, than for any other reason.

We can hardly expect to see a return next year of the experience of the passing one; we hope, rather, that the new year may prove to be a pleasant and generous one, full of encouragement and help to the gardener. The year's date serves to indicate to us that the century is fast drawing to a close, and some eleven years hence we shall be entering upon the twentieth century of years of the Christian era.

There may not be much to recall that is of special interest in horticulture in any one year of the nineteenth century—least of all in the unfortunate one that is fast dying out—but the horticultural developments of the past half century have been indeed wonderful, for during that time gardening has been almost revolutionised. Our rate of progress now is slower, but not less practical—perhaps, indeed, it is more so—and if the remaining years of the century show nothing startling in garden development, they will certainly exhibit gardening steadily marching onwards. We shall, however, be able to refer to that progress more fittingly, if spared, some eleven years hence. For the present we content ourselves with very heartily wishing all our readers and friends a very happy and enjoyable festive season.

A VEGETABLE CONFERENCE.—Orchids, Primulacea, Potatos, and some other garden products have had their conferential honours, and may again. So also have Apples and Pears, and worthily so Chrysanthemums and Roses, as we have recently shown, are to be duly fêted in the same way. And now we hear of a Vegetable Conference, which it is hoped may prove not less attractive than any of its predecessors, whilst, having regard to its elements, it ought to prove one of the most practical. We are glad to know that Chiswick is to be the place of meeting, and very fitly so, for of all the good work done in the old gardens there is none that has had more general interest than its vegetable supervision. The project is so far only suggested, we are not so sure that it has been adopted, but the idea is to hold the conference about the end of September next, though what particular form it will assume must be left for the committee directing it to determine; we cannot doubt but that it will be broad as well as practical.

In promoting a conference of this description, which of course will include an exhibition of vegetable garden products, there will be on the one hand the distinct advantage that the end of September finds few ordinary exhibitions in competition, also that it presents a capital time for the exhibition of autumn vegetables in the best possible form; on the other hand there is the difficulty that vegetable exhibitors, who ordinarily comprise our best growers, have been so considerably pampered by liberal prizes at shows that they may find it hard to exhibit for love alone and not for money. But then, again, we have the example of the Apple and Pear Congresses as evidence of what pure love can accomplish, and we may well hope that the higher passion may rule as strongly as regards vegetables. The exhibition department, it is hoped, will deviate somewhat from the beaten track, and if even the conference department can be made more conversational and less didactic so much the better.

THE TRADE.—Now and again, as with feverish intermittence, denunciations are hurled at the horticultural trade because of its connection with the Royal Horticultural Society, and it is invariably gravely hinted that such connection is used by the trade for selfish purposes. Now it is very odd, but a fact all the same, that this kind of invective and of suspicion seems to be reserved for the trade in association with the Royal Horticultural Society only, and is little heard of in connection with other similar bodies. The charge is a very foolish one, and is quite unfounded; and those who make it, in claiming for themselves that they are the sole depositories of horticultural purity and enthusiasm, quite ignore the fact that in horticulture the trade stands out with singular prominence as being deeply imbued with the finest horticultural instincts and tastes; indeed, in no other trade is found, as in horticulture, that deep devotion to the profession, that genuine passion for it, as exists amongst the ranks of our horticultural traders.

If each and all are traders, so also are they devoted gardeners, and gardeners in the possession of knowledge which is unique; what

folly, therefore, would it be were the ablest, the most capable, and without doubt the most enthusiastic of horticulturists, and let us add also the most influential, cut off from active association with our premier society! Any attempt in that direction would be suicidal, and at the present moment, when aid from every quarter is needed, it would be madness to raise any agitation which would serve to drive out of the service of the society the best men in horticulture. Instead of getting rid of the trade, would it not be wiser for those blinded with unreasoning prejudice to endeavour to purge their minds of that bilious cloud? In any other similar society, the co-operation of the horticultural trade would be both eagerly welcomed and abundantly utilised.

Royal Horticultural Society.—We understand that with a view to retrenchment of office expenditure, and with the hope of being able to devote more money to Chiswick, the Council of the Royal Horticultural Society have decided for the present not to appoint anyone to the position of assistant secretary, vacant by the resignation some time ago of Mr. Charles J. Grahame.

The York Gala Committee.—At the instigation of Mr. Clayton, gardener, Grimston Park, near Tadcaster, Mr. John Wilson, late secretary to the gala, asked the committee to grant the sum of £5 to the funds of the Gardeners' Orphan Fund, and this has recently been done—a notable example to other kindred societies of the kingdom, which it is to be hoped will be followed.

The Birmingham Chrysanthemum and Fruit Show for 1889 has been fixed to be held on Nov. 20th and 21st.

New Plants Certificated in Ghent.—At the meeting of the Syndical Chamber of Belgian Horticulturists, held on the 10th inst., Certificates of Merit were awarded to Messrs. E. Vervaet & Co., for Cypripedium cardinale; to Mr. Ed. Pynaert, for Anthurium Andreanum albo-sanguineum; to Messrs. F. Desbois & Co., for Andromeda japonica foliis albo-marginatis; and to Mr. Albert Truffaut, Versailles, for Vriesia Mariæ.

Glasgow and West of Scotland Horticultural Society.—The flower shows for 1889 will be held on the following dates:—Spring: Wednesday, March 27th. Autumn: Wednesday, September 4th. Both to be held in the City Hall, Candleriggs, Glasgow.

Centenary of the Dahlia.—At the last meeting of the Scientific Committee the Rev. G. Henslow called attention to the fact that the year 1889, besides being the centenary of the Chrysanthemum in Europe, was that of the Dahlia in England. It was introduced by the Marchioness of Bute in 1789, and figured with single and double forms in the *Botanical Magazine*, vol. xliv., t. 1885, and *Botanical Register*, vol. i., t. 55. The executive of the National Dahlia Show should make a note of this, with a view to celebrating the event in a fitting manner.

Blue-flowered Hydrangeas.—The editors of *L'Illustration Horticole* state in their last issue that Hydrangeas produce blue flowers, not on account of the mere presence of iron in the soil in which they are growing, but on account of the increased vigour of growth which it engenders. In Japan, their native country, the flowers of the common Hydrangea (H. hortensis) are generally blue, and when we in this country apply salts of iron to the soil, the plants in consequence return to the conditions which prevail in their native habitats. They also say that even better results are obtained by watering the soil with a weak solution of ammoniacal alum, which affects the plants in the same way—namely, by causing a greatly increased vigour of growth and more ample foliage. On the sea-coast of Glamorgan, where the Hydrangea is planted in the open ground, it grows with great vigour, and flowers of various shades are produced according to their age, from pink to a deep blue. Iron is no doubt present in the soil there.

The New Vegetable, Stachys tuberifera.—Prof. Church at the last meeting of the Scientific Committee gave an account of an analysis of the tubers of this new vegetable which he had made, and from which it appears that they contain 78 per cent. of water, 1·5 per cent, of albuminoids, 1·7 per cent. of non-albuminoids or amides, 16·6 per cent. of sugars, ·7 per cent. of fibre, ·1 per cent. of ash, ·2 per cent. of fat, and a trace only of starch. Comparing this analysis with that of Potatos, it appears that the water is in larger quantity, it being 75 per cent. in them; the flesh-forming albuminoids are rather more than in Potatos, while sugars replace the starch, of which there is some 15 per cent. in the average analysis of the Potato. On the subject of a suitable popular name for the new root, it may interest our readers to know that the French popular name, "Crosnes," is derived from a township so called in the district o Corbeil, Seine-et-Oise, in which locality M. Pailleux, who introduced the plant, carried on his cultural experiments with it. Messrs. James Carter & Co. propose to call it the Chinese Artichoke, but the selection can hardly be called a happy one. Can any of our readers oblige us with an English translation of the native name, "Choro-gi"?

To the Trade: A Caution.—Mr. Alfred Outram requests us to insert a word of caution to nurserymen and seedsmen against an individual who is ordering seeds and plants indiscriminately from various houses in the trade. The party in question writes from the neighbourhood of Bristol, and it would be well for those receiving orders from unknown correspondents in that locality to make strict inquiries before executing the same. We have also to caution our trade readers with reference to the dishonest acts of one John Smith, who, describing himself as gardener to S. Acland, Esq., Montague House (near the cemetery), West Hampstead, has obtained a sum of money from a well-known nurseryman, and since shaken the dust of West Hampstead off his boots. Mr. Smith's mode of operation was a smart one. He sent an order for some trees and shrubs, which was backed up by a letter from his master, dated from the Grand Hotel at Eastbourne; then when the goods were ready for delivery, his mother died suddenly, he delayed delivery for a few days, found he was hard up for cash, and sought a small loan, which was granted by the all too-confiding nurseryman. Subsequent investigations resulted in the discovery that no such person as S. Acland, Esq., had ever been to the Grand Hotel at Eastbourne; and that there was no such residence as Montague House (near the cemetery), at West Hampstead.

The Ancient Society of York Florists.—The annual dinner of this society took place at the Old George Hotel, on the 11th inst., Mr. Councillor Matthews, Sheriff of York, presiding. The chairman, in proposing "Success to the Society, and Lovers of the Garden," said that since the establishment of the society about the year 1720 it had had a somewhat chequered career, and but for a few enthusiasts and lovers of flowers it would probably have become extinct. The Chrysanthemum shows were now one of the established institutions of the city, and each year added to their popularity. Another excellent feature of the society was the minor shows in the Guildhall, to which the public were admitted free. He announced that although the Lord Mayor was not present, he had signified his intention to follow the example of his predecessors by offering a prize. The society was in a flourishing condition, the members numbering upwards of 400. Mr. G. Cowper, a vice-president and chairman of the society, acknowledged the toast. Sir J. Terry proposed the health of the secretary, Mr. Lazenby, who was well qualified for the position, especially on account of his full knowledge of the cultivation of flowers. Mr. J. Lazenby, in acknowledging the toast, said that his connection with the society had been one of great eagerness and zeal for its welfare and prosperity. Since he joined it, its operations had been greatly enlarged, its sphere of usefulness and ornamentation in the city was second to none, and notwithstanding the competition of the crowd of shows in neighbouring towns, the society's shows held their own, the exhibits and exhibitors being of a very high class.

National Chrysanthemum Society.—The annual dinner of this society took place at Anderton's Hotel, Fleet Street, on the 13th inst., the chair being taken by the president, E. Sanderson, Esq., who was supported by Sir Lewis Pelly, M.P.; the Rev. W. Wilks, secretary of the Royal Horticultural Society; Mr. Ballantine, vice-president; Mr. W. Holmes, honorary secretary; Mr. E. C. Jukes, and the leading amateur and professional growers in the metropolis. The usual patriotic toasts having been duly honoured, the president gave "The National Chrysanthemum Society," and in so doing referred to the main features of the society's work during the year, the labours of the Catalogue and Floral Committees, the mid-winter and September shows, and, finally, the greatest triumph of all—the November show at the Aquarium, which was not only the most successful exhibition the society had ever held, but considering the adverse season, and the great amount of damage done by the frost early in October, was a complete surprise to all. The toast was warmly received, and then Mr. Briscoe Ironsides gave "Our Patrons, Fellows, and Guests," which was responded to by Sir Lewis Pelly and the Rev. W. Wilks. Mr. Jukes proposed "The President, Vice-President, and Treasurer," which was duly acknowledged by Mr. Sanderson, Mr. Ballantine, and Mr. Starling. In warmly-appreciative terms, Mr. Herbst proposed the health of the honorary secretary, which was most cordially received, and in acknowledging the toast, Mr. Holmes alluded to the remarkable growth of the society during the last few years. Eleven years ago the roll of members numbered 55 only, and the annual income was under £75. Now they had 633 members, over 40 societies were affiliated with them, the annual income closely approached £1,000, and the prizes awarded at the November show amounted to about £250, all of which, in some way or other, would be paid that day. The great changes which had taken place in the society had not been brought about all at once, but had been the result of the steady and unwearying work of the executive officers and committees. Mr. George Gordon acknowledged a similar compliment paid to "The Committees," and Mr. Long returned thanks for "The Stewards." Mr. Blake proposed the "Affiliated and kindred societies and their officers," which was responded to by Mr. R. Dean. The party broke up at about 10.15 p.m., after singing the national anthem. We should add that the musical arrangements were highly appreciated, the tables were tastefully decorated and abundantly supplied with the fruits of the season, and the whole proceedings were of a thoroughly enjoyable character.

Horticultural Pocket Book and Diary.—First of the new season diaries to reach us is a very neatly and substantially got up combination of diary and pocket book, from Messrs. John Weeks & Co., Chelsea. It is a very useful present to any gardener, and moreover contains a brief but none the less interesting account of the early history of the hot-water apparatus, the main portion of which we venture to transfer into these columns.—"The practice of warming buildings by means of the circulation of hot-water is one of undoubted utility, and one which is daily becoming more general and much more appreciated. It is a means of warming peculiarly adapted for horticultural purposes, and, indeed, every other purpose where a genial and healthful degree of warmth is desirable. Like many other useful inventions, its origin dates very far back, and is involved in considerable obscurity—indeed, it would appear that the ancients were in the habit of warming their public and private baths by means of hot-water pipes, arranged in a manner very similar, if not precisely similar to the modern hot-water apparatus. There does not, however, appear to be any evidence that the system was adopted except previous to and during the very early portions of the Christian Era until the year 1777, when it was used in France by M. Bonnemain for hatching chickens by artificial heat. The next mention we have of it was in 1817, when the Marquis de Chabannes used a similar apparatus in this country for heating some rooms of a house and a conservatory by means of pipes from the kitchen boiler. We next hear of it in 1822, when a Mr. Bacon put up an apparatus for warming his forcing house. His apparatus consisted of a boiler and one large pipe nearly horizontal. The hot water passed along the top part of this pipe, and returned to the boiler along the lower. As may be imagined, however, the circulation was very imperfect and sluggish. To Mr. Atkinson, an architect, is due the credit of introducing a second pipe to bring the water back to the boiler, and thus the hot-water apparatus assumed the form which it has ever since retained. Of course the early apparatus were very small affairs indeed, every house having a boiler and flow and return of its own, very different from the gigantic apparatus of to-day, some of them containing miles of piping divided into a large number of compartments, all under perfect control, and heated from one boiler or stokehole. This great improvement has been rendered possible—first, by the introduction of more powerful boilers than those that were first employed; and, secondly, by the introduction of improved methods of grouping and connecting the pipes. To these improvements no one contributed more than the late Mr. John Weeks. In 1848 he introduced his celebrated Upright Tubular Boiler, undoubtedly the most powerful hot-water boiler in existence, many thousands of which have been fixed in all parts of the country; in many cases warming most extensive horticultural establishments, or vast domestic or ecclesiastical structures from one stokehole. The introduction of these powerful boilers and of his one boiler system necessitated many new and various combinations of pipes, and in these new combinations and means of connecting them Mr. John Weeks highly distinguished himself."

THE TREE TOMATO.

This name has very appropriately been given to Cyphomandra betacea, which, although not a true Tomato (Lycopersicum), nevertheless belongs to the same family, and is in many respects similar, as well as being allied. The foliage also possesses a peculiar though not very agreeable odour, which is quite distinct from that of the Tomato. The fruit is, however, not affected by this odour, or only to a slight extent, and is more palatable to the taste of many than is the Tomato until they have acquired a taste for it. In flavour it resembles the Tomato and appears very tempting to the eye. We have had inquiries respecting the plant from some who have been interested in it and procured seeds, but who failed to fruit the seedlings during the first year. Being of a shrubby nature it must attain some size before it can flower. Although it will ultimately attain 12 ft. in height, it will flower very freely in pots when only 4 ft. or 5 ft. high. A greenhouse temperature is all that is necessary to fruit it, but if the house be kept a little warmer during the flowering period, so as to set the fruit, the chances are that the crop will be much better.

It is a native of Brazil, and is largely cultivated in the West Indies, from whence seeds have been sent to the British colonies, all over the world, and elsewhere. Having been comparatively recently wrested from obscurity, it now forms a regular article of food in many of those countries where it may be planted out of doors, requiring no protection. In this country, however, it must necessarily be grown indoors, at least during the greater part of the year; but this need not deter home growers who have the convenience for adding it to the list of indoor fruits. The latter are orange-red, egg-shaped, about 2½ ins. or 3 ins. long, and produced in drooping clusters from the sides of the branches. We are indebted to Messrs. J. Carter & Co. for the use of the illustration which accompanies these notes.

The Tree Tomato: Cyphomandra betacea.

THE MISTLETO.

A peculiar human interest clusters about the Mistleto. There are several species, but the one most familiar of the family is that known as Viscum album, a native of England, and a plant of great antiquity, growing abundantly on the Apple tree in the orchards of the southern and western counties. It is also found on the Hawthorn, and occasionally on the Oak, Lime, Elm, Fir, Willow, Walnut, Pear, and several other trees. It is one of the "mystic plants"—one of many that, in former times, and especially in superstitious eras, and amongst imaginative people, were invested with a mystical importance, and often held in veneration as sacred. Some have doubted whether flowers were ever worshipped, although no one has doubted their having been regarded as symbols, and introduced as such in religious ceremonies.

The Mistleto is a parasite, and cannot exist apart from some other member of the vegetable kingdom. "It is a plant," said Lord Bacon, "utterly differing from that upon which it groweth." The common name—Mistleto—is supposed to be derived from *mistl* (different) and *tau* (twig), and to have been given to this shrub from being so unlike the tree it grows upon. The Mistleto is regarded as the only true parasitical plant indigenous to Britain, as at no period of its existence does it derive any nourishment from the soil, or decayed bark, like some of the fungi. Let any one during the Christmas season examine a branch of this singular plant, and he will find that it is an evergreen, the branches numerous and forked, covered with a smooth bark of a yellowish green colour, the leaves tongue-shaped, entire, in pairs, upon very short foot-stalks. The flowers are male and female in different plants, axilary, and in short, close spikes. Neither male nor female flowers have a corolla, the parts of fructification springing from the calyx. The fruit, a globular, smooth white berry, covered with a viscous substance, appears in winter. The root insinuates its fibres into the woody substance of the tree upon which it grows, and thus derives its nourishment. The whole forms a pendent bush of from 2 ft. to 5 ft. in diameter. It is not unusual to see Mistleto growing on trees, though the sight is much more common in the southern, western, and home counties than in those that are more northern. According to the Scandinavian mythology, Balder, the Apollo of the North, was rendered by his mother (Friga) proof against all injury by the four elements—fire, air, earth, and water. Lok, the evil spirit, however, being at enmity with him, fashioned an arrow out of Mistleto, which proceeded from neither of the elements, and placed it in the hands of Hoder, the blind deity, who launched the fatal dart at Balder, and struck him to the earth. The gods decided to restore Balder to life, and, as a reparation for this injury, the Mistleto was dedicated to his mother, Friga; whilst, to prevent its being again used adversely to her, the plant was placed under her sole control so long as it did not touch the earth, the empire of Lok. On this account it has always been customary to suspend Mistleto from ceilings; and so, whenever persons of opposite sexes pass under it, they give one another the kiss of peace and love, in the full assurance that this plant is no longer an instrument of mischief.—Folkard's *Plant Lore.*

This is a very interesting legend. We place evergreens among our church decorations as symbolic of everlasting life, and white flowers at weddings are held as types of purity; but the Mistleto is rigorously excluded from our places of worship, although it is the emblem, according to the old Norse religion, of peace and love.

The use of Mistleto in Christmas decorations dates back to a period anterior to the introduction of Christianity. Then it was a mystic plant, having a deeper meaning and a more emphatic language than with us. Schow, in his *Earth Plants and Man*, says "It is not a matter of surprise that a plant of such peculiar aspect, and which occurs in such a remarkable position as the Mistleto, should have awakened the attention of various races, and exerted influence over their religious ideas. It played an especially important part among the Gauls. The Oak was sacred with them; their priests abode in oak forests; oak boughs and oak leaves were used in every religious ceremony, and the sacrifices were made beneath an oak tree; but the Mistleto, when it grew upon the oak, was peculiarly sacred, and regarded as a divine gift. It was gathered with great ceremony on the sixth day after the first new moon of the year. Two white oxen, which were then for the first time placed in yoke, were brought beneath the tree; the sacrificing priest (Druid), clothed in white garments, ascended it, and cut off the Mistleto with a golden sickle; it was caught in a white cloth held beneath, and then distributed among the bystanders. The oxen were sacrificed, with prayers for the happy effects of the Mistleto. A beverage was prepared from this, and used as a remedy for all poisons and diseases, and which was supposed to favour fertility. It is also a custom in Brittany to hang the Mistleto on the roof on Christmas Eve; the men lead the women under it, and wish a merry Christmas and a happy new year. Perhaps the Mistleto was taken as a symbol of the new year, on account of its leaves giving the bare tree the appearance of having regained its foliage."

Thus the practice of decorating dwellings with Mistleto and Holly is undoubtedly of Druidic origin. Dr. Chandler states that, in the time of the Druids, the houses were decked with boughs in order that the spirits of the forest might seek shelter among them during the bleak winds and frosts of winter. Among the Worcestershire farmers there is a very ancient custom of taking a bough of Mistleto and presenting it to the cows that first calved after New Years' Day, as this offering is presumed to avert ill-luck from the dairy. In Holstein the peasantry call the Mistleto the "spectre's wand," from the supposition that a branch borne in the hand will enable the holder not only to see ghosts, but to compel them to speak. In the West of England there is a tradition that the cross was made of Mistleto, which, until the time of the Crucifixion, had been a noble forest tree, but was thenceforth condemned to exist only as a mere parasite. Culpeper, an old authority on medical botany, remarks that it was sometimes called *lignum sanctæ crucis*—wood of the Holy Cross—from a belief in its curative virtues in cases of consumption, apoplexy, and palsy—"not only to be inwardly taken, but to be hung at their neck." In Sweden, Oak Mistleto is suspended in the house to protect it from fire and other injuries; a knife with an Oak-Mistleto handle is supposed to ward off the falling sickness; for other complaints a piece of this plant is hung round the patient's neck, or made into a finger-ring.

The Mistleto can be propagated artificially upon the Apple tree by making a slight incision in the bark on the underside of a branch and rubbing some seeds into it, doing this when they are fully ripe, or in early spring. The great danger is of birds finding the seeds and eating them. The operator has to wait a year or so before the seeds germinate. Some nurserymen propagate the Mistleto upon standard Apple trees in this way, and sell them as trees bearing Mistleto. They adopt the practice of placing the berries under the bark about the month of December, when they are quite ripe; but the operator must not always expect the growth to issue from the point where the seeds were buried. The roots of the embryo plant will sometimes run for a distance between the inner bark and the soft wood of the branch, and the plant appear in quite unexpected places. The tree operated upon should be quite healthy, as the Mistleto dies off when the tree or branch on which it lives becomes diseased. *R. D.*

The Bringewood Pippin Apple.—This is one of the seedlings raised by Thomas Andrew Knight, and is still one of the best late-keeping dessert varieties in cultivation, though presumably on account of its small size is not nearly so much grown as it deserves to be. It is said to be the result of crossing Golden Pippin with the Golden Harvey, and in size and general appearance resembles the Yellow Ingestrie, while the flesh is yellowish, crisp and sweet. It is an undeniably good keeper, and on this account is much appreciated by Mr. Miles, at Wycombe Abbey, who regularly keeps it until after Dumelow's Seedling has been finished.

GARDENING NOTES FROM IRELAND.

THE ROYAL HORTICULTURAL SOCIETY OF IRELAND. THE Council of this society held a meeting at their offices, 28, Westland Row, on the 8th inst., at which Mr. Edmund D'Olier presided. After reading and confirming the minutes of the previous meeting, the secretary read a communication from Messrs. Edmondson Bros., seed merchants, 10, Dame Street, Dublin, offering to give prizes for annuals at the autumn show of next year, which were thankfully received, and their proposed prizes ordered to be inserted in the forthcoming schedule. The draught schedule for 1889, as prepared by the Schedule Committee, was submitted, approved of and directed to be printed. The dates for holding the various exhibitions during 1889 have been fixed as follows :—The spring exhibition on Thursday, April 25th ; summer, Thursday, June 27th ; autumn, Thursday, August 22nd ; and winter, Thursday, November 14th. Some other business having been disposed of, the Council adjourned until January 12th next.

ADIANTUM PACOTTII.

I HAVE recently met with some plants of this Adiantum, and from its habit of growth, I am surprised that it is not more generally cultivated for use among cut flowers. I know of no other Adiantum so well adapted for mixture with button-hole flowers, as one of its neat compact, deep green fronds forms a fine background for the flowers placed with it. For trade purposes it ought to be a valuable acquisition, as besides setting off flowers to advantage, its stiff wiry nature prevents it from flagging so soon as other Adiantums. For the general reader it may be well to mention that I have found this plant in one place under the name of Legrandi, and I understand it is known under the latter name quite as much as under the former. Under either name, however, it is a most useful plant. [A. Legrandi proper is quite distinct from A. Pacottii.—ED.]

SALVIAS.

FOR the production of scarlet flowers at the present season, few plants equal the old Salvia fulgens and yet its cultivation for this purpose is very seldom attempted in Ireland. I consider more attention ought to be given to plants of such easy growth, and so useful either for conservatory decoration or cutting purposes. From the way in which I saw a lot of these grown and bloomed lately, it was evident that when well done they are most useful things to have at this season.

HABROTHAMNUS ELEGANS.

WHERE the conditions for growing are favourable to this plant, it gives great satisfaction in its almost continuous and abundant blooming. In selecting a position for this plant on the back walls of plant structures, it is too often put where the sun-heat is much too powerful for it ; hence conservatories, or other plant houses having a full southern exposure, are not suitable for this plant unless thoroughly shaded, and even then the summer-heat in such places is generally too much for it. In a house with a northern aspect it appears to be at home, and here it may be relied on to do well ; and from my observation of the plant as grown in many places, I may say that this aspect question forms one of the principal points in its management. I am reminded to call attention to this plant at the present time, from having seen a very large specimen of it a few days ago covered with bloom. It extended a considerable distance along the back-wall of a house that had its front to the north, and with one end exposed to the south. Although the usual time of flowering is May and June, if a judicious mode of pruning be adopted, and the situation is suitable in other respects, the flowering time may be made to continue nearly the whole year through.

SPARMANNIA AFRICANA.

THIS is another valuable pillar or wall-plant for cool greenhouses, and for the production of white flowers at this season will be found most desirable. I have seen this plant grown alongside Habrothamnus elegans, and where the flowers and foliage of both plants were permitted to run through each other the decorative effect was very good.

LOBELIA, BLUESTONE.

THIS, in my opinion, is the best of all the dwarf Lobelias for edgings, and where the contrasting line is white. It is exceedingly dwarf, hardly rising more than 2 ins. or 3 ins., and in line most compact. The very dark blue flowers are carried in a mass well over the foliage during the whole season. Its growth is so regular that little, if any, trimming with the *secateur* requires to be done ; while with almost all other varieties this had to be well attended to during the past summer and autumn. The trial of this plant for one season would be sure to secure it a place where dark blue edgings would be required.—*W. D.*

GARDENERS OF THE FUTURE.

YOUNG gardeners who take an interest in and read gardening periodicals, will no doubt have been interested in the comments which have appeared in recent issues of THE GARDENING WORLD under this heading. I say those who take an interest in and read gardening periodicals because, from what I have seen of young men, I feel confident that those who have read the remarks in question will form a small minority of the whole. It is the exception, not the rule, to find amongst young men who are ostensibly to form the head gardeners of the future, those who devote themselves to the study of the theory of gardening during their leisure hours ; they consider that if they do the work assigned to them during the day that they have done all that is necessary. They never for a moment stop to ask themselves why this is done this way and that another, why one plant is potted in one compost, and another in a dissimilar ; but simply take it to be right, because it is the general practice so to do.

If young men would study during the long winter evenings some of the many useful works on gardening, they would find it much more to their profit than wasting their valuable time perusing literature of a—to put it in its mildest form—worthless nature. "E. H. C." complains of want of means for young gardeners to prosecute the study of the higher branches of horticulture, but with a little self-denial they could manage to provide themselves with a few books which would be very helpful to them. A great many smoke—a rather expensive luxury that could easily be dispensed with ; and the money thus spent, if laid by for a few months, would soon reach a good amount. Others, again, are very sociable, spending their evenings in the public-house, and everyone knows that money melts away extra quickly somehow or other in such a place. What I mean is this : if they are thoroughly in earnest to push themselves to the top of their profession they will cast such worthless and expensive, not to say injurious, habits behind their backs, and set themselves with assiduity and determination to attain the end in view.

"E. H. C." and "Southdown" also complain of the lack of interest taken by head gardeners in regard to those under them. This may be true to a certain extent, but "hope deferred maketh the heart sick," and many a head gardener has found it to be so heartless an undertaking, that he has been compelled to give up taking any active steps in endeavouring to educate those under him further than seeing that they do their work in a thorough and workmanlike style, this itself in many cases causing him so much worry that he is glad to get rest when the day is ended. In the interests of head gardeners, however, be it said, that should any intelligent young man, such as "E. H. C." seems to be, apply to them for help, very few, if any, would turn a deaf ear, but as far as lies in their power they would assist them. "Where there is a will there is a way," and any young gardener thoroughly in earnest to gain information, will never have to say that his superior damped his enthusiasm by declining to give him what assistance he had in his power. I trust young men will follow "E. H. C.," and speak for themselves through the medium of this paper, which I have no doubt some will, with the Editor's permission. It is wonderful what an interest can be aroused once a start is made, and every encouragement will, I am sure, be given to beginners.—*L.*

I READ the remarks of "W. B. G." (p. 196) with interest ; but I am afraid the day is far distant when the ideal so put forward by "W. B. G." will be realised. Somewhat similar to that of "Southdown" (p. 225) has been my experience. Before I had reached twelve years of age I was already employed in a gentleman's garden, my father holding a responsible, but not altogether lucrative, position on the estate. I am bound to say that every opportunity was afforded me of getting a good insight into my profession, and I trust this has not all been lost. There was, however, one disadvantage, and that was a great one. Our chief, whilst being a first-class gardener, was no scholar, and consequently I learnt the wrong pronunciation of many names that thus early it was my duty to write on labels, and an arduous task it has been to unlearn it. Like many others, instead of improving my education, I spent most of my evenings in card-playing, and later, I am sorry to say, at music-halls, theatres, and similar places of amusement. It so happened that I was never employed but under one gardener, who was well educated ; but that was of no advantage to me, for he cared nothing about the young men under him. In honour, however, to those head gardeners who felt the lack of education, I think it right to say that each of them advised me to improve myself in all possible ways—advice, alas ! which I paid very little heed to. I could not then see the use of practising writing, arithmetic, &c., but I do now.

I had no opportunity of learning geometry in my younger days—in fact, not until after I became head myself was I ever asked to get out a design for a carpet bed, and I will only say respecting it that I managed to satisfy my then employers, though I am afraid if I saw it now I could not help laughing. I then made up my mind to learn, and received my first lesson from a companion of earlier days, who, I soon found, knew very little more on the subject than myself, and who I soon surpassed. Although not ten years have elapsed since then, I have often found the knowledge of practical geometry and drawing of horticultural buildings of great use to me—in fact, without it I could not have retained the post I now hold. Having found the utility of geometry, I have repeatedly urged the young men under me to commence and learn, offering to instruct them ; all but one has admitted it likely to be a good thing to know, but not one has ever commenced. The exception referred to told me he might never be asked to do it, and if he were, that would be time enough to learn. There are, then, some head gardeners who are willing to help those under them, and I know of others who, like myself, have had their advances met with indifference.

"Southdown" truly says some get no encouragement from the gentlemen whom they serve. I have been some time in the situation I now hold, but my employer has never once offered me the loan of a book from his library, although I am pleased to know that it is frequently done. Whilst on this subject I might be allowed to refer to some practical remarks by "A. D.," in the early part of this year I think it was, when he urged young men to cultivate the art of public speaking. Whilst we cannot all hope to attain proficiency enough to admit of being called orators, yet, as was stated by "A. D.," we might by a little practice be able to put together a few sentences, without feeling that confusion so noticeable if suddenly called on to say a few words. I can here, too, speaking personally—and it is to those who, like myself, are of a retiring disposition that I wish to address these remarks—say that I have often envied those who seem to be born speakers. It may not be digressing too much, to say that what ability I have in this respect has been gained at a Bible and Literary Class, of which I am a member. I know that it is not often gardeners, either young or old, are so situated as to be thus able to improve themselves, but I do not by any means think that public speaking stands on a parallel with writing, arithmetic, bookkeeping or geometry. "W. B. G." advises the learning of music, &c. ; I am not skilful in that enjoyable recreation, but I have called attention to it as doubtless I am not the only reader of THE GARDENING WORLD who could not, much as they might wish to do so, sing a song if their lives depended upon it. It may come somewhat hard at first to one who is fond of company, but if they will only do as I sign myself they will in due time be rewarded for their pains.—*Persevere.*

HOUSE AND TABLE DECORATION.*

THERE are many duties which call forth all the energies and forethought, and tax the natural capacity of gardeners, and the subject this evening is an important one to our profession—I venture to surmise is of increasing importance to most of us. It is not my purpose to enter into any high or elaborate designs of arrangement in house or table decoration, because in all probability it would never be required, and much of the material necessary would not be within our reach. Therefore, I will endeavour to confine my remarks well within the scope of the ordinary gardening establishment. There can be no hard

*A paper read by Mr. John Williams, gardener, The Priory, Penwortham, at a late meeting of the Preston and Fulwood Horticultural Society.

and fast line laid down on which to proceed. I believe in suiting the arrangement so far as we can with the material at our disposal to the varied surroundings. We shall never find two rooms alike—the windows, niches, pedestals, epergnes, vases, and other ornamental designs in glass, pottery-ware, rushes, shavings and wicker-work, manufactured in numberless forms and colours, oftentimes made rather to sell than for usefulness—so that it is really a matter of taste and judgment on the part of the person on whom devolves the duty of arrangement, what best suits the purpose and position.

The amount of glass we have will rule us as to the extent we can meet the demand and indulge in our object, because nearly all of our plants require protection through some part of the year, and especially is this the case with all our fine foliage plants and most of the Ferns. The latter I think we must place first for their usefulness, attraction, and beauty, for who does not admire the graceful and refreshing appearance they possess? Their good-natured adaptability suits almost any position assigned them. We can command the approval of the ladies when there is an abundance of Fern in arranging flowers and plants, or when as single specimens they are placed in favourite positions. The Adiantums stand well to the front for this purpose, A. cuneatum scutum, A. Williamsii and A. Capillus-Veneris suiting for small vases; then Pteris argyrea, P. serrulata, P. cretica and P. tremula, also several Lomarias and Davallias, are among the most useful, and can be grown in the greenhouse, though they will flourish and develop themselves to greater size and beauty in the warm stove or fernery.

In the stove and greenhouse we have a large selection of Crotons and Dracænas in variety, though these should not be allowed to stand long, as, delighting in an abundance of light and heat, they soon lose their foliage. Pandanus Veitchii can do good service, and then we have many really good Palms, such as Cocos Weddelliana, Euterpe edulis, Geonoma gracilis, Kentia australis and sapida, Areca aurea, Phœnix reclinata and rupicola, and Latania borbonica. For constant change—which is very desirable for the health of plants, as well as for carrying out the motto that "Variety is the essence of life, and gives it all its flavour"—may be mentioned Azaleas indica and A. mollis, Camellias, Aspidistra lurida variegata, Coronilla, Cytisus, Aralia Sieboldii, Ficus elastica, Hydrangeas, Grevilleas, Solanums, Richardias or Callas, Rhododendrons, Isolepis gracilis, for small vases and edging; Primulas, Cinerarias, Spiræas, Deutzias, and Tulips.

Last, but not least, the Chrysanthemum adapts itself as an all-round decorative plant. To show off our plants to the best advantage, the soil surfaces should be covered. For this purpose use Selaginellas of the Kraussiana type, dibbled in the soil soon after the plants are potted. This gives a fine appearance to the plants while indoors or on the stages. Some may object to this method, but I have not seen any ill results to the plants through adopting it. Where this is not grown, or if it be thought objectionable, Saxifraga cæspitosa is a useful substitute, and growing, as it will, in any corner of the garden with little attention, I would heartily recommend it to anyone who has decorative work to do. Let me say here that I believe a fortnight indoors is long enough for most plants that are intended to be used from time to time, though where one season's plants are in hand, have attained full maturity, and are not required for future use, they may stand a longer period; but experience of plants and positions will be the safest guide.

A great deal of our success depends on the way we grow our plants for this purpose, because unless we have the proper size and height to suit the position, our arrangement must be more or less out of harmony, and will afford room for criticism and remark, spoiling, to a large extent, the good feeling it should be our main duty to foster, for in place of the "Oh! how beautiful!" and kindred notes of satisfaction—always welcome to the ear, and encouraging to the heart in the midst of the wear and tear of life—there may crop up a sort of neutral spirit, giving the impression that after all we read, hear, and see, gardening is, in a great measure, an expensive affair, with little recompense—brought on from a want of tact, energy, thought, and judgment on the part of gardeners. I know how keenly many of us prize the plants we grow, and the thought of this or that favourite, carried away indoors to suffer the premature loss of foliage and flowers, creates quite a struggle within; yet it behoves us to make these sacrifices continually when the happiness and gratification of our employers are in the balance together with our interests and the welfare of our profession. Those gardeners who have ample room to grow many plants of the same variety will not feel these losses so acutely as others with more restricted space.

Plants grown in pots measuring from 5 ins. to 8 ins. I find the most serviceable. These sizes will generally hold plants sufficiently large to fill the positions allotted them, though occasionally much larger ones can be utilised, especially when the foliage or flowers are in such profusion as to hide the pot, and command admiration. It is quite possible to grow really fine plants in small pots, and keep them in good health for a long period, by careful watering, to which may be added from time to time a little weak manure-water when their pots are full of roots. To this treatment they respond readily, but the details as to growth and previous management of the various plants enumerated does not come within my subject. Still, it may be well to bear in mind that success will depend upon the degree of perfection we can attain in symmetry of growth, quantity and quality of foliage and flowers, healthy and vigorous throughout. To the same extent may we expect our work and attention to be appreciated, not forgetting the gradual hardening-off process to all plants that have been subjected to heat, in order to meet the temperature of the rooms for which they are intended. Hanging baskets of Ferns are useful for special occasions, though for general use the dry atmosphere of rooms proves very detrimental to them.

Table decoration calls forth all the skill and taste a person possesses, but oftentimes taste is a very unreliable hand-maid, dressing herself in all varieties of colours; and even in those for whose gratification we labour, taste is often very fickle—in fact, fashion is the goddess before whom successful table decorators must bow. The blending of suitable colours has much to do with table work. We have seen tables bearing all sorts of flowers, there being apparently no thought exercised as to the propriety of discriminately filling centre-pieces, vases or small glasses with the choicest flowers at hand. I am convinced by experience that one or two distinct colours make the most effective display, except perhaps in the case of Roses, for this flower heads the list, and whatever the colour may be, provided their own foliage be used, they generally command admiration. Camellias also stand high; the pure white, or white mixed with red looks beautiful. Allamandas are noble flowers, set off with Maidenhair Fern, and relieved with any pure white flower; scarlet and white zonal Pelargoniums make a good striking table, and a display of beautiful white Chrysanthemums on a maroon cloth, with slips to be removed when dessert is brought forward, though, perhaps, a somewhat old arrangement, still proves a decided and welcome change; Gloxinias, Stephanotis, Azaleas, Bouvardias, Marguerites, and for pendulous work Lapagerias and Passifloras. Poinsettias for laying on the cloth or on moss, or arranging in vases are very acceptable. Of spring flowers Snowdrops, Daffodils, Primroses, and Tulips, each in turn form pretty arrangements, placing the spring flowers in beds and clumps of woodland moss or Saxifrage, having their own foliage to set them off.

So far, I have alluded principally to flowers, but foliage must also take a prominent part. Light feathery grasses which may be gathered and dried in autumn will assist us when flowers are scarce, and what is usually known as tracing or laying out designs on the cloth, with neat and even foliage, such as the common wood Ferns, small pointed-leaved Ivies, the current season's growth of Yews, autumn foliage of Ampelopsis Veitchii and Azalea mollis, Adiantum cuneatum, A. Capillus-Veneris, and Panicum variegatum for the maroon cloth especially. Holly leaves and berries for Christmas, Coleus leaves for edging centre-pieces and ornaments on the table, and also Vine-leaves, are not to be despised, those of Lady Downes and Gros Colmar affording pleasing tints for this purpose. The plumy growths of Asparagus plumosus nanus must not be overlooked, as without doubt it is one of the most beautiful additions for this work. With such an array of good things before us, table decoration would lose much of its difficulty; but, unfortunately, plants and space to grow them are often wanting, and we have to construct an arrangement with meaner subjects.

For shooting parties the forests will supply materials applicable to the occasion, such as the foliage of Maples, the common Oak with its Acorns, or points of various Conifers may be utilised. For family rejoicings, mottoes and congratulations may be worked in flowers—in fact, there will be a constant flow of ideas and improvements that should be noted, thereby allowing frequent change of design. On no account must we forget that careful and neat arrangement is indispensable; never let it be a hurried job. If possible, have a well-defined object before your mind, and throughout let correctness of measurement and equality of size be the marked feature. My subject is far from being exhausted, but I must conclude by urging that as gardeners we should not forget the important part we have to play in the drama of life—how it falls to our lot to animate, afford pleasure and thought, and call forth the high appreciation of the beautiful, thereby planting a deeper and lasting love for the production of nature's beauties in the breasts of our esteemed employers, and ever striving to assist nature to put on her choicest dress, certain that to whatever extent we succeed, so far are we promoting the welfare and extension of our profession.

BERRY-BEARING PLANTS.

I CANNOT help thinking that berry-bearing plants are sadly neglected, their place being far too often taken up by worthless and already too common shrubs and trees. Of course, where plenty of space is at command Privets and such-like plants are quite suitable, and for certain purposes of great value, but what I want particularly to note is this, that in small gardens and lawns only trees and shrubs of interest and value should be widely cultivated. They are as easy of culture, quite as readily procured, and a hundred times more pleasing and valuable than many commonly seen shrubbery occupants. The following are a few of the best berry-bearing shrubs, with colour of fruit appended:—

Pyrus Aria, red and gold.
Cratægus Pyracantha Lelandii, deep red.
Hippophæ Rhamnoides, yellow.
Daphne Mezereon alba, white.
Skimmia japoniea, red.
Symphoricarpus racemosus, white.
Berberis Aquifolia, deep purple.
Euonymus Europæus, red and yellow.
Arbutus Unedo, large, and red-cheeked.
Cotoneaster (various), red and pink.
Ilex Aquifolium fructo-aureum, golden yellow.
Viburnum Opulus (single-flowered) light crimson.
—*A. D. Webster.*

NOTES FROM SCOTLAND.

Useful Zonal Pelargoniums.—In any structure from which damp can easily be expelled by artificial heat Pelargoniums make a brilliant display. The Rev. H. Atkinson and Henry Jacoby are among the best I have seen for autumn and winter use; with others (white and pink) they are very telling during the short dark days, being remarkable for size, and retaining their petals well to the last. The first named I have found more suitable than Henry Jacoby for planting out in flower gardens. Little David appears to be about the freest flowering kind, as well as the hardiest we possess. It retained its brilliancy well into November, and even early in this month it was not unsightly, as its foliage was a dense mass of deep green, and perfectly fresh. A collection of the newer Ivy-leaved kinds are of special merit for decoration at this season. Grown in baskets where they can hang down a yard or more they attract attention, and branches of them are very serviceable to mix with cut flowers. For the decoration of rooms they are invaluable—when grown naturally, of course—and not set upon "crutches" to deform them.—*Caledonian.*

Pine Apples at the Edinburgh Chrysanthemum Show.—"Caledonian," in his remarks in your last issue, hints that it would be interesting for the readers of THE GARDENING WORLD to know if I use Thomson's Vine and Plant Manure with the soil when potting our Pines, and if so in what quantity? I must say that we use the Vine Manure very liberally for our Pines, and have done so for the last three years with the best results. When potting the suckers and fruiters we use about a 6-in. potful of the manure to every barrow-load of soil, and as soon as the plants show fruit, we take off a few of the bottom leaves, and remove any surface soil that is not made use of by the roots. We then fill up the pot with fresh loam, adding about a third of the Vine manure to the compost, and this treatment seems to greatly help the plants in swelling the fruit, and keeps them in a robust healthy state. I consider this manure a real boon to gardeners, as all plants and crops that I know of are benefited very much by its use.—*David Murray, Culzean Gardens, Maybole.*

FLORICULTURE.

National Dahlia Show.

THE annual meeting of the supporters of this exhibition took place at the Horticultural Club, Hotel Windsor, Victoria Street, Westminster, S.W., on the 14th inst. Mr. Harry Turner in the chair; present also Messrs. W. T. Girdlestone, E. Mawley, W. H. Williams, G. Harris, A. Rawlings, J. T. West, J. Burrell, R. Dean, H. Glasscock (hon. sec.), &c. The balance sheet showed subscriptions £59 10*s.* 6*d.* with £50 from the Crystal Palace Company; and the payments, including £103 10*s.* paid in prizes, amounted to £114 10*s.* 6*d.* It had been found necessary to make a *pro rata* deduction from the prize money awarded to professional growers, in order to strike a balance. The accounts were passed. Some conversation took place as to the necessity for forming a Dahlia Society. At present the effort seems only for one year, and it was thought that greater success would attend the annual show if a society were formed with a code of rules and regulations. The honorary secretary reported that he had heard through Mr. W. G. Head that the directors of the Crystal Palace Company were willing to give the same amount as last year towards a schedule of prizes, and also supply cards and take the entries as heretofore. This offer was accepted with thanks to the Crystal Palace Company, and the first Friday and Saturday in September were the days suggested for the show in 1889. It was resolved that for the future the judges should be selected from the exhibitors, the amateurs to judge the trade growers and *vice versâ*. The schedule of prizes of last year was passed as the schedule of the coming year. The honorary secretary stated that he had been in communication with the trustees of the Turner Memorial Fund, with a view of obtaining a vote for the schedule of prizes for next year, but he was informed that any contribution from that fund would be given to encourage the cultivation of Tulips. Mr. H. Glasscock intimated that owing to age and increasing infirmities he should have to give up the post of honorary secretary, and he suggested that Mr. W. T. Girdlestone should be asked to accept the post of honorary secretary and treasurer. This was cordially approved by the meeting, and Mr. Girdlestone kindly consented to act. Some alterations were made in the committee carrying out the show, and the proceedings closed with a cordial vote of thanks to the chairman.

CHRISTMAS FLOWERS & FRUITS IN COVENT GARDEN.

There can be no question as to the popularity of white flowers—not only at Christmas, but at almost any time of the year. They seem, however, to preponderate in winter, owing, no doubt, to the fact that they pay better for production. Coloured flowers are, however, tolerably plentiful; but it is evident, from the treatment they receive, that they are only considered of second-rate value.

Prominent amongst white kinds are Camellias, Eucharis, Gardenias, Richardia africana or Trumpet Lily, and Chrysanthemums, both incurved and Japanese, the latter being abundant during the early and latter part of the season, when incurved sorts are anything but plentiful. Over and above these, however, are a large number of subjects which appear in quantity at times, but are more or less intermittent, each according to its particular season. Paper White Narcissus, Roman Hyacinths, double white Chinese Primulas, and Bouvardias may, however, be had in considerable quantity at present, and the supply will continue for many weeks. The same might be said of white Azaleas and Lily of the Valley. Strangely enough, Christmas Roses are not so plentiful as one would be led to expect, especially after a long spell of unusually mild weather for November and December. Roses are nearly always plentiful, but the greater bulk of them at present consist of blush-coloured, pink, pale rose, or salmony yellow Tea-scented kinds. White varieties are not particularly numerous. Lilium longifolium, or its variety, L. l. Harrisii, is even already to the front, and may be had nearly at any season.

For ordinary bouquet work a great variety of the commoner differently coloured flowers are used, such as Chrysanthemums (Japanese and Pompon), yellow Roses, Christmas Roses, scarlet Pelargoniums, blue, yellow and purple Pansies, recalling the recent mild weather, Polyanthus Narcissus, and similar subjects. The burst fruits of Iris fœtidissima, exposing the globular scarlet seeds, are very ornamental, and the plant might be more frequently grown in shrubberies and woodlands for this purpose than is at present the case. Unlike the common yellow Iris, it prefers a dry and chalky soil, although the latter condition is not absolutely essential. The flowers used for button-hole bouquets are Roses of various colours in the bud stage, Carnations, Gardenias, Eucharis, Lilium speciosum album, double blue Violets, and Primroses of the common yellow wild type.

Orchids are not particularly plentiful, but there is a tolerably good sprinkling of Odontoglossum crispum, Oncidium crispum, O. Papilio, used for button-holes, for which it seems wonderfully well adapted; Cypripedium insigne, Calanthe Veitchii superba, Dendrobium nobile, and Zygopetalum Mackayi. Amongst these the Cypripediums are, perhaps, the most plentiful, while the Calanthes are also pretty numerous and also tolerably well coloured.

Pot plants are by no means so plentiful as we have seen them, but Conifers, Aucubas and Erica hyemalis, together with Cyperus alternifolius and Ferns, may easily be had. Duc van Thol Tulips in various colours are also commencing to put in an appearance.

EVERLASTINGS AND GRASSES.

There is an abundance of Everlastings—the Immortelles of the French, as certain of the Composites are called—which from the dry and imperishable nature of the bracts surrounding the flower heads, are specially adapted for preservation in the dried state. Compared with the number of different kinds, however, that exist, there is an evident paucity in the market. Helichrysum bracteatum and Rhodanthe maculata are almost entirely absent; and unless on account of their lumpiness it is not evident why they should be thus ignored. Antennaria margaritacea is exposed for sale in heaps, and in fact, with the exception of Acroclinium roseum, there are few other Composites used for the purpose. They are dyed in blue, red, orange, yellow, and other shades which are certainly bright and conspicuous, but not particularly natural. They on the other hand serve their purpose if the customers are pleased.

Dried Grasses are by far the most numerous, varied and graceful. The Quaking Grasses, Briza maxima and B. minor, together with the allied Bromus brizæformis, are particularly abundant, as is the Spike Grass or Sea-side Oat (Uniola latifolia). The two latter are dyed in various colours, and the Sea-side Oat is a very conspicuous Grass, even if somewhat rigid. Maned Barley with its great brushes of fulvous red awns is certainly handsome. Melica ciliata is also distinct, and Agrostis nebulosa is slender and exceedingly graceful. Amongst the larger Grasses, Arundo conspicua, with its delicate plume-like panicles, dyed in various hues, will possibly always rank amongst the most ornamental. All these are perfectly hardy, and may be grown to great perfection in this country. A larger Grass than either—namely, Gynerium argenteum, is not hardy in this country, but its huge panicles of several feet in length have been in the market for some months. Palm leaves, as usual, in the dried and curled state are well represented.

It may also be seasonable to refer to the van-loads of young Spruce trees now in the market, and popularly spoken of as Christmas trees. Mistleto is also abundant, but we have seen it more so. Holly branches and berries are also very attractive, and other evergreens are furnished by Cherry Laurels, Box, Aucubas, Laurestine, &c.

FRUITS.

Hardy fruits, although few in kinds, are best represented by Apples—chiefly American, but most attractive and tempting. Foremost may be mentioned King of Tomkins County and Newtown Pippin, the former from 4*d.* per pound upwards, and the latter from 3*d.* per lb. to 1*s.* 6*d.* a basket containing six fruits, and 6*d.* each. Good Ribstons may be had for 4*d.* per pound, Russets 2*d.* or 3*d.*, and Baldwins 2*d.* to 4*d.* per pound. Amongst Pears, Easter Beurré and Glou Morceau may be noticed, the latter fetching 3*s.* per basket of six fruits. Other kinds fetch from 1*s.* to 1*s.* 6*d.* a basket. Medlars are tolerably plentiful at 4*d.* a pound, or from 6*d.* to 9*d.* a punnet. American Cranberries at 6*d.* per pint may also be included amongst hardy fruits. The length of time they keep fresh and are exposed in the market is truly astonisbing.

Good Grapes range from 2*s.* to 3*s.* or upwards per pound, the latter being Gros Colmar, grown, of course, under glass. Pine Apples range from 4*s.* to 6*s.* each, fine samples. Tomatos fetch from 1*s.* 3*d.* to 1*s.* 9*d.* a pound, while the best fruits are by no means large. Less common are Custard Apples from Madeira at 1*s.* 6*d.* each, while Mangoes range from 2*d.* to 4*d.* each or more. Prickly Pears (Opuntia vulgaris) are of good size and sell for 2*d.* each; Bananas are always plentiful and cheap. Good Brazil Oranges may be had at four for 6*d.*, the little Tangerine variety two for 1*d.*, and St. Michael Oranges are cheaper compared with their size.

Nuts of most kinds are plentiful, the scarcest and dearest being, perhaps, Sapucaia Nuts and Butter or Souari Nuts, the latter at 1*s.* a pound. The Leechee, or Litchi (Nephelium Litchi), although not exactly a Nut, may be included here, and fetches 2*s.* a pound. Brazil Nuts are abundant at 4*d.* per pint, Almonds 4*d.*, Hazel Nuts 3*d.*, Walnuts 6*d.* a pound, Spanish Chestnuts the same or 2*s.* per 100, and selected Kentish Cobs 1*s.* 6*d.* a pound. The quantities of the commoner kinds are truly surprising, and give evidence of a large business and many customers.

CHRISTMAS ROSES FROM SEED.

IN reading up old gardening literature and the recommendations mentioned relative to the sowing of Christmas Roses, I notice that it is always stated that the seeds should be sown immediately after it has ripened—say, in July or August—and that the plants so raised, with care, will bloom in about five or six years. Such statements as these made me give up the idea of raising a stock of plants by means of seeds, until a season or two since, when I read in *The Garden* of the success attending a batch raised near Howth, and how such a number of beauties were in store for us. I think it was mentioned that the plants bloomed after two years; indeed, by this they should be very strong, and probably all flowering. With such experience, how erroneous are the statements and writings of the old masters, and how non-applicable they are to our time!

A century or two ago, what botanist or even florist would bother himself about raising Christmas Roses from seed, when their cultivation was limited to botanical collections, and when the plants only produced a few miserable flowers in mid-winter, which were no sooner blown than they were splashed with rain or snow-water, or else eaten by slugs. Doubtless the convivial and fashionable eight o'clock dinner was prevalent then as now in London, but this was anterior to the use of gas, paraffin, or the electric light, and there is no doubt but that such means of illuminating our dwellings has in various ways spread much light, and intensified horticulture—if I may use the expression—to an enormous extent, so much so, that the Black Hellebore, or Christmas Flower of Parkinson, has been exalted to the highest rank as a decorative flower for the festive season. Intensified horticulture has also been the means of tens of thousands of the plants being brought to England from the Austrian mountains and deservedly so, as I doubt if in the whole range of hardy winter-blooming plants we have anything more appropriate at this season or more chaste. In no way are the Christmas Roses seen to such advantage as when grown in tubs out of doors for ten out of twelve months of the year. Within doors here at present the blooms form a mass of the purest white. We have had them in hundreds since November, and conspicuous above all others the Riverston variety, with its immense erect habit of growth.

I have sown some seed, encouraged no doubt by the success attending the Howth batch, and to my surprise a number are now in flower out of doors, just exactly fifteen months from the date of sowing, viz., August, 1887. The blooms are rather small to report on, but the seed was saved from all the sorts in cultivation here. So that what the old school of writers mention as to the flowers not appearing for five or six years is entirely erroneous, and we cannot blame them, as their experience in an age of restricted means of travelling must naturally have been limited, and the capabilities of southern and more congenial climates outside London unknown to them. The writers of that age always hailed from the capital.—*W. B. Hartland, Cork.*

CHRISTMAS FLOWERS AT SWANLEY.

AT no season of the year, perhaps, are the houses at Swanley more interesting than in mid-winter, when flowers generally are scarce, with the exception of those that are brought forward by artificial heat and much horticultural skill. Here, as elsewhere, however, many hardy flowers, including great beds of Pansies, a fine mass of Chinese Pinks, and even Pelargoniums were flowering freely out of doors until quite recently. The chief features in the hothouses at present are Zonal Pelargoniums, Chrysanthemums, Cyclamens, and

Chinese Primulas. As is well known, all of these are well done at Swanley by the Messrs. Cannell; but those who see the Pelargoniums for the first time as they are done here in winter, cannot fail to be impressed with the value of this old-fashioned flower for winter decoration. We say old-fashioned because some of them have been cultivated in our hothouses since 1632, while the varieties of which we are going to speak are descended chiefly from Pelargonium Zonale, which was introduced in 1710, and P. inquinans in 1774. The best varieties of ten years ago, however, are altogether unworthy of cultivation in pots when compared with recent improvements.

New Double Varieties for 1889.

Nowhere is the improvement more marked than amongst the double varieties, both in regard to size, rich and attractive colouring, and short-jointed floriferous habit. The coarse foliage, long-jointed, straggling stems, and scanty flowers of the earlier varieties have been altogether superseded, and may be considered as things of the past. The low, span-roofed houses at Swanley are certainly conducive to good results with all classes of soft-wooded subjects.

We cannot omit mentioning Goldfinder here, although it was sent out last year. There is a large batch of it producing orange-scarlet flowers, bordering on yellow, and very distinct. Gloire de France produces large trusses of flowers which are red in the centre, white outwards, and always good. Swanley Double White describes itself, and although sent out last year is one of the dwarfest and best of its class. It is now grown, in quantity, as is Snowdrop, which has the same habit and was derived from the same source — namely, West Brighton Gem, and that again from Cerise Unique. The foliage and stems of Snowdrop are, however, variegated somewhat similarly to those of Happy Thought, and the young drooping buds being well developed and white, even before expansion, have suggested the name Snowdrop. We give an illustration of this variety.

Pelargonium Snowdrop: Flowers double white.

Another new and white variety of great merit is Silver Queen, the flowers of which are large, pure, and handsome. Beauté Poitevine offers a strong contrast in its large trusses and flowers, which are scarlet-pink, so to speak, and paler towards the margin. The stems are short jointed. Then there are M. Cars, lilac-pink, dense truss and fine; Nydia, pink in centre and white outwards, with a close truss, and forming a compact, short-jointed bush; Miss Bright, purple with a tint of scarlet in the centre, and equally bushy, as is Lady Emily Peel, lilac-pink, clear and bright, and Dr. Butler, deep salmon-red, dwarf, bushy and floriferous. Californian is a new orange-scarlet variety, approaching the yellow seen in the same class as Goldfinder.

Single varieties for 1889.

Here again we have great excellence in the size, regularity or rotundity of the flowers, as well as in substance. Fiery Cross bears good trusses of large, flat, circular, intense fiery-scarlet flowers. The darkest crimson kind we noticed is named Sam Jacoby, which bids fair to oust Henry Jacoby from its noted position as a bedder in wet, sunless seasons like the past. The flowers are very persistent and wither on the plant some time before they fall.

A very showy variety is one named Lady Brassey, which bears trusses of large, circular, mottled salmon flowers. The best single white is Swanley Single White, with a close bushy habit, large green leaves, orbicular, pure white flowers, with a small tuft of yellow stamens in the centre. Lady Francis Russell is rosy pink with a white blotch on the base of the upper petals; the plant is dwarf and short jointed. A striking scarlet-yellow flower is Rev. Dr. Morris, with a white eye. An improvement upon the purple shades is seen in Dr. Tucker, which is slightly tinted with scarlet at the base of the upper petals, but the flowers are nearly twice the size of those of the older variety, named R. Dean. Several batches of seedlings of great merit are standing about, but have not yet been honoured with names. The rigorous selection to which they are subjected, prevents anything but the finest flowers from receiving that distinction, or from getting disseminated over the country.

Older Single Varieties.

Two houses, each 100 ft. in length, are devoted to the cultivation of the new kinds, and at least one other house of the same length is wholly occupied with older kinds now in full flower, and forming a magnificent display. A large conservatory filled with these alone would be very effective, and certainly interesting at this season of the year. A sort named Hyacinth is a good clear scarlet, with large circular flowers having a white eye, and produced in great profusion. A variety of this year named Bridesmaid, bears large trusses of pink and white flowers. A charming blush-white variety, quite distinct from the last, produces large, flat and circular flowers. It was also new this year. A curious and very distinct French variety, named Gabriel Host, has salmon flowers striped or rayed with scarlet. Equally distinct and more handsome is Lady Reed, the flowers of which are white, with a very prominent salmon zone in the centre. The habit is also good, and the leaves have a bronzy zone as in Vesuvius. Brilliant was sent out this year, and has large trusses of brilliant scarlet flowers. Of good habit is Countess of Derby, the flowers of which are large, mottled salmon, darkest in the centre, and handsome. Equally choice and meritorious is Lady Churchill, with large trusses of deep salmon flowers. One of the best purple kinds is named H. Cannell, Junr., which has great depth of tint, shaded with scarlet at the base of the upper petals only.

Cyclamens.

More than one house is occupied with Cyclamens, which have been gay for weeks past; but since the cutting of the flowers has been stopped and the plants sorted into batches of one colour, the effect will be greatly enhanced in the course of a few weeks. Owing to the favourable position near the glass the plants are dwarf and sturdy, with ample, beautifully variegated foliage of great substance, from amongst which the flowers rise in masses, and stand erect without any artificial support. Large plants of pure white varieties are already extremely floriferous and handsome. Crimson, rose, magenta, and spotted varieties serve to make up a very showy collection. Amongst some of them we noticed curious instances of teratology. The flower stalks bore one, two, and three perfectly developed leaves, an occurrence which is quite abnormal.

Chinese Primulas.

Some of the older varieties and the doubles are well flowered; but the greater bulk of the choicer kinds are just commencing to flower. They all, however, exhibit unmistakeable evidence of what they will be in a few weeks' time. The great size and substance of the flowers of the more recent improvements are something remarkable, and show the skill of the English hybridist as compared with that of the Chinese, with whom the species had been cultivated for a long time like the Chrysanthemum, and until recently, at least, was unknown in a wild state.

White Perfection is still the best single white, with flowers of great purity and size, and robust Fern-leaved foliage having dark red petioles. Cannell's Pink, recently certificated, is a great improvement upon Bridesmaid, having large, much-imbricated and deeply-fringed rich pink flowers, measuring $1\frac{3}{4}$ ins. to $2\frac{1}{4}$ ins. in diameter. The foliage is of the ordinary type, but short and robust, above which the flowers are well thrown up. Miss Cannell is another meritorious and vigorous variety, having white flowers slightly tinted with mauve, beautifully fringed and fine. Bridesmaid is now in full flower, and very fine it is; but the pink shade is paler than in Cannell's Pink. Swanley Blue is indispensable amongst a collection, where the blue flowers afford a strong contrast to anything else in the genus. Swanley Red and Swanley Purple are also excellent kinds, the names of which describe them; and Cannell's Improvement, with crimson-red flowers, may be described as an improvement upon Swanley Red. The Queen is a pink-flowered, Fern-leaved variety that should take rank with the

first four mentioned, considering its vigour and the quality and character of its flowers. Swanley Giant is a rosy red variety, tinted with violet, and notable for the pyramidal masses of flowers it throws up when at its best. Beauty of Kent is also particularly floriferous and bears large white flowers closely mottled with purple. A house devoted to the culture of double varieties is now very gay with the best and most popular of their kind.

CHRYSANTHEMUMS.

The ranks of this popular flower are greatly decimated now, compared with what they were in November; yet a number of them afford a large quantity of flowers useful for cutting. Snowflake, The Virgin, and Mary Anderson are beautiful single white varieties. Crushed Strawberry, reddish pink, is very attractive; Crimson and Gold describes itself; King of the Yellows is single, yellow and floriferous; Star of White is a white Pompon; La Parnasse is a rosy pink kind of the same class; and Miss Annie Lowe is a beautiful pale yellow, large Anemone. Orange Beauty and Comte de Biela are showy decorative kinds.

Amongst other flowers now in season are Abutilons, with white, yellow, rose, and red flowers; Bouvardias, including the rich and brilliant President Cleveland; Salvias, Carnations and others.

THE AMATEURS' GARDEN.

SLIPPER ORCHIDS FOR AMATEURS.

There are a few of the more common exotic Cypripediums, or Slipperworts as they are popularly called, which might be grown by amateurs as easily as a Fuchsia or Pelargonium, with, in fact, half of the trouble. If potted in good material, with proper drainage, no re-potting will be required for several years. A very low temperature—in fact, the temperature of a greenhouse, will be quite sufficient to grow them all the year round, allowing it to rise somewhat higher in the summer while fresh growth is being made. In many establishments, where no special attention is given to Orchids, C. insigne is allowed to take its chance with Ferns, Azaleas, Camellias, or other subjects in the vineries during the early part of the season while making their growth. During any other period of the year either this species or C. venustum, another Himalayan kind, may be kept amongst a mixed collection of plants. Of course, they will flower much later than if kept in a house with a temperature of 45° or 50° during winter; but they are worth waiting for. There are several beautiful varieties of C. insigne, but they are more expensive for amateurs to purchase.

FERNS IN THE GARDEN.

It is the custom of some growers to cut down all their Ferns alike in winter, whether evergreen or not. In the neighbourhood of large towns, where the atmosphere is smoky, evergreen kinds are very liable to suffer the same fate as deciduous kinds, or get so shabby, that it is considered advisable to have the fronds removed to make them appear tidy. It is a mistake, however, and ought to be avoided where possible. It fact, when not grown in very close proximity to dwelling houses, it would be advisable to let the fronds of the deciduous species even remain on, till the time to give the rockery or hardy fernery a general clean up in spring. The old fronds form a natural protection to the crowns, which, although they may be perfectly hardy, are benefited to a considerable extent by the retention of the moisture during cold drying east winds, which are more searching and destructive to vegetable life than when there is a covering of snow with frost, or when the wind comes from another and more moist quarter. If it is desirable to cut down and remove the withered fronds, then a coating of coco-nut fibre should be substituted, which will both preserve the moisture and look tidy during the winter.

SOLANUMS.

Most amateurs, as well as gardeners, know the value of well-berried specimens of Solanum Capsicastrum for the decoration of the greenhouse in winter, for windows or other decorative purposes. In view of this fact it may interest those who have not yet tried it, to know that with a little trouble anyone with a fair command of heat can propagate this plant by taking off cuttings now. The advantage of doing it at this period of the year is that strong young plants may be obtained, even by those who have not a great command of heat nor very special means of accommodating cuttings, by the time the season is warm enough to plant them out—say, in May or early June. A batch of cuttings, according to the requirements, may be put in pots and covered with a bell-glass in the absence of a frame or propagating pit, stood in a box containing moist sand, and placed in the warmest corner of the greenhouse, and over the hot-water pipes or flues if possible. As soon as rooted pot them on, pinching out the tops as they grow to make them bushy. Harden off and plant out with other bedding plants in some open sunny position. Here they will grow, form nice bushy plants well set with berries, and be ready for lifting and potting off in autumn.

LAURESTINE.

In the southern and more favoured part of England little trouble is taken with this plant beyond planting it in the shrubbery or in the borders in front of villas. Here it flowers freely enough in moderately mild winters to justify the planting of it; but the matter ought not to end here. Those who have a difficulty in keeping up a fair display of flowers in the greenhouse during winter might well grow on a few nice little plants of Laurestine (Viburnum Tinus), which they could pot up in autumn. As this evergreen shrub naturally flowers in winter, if not too severe, no forcing whatever will be required if placed in the greenhouse where a genial but cool temperature is maintained. The difference in the purity of the flowers compared with those growing out of doors will surprise those who have not previously observed it. Unprotected flowers are more or less tinged with pink, or are, in fact, quite red while in bud. They are pretty enough certainly, but white flowers are preferable. Cuttings may be struck at various times during the summer, and planted in the open ground. Pot up in autumn any plants showing flower-buds, and place in the greenhouse. After flowering, the plants may be pruned hard back, so as to keep them in shape, making bushes or standards according to fancy.

CHRYSANTHEMUM NOTES.

PROPAGATING: HEAT *versus* COLD.

"CHLOROPHYLL" (p. 241) seems to think that the method of striking the cuttings which I advise must allow them to flag, as he remarks that "a slight bottom heat should be kept up to aid in the absorption of moisture, thereby preventing flagging;" but such is not the case at all. We never allow them to flag in the slightest, nor is it necessary that they should do so. I cannot account for "Chlorophyll's" failure to recognise my use of the word "cool," as he explains fully what his impressions are regarding cool treatment, and they exactly coincide with my own. If he will refer to p. 8 of *Chrysanthemums and their Culture*, he will see that I advise a temperature of from 40° to 50°, which seems to me to be the happy medium between the two extremes of heat and cold. This temperature, *i.e.*, between 40° and 50°, is what I term "cool," and the definition also agrees with the dictionary meaning of the word. "Chlorophyll" also says, "If the temperature is too low damp claims its victims." I would ask him then how do those growers manage who propagate their plants in cold frames, and yet who get as good flowers as anyone else?

It is a well-known fact that some growers—I may say many—prefer a cold frame to strike their cuttings in, never giving them cool treatment, to say nothing of bottom-heat, so that it is quite a mistake to say that if the temperature is too low the cutting will necessarily damp. I grant that they will damp off in a low temperature, in a cool one, and even in bottom-heat, if other details of treatment are faulty. Good blooms have been grown by adopting Mr. Tunnington's method, and by the "cool" treatment I advise, and I know also that they have been got by the cold-frame treatment. The point is simply this: The same goal is reached by different routes, and what does it matter if all get to the same termination, how many different roads they take?—*E. Molyneux.*

A SLENDER-PETALLED VARIETY.

Amongst the endless variety of forms of Chrysanthemum sinense already in cultivation, and yearly being added to, a form named Tisiphone seems to have the most slender petals, or, rather, segments of the corolla. Although not exactly new, it does not seem to have been much disseminated amongst growers. This, no doubt, is owing to its lack of size and unsuitability for exhibition purposes generally. It is, nevertheless, very distinct as a Japanese variety of medium size. The florets are tubular at the base only, with long, very slender segments, revolute at the margins, and appearing tubular—although they are not so—with an irregularly lacerated apex. They are crimson with a yellow reverse, and the central disk of the head is yellow; while, as a whole, the bloom appears like a mass of coloured threads.

GARDENING MISCELLANY.

Unseasonable Flowers.

JUDGING from the numerous reports of hardy plants in flower, we are apt to regard them as altogether out of season, and so they are; but this fact is not altogether unprecedented. There were several mild winters some years ago, and if a record of the flowers had been kept which made an unseasonable appearance in December, a very respectable list could have been furnished. Besides the usual winter-flowering subjects—such as Chimonanthus fragrans, Viburnum tinus, Jasminum nudiflorum, Christmas Roses, and other subjects—there were several that do not usually flower at such times. In December, 1881, Wallflowers, Violets, Primroses, Forget-me-nots, the herbaceous Elder, Arabis procurrens, and even Gooseberries, were flowering in greater or less quantity. A record of these things is always, however, interesting, and if careful observers would make such all over the country, it would furnish some useful data, and be interesting for reference in after years, as well as afford useful hints for future guidance. —*J.*

A New Hybrid Alocasia.

A NEW and beautiful stove plant has been raised by the Brothers Chantrier, of Mortefontaine, Oise, France. It is the offspring of Alocasia metallica and A. Sanderiana, both well-known and beautiful foliage stove plants, and has been named A. Chantrieriana, after the raisers. The leaves are abruptly suspended from the apex of the petiole, are arrow-shaped, peltate, and of a deep green striped with a distinct olive tint, while all the principal veins are of a clear silvery grey. In general outline the blade recals that of A. Sanderiana, but is broadly undulated, toothed, not lobed, as in the latter. It already measures 14 ins. by 6 ins., and will probably become larger as the plant increases in strength. It is figured in *L'Illustration Horticole*, 1888, pl. lxiv.

Lilium Neilgherrense.

A FINE specimen of this Lily is now in bloom in the conservatory here. It is 6 ft. high in its pot, has five flowers on the stem, and scents the house. In Elwes' *Monograph* it is said, "Though I have not seen more than three flowers on a single stem, I believe it is capable of producing far more." Perhaps some of your readers who know the Lily in its own country will inform us how many flowers they have observed in its wild state.—*George F. Wilson, Heatherbank, Weybridge Heath, December 14th.*

Crinum latifolium.

A FINE specimen of this Asiatic species is flowering at The Cedars, Harrow-Weald, and is by far the most conspicuous object at the present time in the well-filled flowering conservatory there. The peduncle is fully 2 ft. high, carrying several fine flowers; these are white with a faint lemon tinge in the throat, the outside of the tube being slightly greenish; the style is tinged red, and protrudes somewhat beyond the stamens. Mr. Dinsmore tells me that when the plant flowers in the spring it is slightly tinged with red. At the present dull season it is a useful and attractive addition to flowering plants. Whilst speaking of Crinums I should like to record an unusual case of germination. A flower-spike (umbel) of C. longifolium ripened its seed, but they were not gathered. A few days since the large bulbiform seeds were found to be growing, the irregular-shaped seed-pod had burst, and two of the seeds had emitted young filiform roots. I have never noticed Crinum seeds to do this before, and can only attribute this freak to the wet mild weather. The plants are growing in a warm border, and are perfectly hardy in that position.—*J. W. O.*

Nicotiana affinis.

THIS sweet-scented Tobacco cannot fail to become great favourite when it is better known. It is useful both as a pot plant and also for grouping in borders and bedding purposes. It has an exquisite scent which fills the whole house with delicious perfume, and besides being an elegant plant in appearance, it gives a truss of beautiful white flowers on the top of the plant. I have grown it these last few seasons, and like it much. It is not a difficult subject to treat, and can be raised in pans in gentle heat—the same as most half-hardy annuals in early spring—pricked and potted off as required, or if wanted for out-door purposes, plant out when the weather is favourable. It is rather subject to the attacks of green-fly, which can easily be dealt with.—*Alfred Gaut.*

The New Vegetable.

STACHYS TUBERIFERA, the new vegetable introduced by M. Pailleaux from Japan, seems destined to fill a rather important part in the "Menu" of the future as a delicacy for the table. It appears to be easily cultivated, and will do in any good garden soil. I grew a batch of it this year, and was satisfied with the result for the first time, as, although the tubers are small, they may perhaps be improved in that respect under cultivation. I planted the tubers in March in triangles 10 ins. apart each way, 3 ins. deep, and 15 ins. from row to row, as I was recommended to do, but in the future shall simply plant them the same as Potatos, as I am sure they will do better that way. The tubers after ripening seem to keep best in the ground, and, therefore, are best dug as required. The surface of the ground should be covered with litter, so as to be able to dig during frost, or some may be dug up and stored in moist sand. The plants seem to like a liberal supply of manure, and plenty of water in dry weather.—*Alfred Gaut.*

PARAFFIN IN THE GARDEN.

WHILE the very interesting discussion on this subject is now proceeding in your columns, I should like, if I may be permitted, to thank Mr. Alex. Wright, first, for the valuable hints and suggestions he recently offered, and secondly, by anticipation for some further information relative to the term paraffin. I presume when the word paraffin is used, paraffin oil is intended, and this again I deem synonymous with petroleum. The object of my inquiry is to elicit some facts about paraffin as a solid, as I understand this substance to be semi-transparent and inodorous, and to be obtained from crude petroleum. Now petroleum is a mineral oil with an exceptionally unpleasant odour, and imported from America in immense quantities, therefore I take it that when paraffin is mentioned, petroleum is the fluid indicated.

As these two terms are somewhat confusing, perhaps Mr. Wright, or some other correspondent, will kindly concede an explanation. If the two terms are synonymous, the indiscriminate use of both are highly misleading, and ought to be condemned or discontinued. Having unburthened my mind thus far, I will proceed to say that I became acquainted with the beneficial effects of, what I call, petroleum as an insecticide in quite an accidental manner. Some few years ago I purchased an empty petroleum cask for garden purposes, and filling this with water I applied the contents a few days later to some pot plants, mostly Chrysanthemums, infested with worms; when lo! and behold! these obnoxious creatures came to the surface with such alacrity that the effect was alarming. However, no evil result followed—I mean to the plants—and I therefore concluded that if petroleum was not a fertiliser, it certainly was a vermin destroyer. The petroleum had done its work, and although it could not have been a very strong solution, yet the event proved highly gratifying.

In the various ways in which I have since dealt with it it has always proved amenable to intelligent manipulation. I feel certain that were its properties and qualities better understood—and your admirable journal will make a happy medium for disseminating the knowledge—it would be more largely used, not only to the advantage of the operator, but on the score of effectiveness and economy. Little amateurs, like myself, cannot afford to experiment too largely, so that the necessary information, when it comes from such reliable sources as your esteemed correspondents, cannot fail to be of great practical utility. Moreover, to me, petroleum is an all-important factor as a means of expelling the intrusion of frost from my half-hardy plant structure. But on its properties as a heat-giving power, and on its adaptability for cool greenhouse purposes, I should like, at some other time, to dilate.

Petroleum is not only useful as an insecticide, as a light and heat-giving agent, as a salve for chilblains, etc., but is also, according to the American method, of use in facilitating the extraction of dirt from the family wash. As such I doubt not it will interest the gardener's "better-half." Here it is:—Fill an ordinary copper three parts full of water, adding ½ lb. of soap; when this has dissolved and the water reached the *boiling* point, add two table-spoonfuls of petroleum, giving the mixture two or three more minutes to enable it to thoroughly commingle. When this is accomplished insert the dirty linen, boil for half an hour, take out and rinse in the usual way, and the washing is complete, the bleaching process effectually rendering the clothes inodorous. I may add that the copper must be re-filled each time a fresh lot of linen is subjected to this treatment, and the foregoing details precisely repeated.—*C. B. G., Acton, W.*

ALLOW me to ask if any of your numerous readers and correspondents have tried the effects of paraffin on Cauliflowers attacked by the maggot or grub at the roots, and if so, in what proportion the oil was used. I may say that I had some plants of Early London attacked very badly last spring, for which I tried lime and soot, without effect. Can anyone say also if it would be safe to use paraffin for wire-worm among Carnations and in Vine borders, in the proportion of oil to water recommended by Mr. Wright, viz., a 60-sized pot of oil to a four-gallon can of water? I can fully endorse all that has been said in favour of paraffin as an insecticide, having used it for scale, mealy-bug, thrip, &c., on stove and greenhouse plants. Let me also thank Mr. Alfred Gaut for the valuable information he has given concerning red-spider on Vines, which I shall certainly use should I find it necessary.—*W. A. B.*

EASTER DUDDINGSTON LODGE.

WITHIN two or three miles of Edinburgh, at Easter Duddingston Lodge, Joppa, is the residence of Charles Jenner, Esq., forming a snug retreat bordering on the Firth of Forth, and sheltered by tall trees. Besides the latter, there is a wealth of variety in an extensive plantation of choice kinds grown in the Woodland Arboretum, of which we shall speak presently. The collection of herbaceous and Alpine plants, Ferns, and choice or rare shrubs is also very extensive; and the number of half-hardy trees and shrubs, which we in the south usually regard as greenhouse subjects, but which are planted in the open air at Easter Duddingston Lodge, is truly surprising, and can only be accounted for by proximity of the gardens to the Firth of Forth, which has undoubtedly a great influence in moderating the severity of the weather in that locality.

THE ROCK GARDEN.

This is a square enclosure occupying a considerable space of ground, and variously laid out in beds, borders, mounds, ridges, or grottos, none of which are moreover of any considerable elevation, but sunk in many places, while they are surrounded with terraces or walls more or less covered with climbers or other vegetation. During the last week of September last many rock plants were still rather gay, including Epilobium obcordatum, Gypsophila repens, Hutchinsia alpina, Polygonum vacciniæfolium and Thymus carnosus. Saxifragas, Veronicas and Campanulas are largely represented. Amongst those in flower were Veronica spicata hybrida, V. Guthrieana and V. reptans. The pretty evergreen white-flowered Potentilla tridentata was also in bloom, as well as Erodium Manescavii, Linaria alpina thriving well, Gaultheria nummularioides, the Himalayan Wintergreen, and Primula obconica. The latter is merely protected in winter by a sheet of glass to throw off the wet. Amongst Orchids Epipactis palustris and Cypripedium spectabile thrive well, but the latter does best in positions that are dry rather than wet. Large patches of Androsace sarmentosa and A. lanuginosa thriving luxuriantly, testify to the favourable nature of the climate, and the cultural skill of Mr. Chapman, the gardener, who has a wide experience in the culture of hardy plants in general. The interesting Veronica salicornoides flowered here two years ago. Large plants of Astragalus Tragacantha are very conspicuous on the banks surrounding a grotto. Amongst plants in fruit were Rosa pyrenaica with long cylindrical scarlet hips, the pearly-fruited Margyricarpus setosus, and Mandragora vernalis (otherwise known as M. officinalis), which carried thirteen fruits like little Apples.

FRAME FOR ALPINES.

Independently of the specimens planted out, there is always a reserve stock of plants in pots with which to make good the losses that occur. These are plunged in sand in a long row of shallow frames, from which the lights are entirely removed in summer. The plants are well exposed to light by the frames being raised about 3 ft. above the pathway in front, and by the framework being only a few inches in depth. Choice things in flower were Acæna microphylla (also known as A. Novæ Zealandiæ), Erodium Richardsoni, E. curvifolium, the Daisy-like Erigeron mucronatus, Anomatheca cruenta, Lobelia repens, and Mazus pumilio. We also noted a group of true Daisies and their closest allies, including Bellis rotundifolia cœrulescens, Bellium minutum, and B. crassifolium, all extremely pretty and interesting in their way. Hypericum reptans, H. patulum, and Linum flavum all find a happy home. Primula Parryi flowers every year, and Veronica Armstrongi also flowered in summer. Sedums, Saxifrages, and Sempervivums are grown in quantity, and it is impossible, in the compass of a short article, to refer to a tithe of them.

CHOICE SHRUBS.

All over the rock garden are dotted great numbers of choice subjects, such as Retinosporas, Juniperus communis hibernica stricta, Ledums, Hollies, Ivies, and Rhododendrons. A border of the latter contained R. aromaticum bearing small white wavy flowers, R. lancifolium well set with buds, R. Hodgsoni with large oblong leaves, rusty beneath, and R. Chamæcistus. The Menziesias were also well represented by M. empetrifolia, M. polifolia, and its several coloured varieties. There were huge healthy bushes of Veronica Traversi, V. parviflora, Anthyllis erinacea 4 ft. square and 2 ft. high, the Wild Irishman (Discaria Toumaton), and Acer palmatum rubrum. A grand sight was presented by a specimen of Yucca gloriosa superba with a panicled flower-stem about 8 ft. high. Philesia buxifolia proves perfectly hardy in the open air, and although only about 6 ins. high, produces flowers.

A portion of the rockwork imitating rocks and woods is hollowed out in places, elevated in others and built with large, rugged and projecting stones. These are appropriately planted with strong or tall-growing subjects, including a fine piece of Muhlenbeckia adpressa, Sudæa fruticosa, Chamærops Fortunei, and Aralia Sieboldi, which have been planted out since the rockery was constructed in 1877-78. It may here be mentioned that a tablet records the fact that the rockery was designed and constructed by William Gorrie, Esq., Rait Lodge, Trinity, in the above-mentioned years; and also that Charles Jenner, Esq., was then proprietor, and Mr. Mungo Chapman, gardener then as now.

Edwardsia microphylla planted in 1878 now forms a handsome healthy bush, about 6 ft. high. Andromeda formosa, usually regarded as a greenhouse subject, was also planted at the same date. The Ribbon Tree (Plagianthus betulinus), 18 ft. high, Cistus ladaniferus, Quercus glabra, Phormium tenax variegata, and Eurybia tomentosa, were also very noticeable. Two specimens of the Awned-coned Pine of California (P. aristata) are now about 4 ft. high, and constitute stiff erect-habited little trees.

HARDY FERNS.

The bulk of these, as might be expected, consists of the British species and their numerous varieties, but there are also numerous exotic species, many of which are usually regarded as only half hardy. Some of these occupy a glass-covered Fernery, with a wall on the south side and quite open on the northern aspect. Here luxuriate Osmunda regalis, O. r. cristata, O. cinnamomea, O. interrupta, and O. Claytoniana. The Lady Ferns are represented by large specimens, as well as Polystichum angulare proliferum and patches of Polypodium Dryopteris and P. Robertianum. A more varied collection is planted on a border with a north aspect, and which is altogether unprotected. Here were beautiful bits of Asplenium fontanum, Allosorus crispus (the Mountain Parsley Fern), Ceterach officinarum, a fine dwarf patch of Lomaria alpina, the Holly Fern (Polystichum Lonchitis), Lastrea lepidota, and Osmunda regalis cristata in fine condition. The common Polypody is well represented by Polypodium vulgare cambricum and P. v. elegantissimum, while the finer forms of the Male Fern include Lastrea Filix-Mas crispata and L. F.-M. cristata angustata. Lastrea æmula, the Hay-scented Fern, is also here, together with Polystichum angulare grandidens truncatum Elworthii. Cyrtomium caryotideum and C. Fortunei have been outdoors for some years, although they are generally grown in a greenhouse temperature.

THE HERBACEOUS BORDER.

Although practically very late in the season, there was an abundance of hardy subjects in flower. A row of Bocconia cordata, with stems from 6 ft. to 9 ft. in height, formed a very conspicuous back line. There were also handsome pieces of Phygelius capensis, Arnebia echioides, Helianthus multiflorus plenus, Phlomis pungens, bearing a profusion of rose-coloured flowers, the Cape Hyacinth (Galtonia candicans) fully a yard high, the rosy Potentilla nepalensis, healthy strong-growing plants of Orchis maculata superba, a most desirable variety to cultivate, and single and double Colchicums scattered about.

THE WOODLAND ARBORETUM.

This occupies a considerable extent of ground, and is planted with a rich and varied collection of all the most popular deciduous and evergreen trees and shrubs that one may meet with scattered about in various

gardens throughout the country, and testifies to the taste and enthusiasm of Mr. Jenner, and a love of all kinds of hardy plants. There are borders planted with Rhododendrons, Azaleas, Hollies, and Portugal Laurel edged with Erica vagans, E. v. alba, Calluna vulgaris, and Menziesia polifolia in great variety. Behind these are Daphne Laureola, Cephalotaxus Fortunei and C. drupacea, about 4 ft. high, Magnolia acuminata, the Alexandrian Laurel (Ruscus racemosa), Ligustrum japonicum and L. vulgare ovalifolium in full flower. Spiræa Lindleyana and S. sorbifolia formed large bushes about 8 ft. or 9 ft. high, and had flowered magnificently. Escallonia rubra was also flowering as well as the double rose-flowered Bramble. The Holly-like Desfontainea spinosa has been out for two years, and Osmanthus illicifolius flowered last year.

A healthy pyramidal specimen of Sequoia gigantea about 18 ft. high was rooted as a cutting in 1875. Many of the Oaks and other trees were raised from seeds. Fine healthy pieces or trees of Quercus Cerris variegata, Q. Ilex Fordii, Cunningham's Beech (Fagus Cunninghamii), Castanea vesca variegata, Pavia macrostachya, Pterocarya lævigata, P. caucasica, Rhus typhina, 10 ft. high, and others are growing up to be beautiful trees each according to its habit. A large plant of Ribes macrostemon (fuchsioides) grows right in the open ; and we were very much struck with the singular habit of Sambucus nigra fastigiata with upright branches and leaves closely adpressed to them. We must necessarily omit mentioning a large number of the trees grown.

NOTES ON FRUITS.

The Quarrenden.

Before we endeavour to determine upon the correct appellation of this famous early Apple, would it not be well to institute inquiry into the origin, as well as of the names, of many other of our old Apples. It is perhaps only by such means that we may hope to arrive at any exact conclusions as to the basis of Apple appellations. There is another very old Apple, as old doubtless as the Quarrenden, I mean the good old Hawthornden, and locally almost invariably pronounced Hawthorndean. Why such should be the case it is not easy to understand, except it bear the hypothesis—and I think a natural one—that rural or provincial-speaking people almost invariably corrupt nomenclature more or less. I have found that constantly to be the case in relation to other things besides Apples. Now, there is this interesting coincidence in relation to the terminology of both the fine old kinds I have referred to, that they each finish on "den." That should form a clue, which, if followed up, would in time lead, no doubt, to some tangible information being obtained. Possibly both kinds may have originated at the same time, and both may have been of northern origin. We know of a place called Hawthornden. Is there also such a place as Quarrenden ? If not, then what is the root or origin of Quarren ? Is it associated with Quarr Abbey, which is, however, in the south ? I have already held the term Quarantine to be a corruption, not the least for the reason that it again has as often been corrupted into Qualantine. With respect to the Apple itself, I must say no such fruits are to be seen now as were abundant in market orchards fifty years ago. Then they became of blood-red tints in some cases, in others were of the loveliest combination of white and red, but always when ripe, and especially when fallen on the grass, so soft, sweet, and delicious. They seem to have retrograded somewhat.—*A. D.*

Worcester Pearmain Apple.

The beauty of this Apple is now well known to most growers, although of comparatively modern origin. It is stated to be a seedling from Devonshire Quarrenden, and was sent out by Messrs. Richard Smith & Co., of Worcester, in 1873. The fruit is of medium size and conical, smooth, and when grown in the more favoured south, is entirely covered with a brilliant red colour. North of the Tweed, however, the red is more or less confined to the exposed side ; but even then it is a handsome Apple for the dessert table. No better proof of its appreciation by growers generally could be had than the number of exhibits made of it at the late Apple and Pear Conference, most of which were particularly highly coloured. The flesh is tender, crisp, and sweet, and although it is stated to be ripe in August and September, it will keep in excellent preservation till the new year at least, under favourable conditions. The specimens on which we base this observation were grown north of the Tweed, and it may be that latitude and late ripening have something to do with its late keeping. In a dry atmosphere it will shrivel somewhat, but the crispness and sweetness of the flesh is not impaired, or only to a slight degree.

Chatley's Kernel Apple.

Among the new or little-known varieties of Apples that are coming to the front, we are inclined, from information lately received concerning it, to accord a high position to Chatley's Kernel, a Worcestershire variety, which is being extensively propagated by Messrs. R. Smith & Co. It was raised somewhere near Droitwich, and has a high local reputation as a long keeper. The tree is said to be a good upright grower, while the fruits are medium to large in size, perfectly round and smooth, dark red and speckled, and of fine culinary quality. Gathered the same time as Dumelow's Seedling, the fruits keep as heavy and as fresh to the following June or July as Dumelows are in winter ; and that it can be kept in first-rate condition until an even later period is proved by the fact that at the Worcester show, in August, 1887, a dish of Chatley's Kernel, twelve months old, and shown by Mr. T. Rowley Hill's gardener, beat all the new season's Apples that were staged in the culinary class, and until after the judges had made their awards they knew nothing of the age of Mr. Hill's specimens. Planters for profit, as well as gardeners, should clearly keep an eye on Chatley's Kernel.

Beauty of Kent Apple.

When well grown there can be no doubt that this is one of the most handsome of culinary Apples. As a rule, culinary Apples possess but little bright colouring, especially when grown in an atmosphere that is more often cloudy and smoky than clear ; but Beauty of Kent is certainly an exception, and bears so regularly and heavy that it might be included in the smallest of collections. It grow very satisfactorily, attaining a large size, even in gardens north of the Tweed ; but the superior quality and size of fruits grown in the southern counties are very evident, although in colour there is less to be said about the difference, as it is very highly developed even in northern latitudes. In shape it is roundly ovate or even conical, with a broad base, narrowing towards the apex, where it is conspicuously ribbed round the deep closed eye. The flesh is firm, tender and juicy, with a pleasant and slightly acid flavour. In fact, although a culinary Apple, it would prove agreeable to the palate of many even if used for dessert purposes. It attains great size and beauty in America.

FERNS : FROM SPORE TO TREE.*

In the Fern we have a chaste unassuming plant, claiming attention not on account of any showy flowers or gaudy colours, but their graceful and delicate fronds are appreciated by all lovers of plants. Ferns intermixed with flowering plants enhance the appearance of the latter, and nowhere will you, perhaps, see this better illustrated than in the groups of plants arranged for effect at our local shows. The ground-work of Maidenhair Ferns which is generally adopted forms a splendid setting for the flowering gems. Another very striking feature in flowering plants is when they are arranged in groups of one kind of plant, with a ground-work of Adiantums—such, for instance, as Gloxinias, Orchids, Amaryllis, Cyclamen, &c.

The Fern, as you know, produces no flowers, therefore, no seeds ; but the means of reproduction in this case is from spores. The spores are contained in spore-cases called sporangia, and are generally borne on the back of the frond. There are some curious stories told about Fern spores (or seeds as they were then called). While the herbalists were denying the existence of seed in Ferns, the popular belief was that they were present. It was imagined that they could only be seen on St. John's Night at the hour when the Baptist was born, and whoever became possessed of them was thereby rendered invisible. In Shakespeare's *Henry IV.*, Gadshill says to the chamberlain, "We steal as in a Castle Cocksure, we have the receipt of Fern seed, we walk invisible." "Nay, by my faith," says the chamberlain, "I think you are more beholden to the night than to Fern seed for your walking invisible." Again, the Fern seed gathered at the propitious hour was thought to possess many magical properties, and the supposed possession of it was turned to good account by pretenders to sorcery. It was believed, too, that the gathering of it was not a little hazardous, since sometimes the collector had a battle with the Enemy of mankind, or rather he got a severe drubbing, which he could very sensibly feel, but could not see from whence it came.

Let us again turn to the spore cases on the back of the frond, and called sporangia. A cluster of sporangia is called a sorus. Some of them occur in clusters thickly covering the back of the frond, and have a coating over them best seen in the young stage, that is, before the spores are ripe. This covering is called the indusium ; but it may in some cases be altogether wanting, as in our Polypodiums. In some of the genera we have the spores placed along the margin of the fronds, and the edges turned back to cover them as in the Maidenhair Ferns. In others again, the sori are placed alongside the midrib of the frond ; in others they are placed in rows across the frond as in our Scolopendrium ; and so on in a great many more different forms and shapes.

The spore cases afford a curious example of mechanical arrangement when seen with the aid of the microscope, the minute spores being found to be enclosed in a filmy bag clasped round by a jointed band exactly resembling a lady's bracelet. This keeps the spores in safety until they are perfectly ripe ; then the band contracts and the bag either divides in half or splits in pieces, and the spores, mere dust-like atoms, are almost invisible to the naked eye except in a mass. You will see the spores and spore cases under the microscope on the table, which will give you a far better idea of their form and beauty than words of mine could convey. This was one of the most interesting sights I had ever seen, the first time I saw it under the microscope.

I will endeavour to point out, to you in the first place, the difference between a true seed and a spore. All true seeds have a determinate structure, that is to say, they have an embryo provided with special organs. There is the ascending axis, the origin of the stem ; and there is the descending axis, the origin of the root. When a seed has been planted in the ground, the young root strikes downwards and the young stem grows upwards. Fern spores, on the other hand, have none of these determinate parts, but simply consist of a cell or vesicle containing protoplasm, and as they grow this vesicle becomes divided into others, which again multiply and enlarge until they form a small scale called the prothallus, and from this in due time the plant is developed. As this scale or prothallus grows, there are produced on it two separate kinds of bodies, namely, the antheridea and the archegonia. The antheridea are produced among the little hair-like rootlets, which are produced on the under-side of the prothallus. The archegonia are placed near the heart-shaped notch in the prothallus, so that when the antheridea burst there swarms out a great number of antherozoids, which are spiral-shaped bodies, having a head with a tail twisted up something like a cork-screw ; the tail is further covered with long hairs or cilia, which cause the antherozoids to rotate rapidly, and as they travel over the prothallus they come in contact with the archegonia, which are flask-shaped bodies, and thereby fertilises them. After fertilisation has taken place a young plant grows from the fertilised cell of the archegonium. At first the young plant receives its nourishment from the prothallus ; but as it grows it forms roots of its own, and the prothallus having no more functions to perform, dies.

So ends the first generation of the Fern ; and the young plant we saw growing out of the prothallus is the second generation. This peculiar form of growth is what is termed alternation of generations. It is, therefore, while in this first stage of growth, that fertilisation takes place. The archegonia and antherozoids are so small that I think it would be impossible to hybridise them artificially ; but to obtain that end I would recommend the sowing of spores of two or more different species of Fern together. I think it quite possible for the antherozoides from one prothallus to pass to another when they are growing close together, and so fertilise the archegonia to which they may have travelled. I think the reputed hybrids we have amongst Ferns may be accounted for in this way.

As the young plant grows and produces frond after frond, it will be found most interesting and instructive work to compare the different forms the frond passes through before it finally assumes what I may term the normal or adult one. If, for example, we examine a young plant of Pteris aquilina (the common Brake), we shall find such a difference between the frond on the young plant and the frond on the adult plant, as scarcely to be recognisable as the same species. We find this a common occurrence amongst Ferns ; nor is this peculiarity confined to them alone.

* Read by Mr. A. Wright at the Ealing Gardeners Mutual Improvement Society, November 30th, 1888.

Then again, we have great variation of fronds running through the different genera of Ferns. For instance, in the Scolopendrium vulgare (the common Hart's-tongue) the frond is simple and entire; in Polypodium vulgare (the common Polypody) we have the frond cut along both sides, nearly as far as the mid-rib, and thus becomes what is termed pinnatifid; in Asplenium Trichomanes (the common Maidenhair Spleenwort) the frond becomes pinnate, that is, it is cut down to the mid-rib, with a space between each pinnæ, as each of thei small leaflets branching off from the mid-rib is called; in Asplenium fontanum (the smooth Rock Spleenwort) the frond becomes bi-pinnate, or twice divided; and again, in Pteris aquilina (the common Brake) it becomes in some cases tri-pinnate, or thrice divided.

Agaiu, in the frond of Ferns we have another curious freak of nature. I allude to the different forms we find running through nearly all our British genera of Ferns, such, for example, as the crested and divided forms which occur so commonly among the varieties of the Lady Fern (Asplenium Filix-fœmina), the soft prickly Shield Fern (Polystichum angulare), the hard Fern (Blechnum spicant), &c. Nor is this peculiarity confined alone to the British Ferns, for we find that it is becoming quite common among exotics as well. We have now crested forms of Adiantum, Woodwardia, Nephrolepis, Pteris, and Nephrodium. Another peculiar form is where little more than the mid-ribs of the frond and pinnæ remain: this form is termed depauperated.

(To be continued.)

ORCHID NOTES AND GLEANINGS.

Lælia anceps Morada.

Amongst Christmas-blooming Orchids, this is one of the most conspicuous for its beauty of form and high colouring. There are some hundreds of plants in flower in the houses of the Liverpool Horticultural Co., Garston, and standing as they do in juxtaposition to flowering plants of Lælia albida, L. autumnalis and Cypripedium insigne, the contrasting effect is very fine. Speaking of Lælia anceps, Mr. Cowan has unearthed a fine prize from amongst the species. This appears to be a natural hybrid and is quite unique of its kind. It has, I believe, been disposed of by private treaty for the sum of 200 guineas (*see* p. 232). If anything, a still finer variety is now in bloom, and this will no doubt command a much higher figure. There are some fine forms of Odontoglossum Sanderianum in bloom, with two and three flowers to the spike. What the effect will be when these plauts are thoroughly established and in full vigour of production, can only be left to the imagination. But of all charmiug Orchids at this season of the year, I think nothing can supplant, if it approach, to the old Cypripedium insigne. The colouring is not gaudy, but it is chaste and beautiful. I think it requires an educated taste to thoroughly appreciate it, in the same manner as it requires an educated palate to appreciate olives or truffles. One might spend hours in gazing on and enjoying the beauty of form, colouring, and pencilling of this, one of the oldest and commonest of Orchids.—*Henry Tacy Peck.*

Cypripedium callosum.

This comparatively new hybrid seems to be remarkably free flowering. I have a plant purchased with one growth two years ago which shortly afterwards flowered; about nine months afterwards (February of this year) it again flowered; and in August or September it gave another bloom. The flowers are of large size, and before the year is out two more will be open, thus making three times flowering within the year. I have grown it in the hottest house, and it surpasses C. Lawrenceanum in freedom of growth, besides somewhat resembling it in the flowers, though the markings and colour are not so bright or distinct.—*E. Dumper, Limerick.*

Masdevallia melanoxantha.

Although rather a singular Orchid, this merits a place in a collection of any extent on account of the size, conspicuousness, and distinctness of the flowers, which are borne singly on scapes about 3 ins. or 4 ins. high. The tube of the flower is yellow, and the upper sepal is greenish yellow with three purple nerves, while the two lower and lateral ones are similarly long, and of a deep dull purple. The tails are about 2 ins. in length, spreading, yellowish and marbled with brownish purple externally. This mixture of colours has doubtless suggested the specific name, which means blackish yellow. It may be seen in the cool Orchid house at Kew.

Odontoglossum Harryanum.

As this fine species becomes established among us, it continues to increase in strength, and although we can hardly expect it to produce racemes of flowers rivalling those of O. luteo-purpureum in length, yet there is a marked difference between the first plants that flowered, with one or two blooms on a spike, and those we occasionally meet with now. A plant in the Orchid house at Kew bears large and well-coloured flowers. The original objection to this species, namely, the incurved petals, still prevails, but that in itself is a strongly distinctive character. The curious boat-shaped lip with its fringed yellow crest is another peculiarity.

Cypripedium Argus.

There is considerable variation in large importations of this species from the Philippines, and although few have received special varietal names, yet there are some forms which have been so distinguished. We noticed the other day some very beautiful varieties in the extensive collection of Messrs. Hugh Low & Co., Clapton, in which the spots which have given rise to the specific name are remarkably conspicuous and handsome. One plant had the upper sepal striated with green on a white ground, and spotted with purple at the sides. The petals are heavily spotted with blackish purple, especially on the upper half; and the lip is deep purple. Another variety had the petals tipped with deep purple. The typical form is paler in all its parts, with less conspicuous spots. The foliage is in all cases very pretty and marbled with greyish green on a deep green ground.

Odontoglossum constrictum castaneum.

In this new variety there is a great improvement upon the typical form, which was originally discovered by Mr. J. Linden, during his journey through Venezuela in 1842. The sepals and petals of the old and typical form are yellow, irregularly blotched with brown, while the lip is white blotched with violet. The sepals and petals of the variety under notice are of a uniform deep chestnut-brown with a narrow yellow margin, while the lip has a large violet blotch above the middle. The flower-spikes are panicled, and a good figure of the plant is given in *L'Illustration Horticole*, 1888, pl. lxvi.

THE GARDENERS' CALENDAR.

THE STOVE.

Plants for Christmas Decoration.—In view of the lower temperature to which plants will inevitably be subjected which are used for the decoration of dwelling-houses during Christmas-tide, it would certainly be a great advantage to transfer them for a few days to a house with a low temperature and a comparatively dry atmosphere. The latter condition will be all-important, as it will harden the leaves and enable them to withstand the dry atmosphere of rooms. The plants that naturally come in for this kind of work are Palms, Crotons, Aralias, Dracænas, and other subjects of that nature. Poinsettias will also be greatly desired by many, and Begonia insignis, B. John Heal, B. Adonis, Echeveria metallica, and E. fulgens will greatly add to the variety. It will matter less for the injury done to the latter subjects, which are generally grown on annually for flowering purposes, and may be cut back when out of flower or have been too much damaged for further use. No hard-wooded subjects which are in the act of making fresh growth or leaves should be used.

THE GREENHOUSE.

Salvias for December.—Where a continuous and rich display of flowers is required in the show house, whether it be a greenhouse or conservatory, a number of Salvias might, with great propriety, be introduced, including S. rutilans, the foliage of which greatly resembles the fragrance of Pine-Apples; also S. splendens, S. leucantha, with white flowers and a hoary, almost white calyx; S. boliviana, and S. elegans, which also blooms in summer or almost at any season of the year, according to treatment.

Dividing Old Stock Plants.—There are several useful subjects that might profitably be divided at this season, where it is desirable to increase them. Amongst these Agapanthus umbellatus might be mentioned. This will be a work of some difficulty, owing to the matted condition of the roots. In most cases it will be necessary to use a knife to sever the pieces, but care should be taken to destroy as few roots as possible. Those that have become disconnected with the leaves should be removed where it is possible to do so without injury to the remaining portions. This will allow of more room for fresh soil in the pots, which should be as small as convenient, according to the size of the plants. Aspidistra lurida, A. l. variegata, Ophiopogon Jaburan variegatus, Vallota purpurea, and other plants of a similar kind, can also be treated in the same way.

Bulbs.—The potting up of Lilium auratum should no longer be delayed, whether the bulbs are those used last year or freshly imported ones. If the former have been kept up till now in soil, the danger will be that the roots have commenced growing where the soil has been kept in any way moist. Likewise pot up the bulbs of L. speciosum and its varieties, as well as those of L. longiflorum and L. l. Harrisi as they come to hand.

To supplement the Roman Hyacinths in the conservatory the more forward of the first potted batch of the large-flowering kinds will soon be in flower, provided they were put into heat as soon as they had formed roots, and had commenced to push their flower-spikes. Duc Van Thol Tulips in several coloured varieties are now in bloom, and may be introduced to the conservatory.

THE FORCING HOUSES.

Vineries.—The Vines in the earliest house, if started in the first week of November, will now be advancing rapidly. Be careful to loop down the shoots as soon as it can be done without much danger of breaking them, because it is more dangerous to allow them to touch the glass at nights than it would be later on when there is less fear of frosty nights. Raise the night temperature to 60°, allowing a rise to 70° during the day by sun-heat, provided the weather is not severe. Ventilate at the top only, to prevent the temperature inside from rising above 70°. Where Grapes are wanted at the beginning of June the present is a good time to close a vinery for that purpose.

THE KITCHEN GARDEN.

Wheeling Manure.—Now that frosty mornings are of frequent occurrence, advantage should be taken to have manure wheeled on to the squares and borders where a large quantity of it is required. When done in frosty weather there is no danger of cutting up the walks or of carrying soil on to them from the ground. If Box edgings have to be crossed, use a bridge consisting of two short boards hinged on to a supporting piece sufficiently high to prevent the breaking down of the Box edging.

Old Apple and Pear Trees.—It frequently happens when these are grown in narrow borders with restricted root-room, that the trees, in searching for fresh supplies of food, root strongly into the subsoil, more frequently than otherwise producing a lot of gross wood, and becoming unfruitful. In cases of this kind lift the trees and plant them with their roots nearer the surface, using some fresh soil if possible, or else well-rotted farmyard or hot-bed manure.

HORTICULTURAL SOCIETIES.

Notts Horticultural and Botanical.

The usual monthly meeting was held at the Arboretum, Nottingham, on Wednesday evening, December 12th, for the purpose of hearing a number of essays read on "The Duty of the Employer to his Gardener," for which three money prizes had been offered by Mr. Richard Sankey, of Bulwell Potteries, Nottingham. Mr. Sankey presided. Seven papers were read by the secretary, Mr. Steward, each and all of which were highly interesting, and replete with suggestions of an eminently practical character. They had evidently been written with much care, and in most cases with conspicuous ability. The writers were known under their respective *noms de plume*, and the prizes were awarded by ballot, the result being that the first (£1, with the First Class Certificate of the society) was awarded to Mr. J. H. Walker, gardener to John Wesley Lewis, Esq., Hardwick House, Nottingham; the second (15*s.*, with the Second Class Certificate) to Mr. G. Wilson, gardener to E. W. Field, Esq., Aspley Hall, Nottingham; and the third (10*s.*, with the Third Class Certificate) to Mr. G. Camp, Wollaton Hall, Nottingham. The chairman, in presenting the prizes to the successful competitors, congratulated them upon the excellent manner in which they had dealt with such an important subject, and hoped the various opinions expressed in the essays would be productive of much good. Mr. S. Thacker offered a few encouraging remarks to the unsuccessful competitors, and on the motion of Mr. Walker, seconded by Mr. Wilson, a vote of thanks was accorded to the donor of the prizes.

QUESTIONS AND ANSWERS.

Bog Plants for Small Garden.—*Alex. Gray:* The following are highly suitable for a small garden, inasmuch as they do not attain a large size even when well grown. They may also be obtained with little difficulty from those who deal in hardy plants. The following will afford great variety, namely, Anagallis tenella, Anemone rivularis, Pinguicula grandiflora, Caltha palustris, the double form C. palustris flore pleno, Cardamine pratensis flore pleno, Iris lævigata (I. Kæmpferi), Myosotis palustris, Primula involucrata, Sagittaria sagittifolia, Butomus umbellatus, and Acorus gramineus variegatus.

Horticultural School.—*Youthful:* We believe it is true that there is a split between the promoters of the Fruit Growers League and the management of the so-called Horticultural and Technical College at Swanley, but we know nothing of the cause and care less. For the present you had better watch the tide of events.

Names of Plants.—*W. Lees:* Oncidium cucullatum maculatum we shall refer more fully to your query next week). *B. J.:* 1, Pinus austriaca; 2, Pinus Laricio; 3, Pinus muricata. *E. H. R.:* 1, Asplenium Belangerii; 2, Asplenium bulbiferum fabianum; 3, Nephrodium decompositum glabellum; 4, Acrophorus Novæ-Zealandiæ; 5, Nephrolepis Duffii; 6, Doodia caudata; 7, Polystichum triangulare. *J. Bentley:* 1, Helleborus niger angustifolius; 2, Jasminum nudiflorum; 3, Sternbergia lutea; 4, Cotoneaster microphylla. *W. W.:* Lælia albida.

Sagittaria in Winter.—*E. L.:* Less water will certainly be required by this plant in winter than when in full growth, but we should not advise you to thoroughly dry it off, and in fact it would do well if left in the water all the year round. Growth will be held in check by lowering the temperature of the house in which they are grown. Of course, we should naturally expect you to do this.

Solanum Jasminoides.—*R. C. L.:* The plant is so nearly hardy that it can be grown for years on a south aspect wall in a sheltered position in many parts of Britain. Here it will flower in profusion during late summer and autumn, but before planting it out we should advise you to have a reserve stock of young plants to fall back upon in case the succeeding winter should prove to be a severe one.

Schubertia or Physianthus.—*J. M.:* The real name of the genus, according to eminent authorities, should be Arauja. Different species have been introduced from time to time under different names, such as those above given, together with Pentaphragma. Two species were introduced under the name of Schubertia grandiflora and S. graveolens, the former in 1837, and the latter in 1835. The plant we refer to may, therefore, be regarded as an Aranja, although it would not be altogether wrong to use the word Schubertia. It was originally introduced in 1837, but has apparently been recently re-imported.

Communications Received.—W. B. G.—S. C. L.—W. A. A.—J. W.—A. W.—A. D.—H. W. P.—G. G.—E. H. W.—W. H.—W. D.—W. P.—W. K.—Gishurst Compound.

TRADE CATALOGUES RECEIVED.

James Veitch & Sons, King's Road, Chelsea, S.W.—Vegetable and Flower Seeds, &c.

Sutton & Sons, Reading.—Amateur's Guide in Horticulture for 1889.

James Dickson & Sons, 82, Hanover Street, Edinburgh.—Forest and Ornamental Trees.

Pitcher & Manda, United States Nurseries, Short Hills, New York.—Catalogue of 358 species, hybrids, and varieties of Cypripedium.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending Dec. 15th was 30·14 in.; the lowest reading was 29·89 in. at the beginning of the week, and the highest was 30·25 in. at the end of the week. The mean temperature of the air was 33·3°, and 8·8° below the average in the corresponding weeks of the twenty years ending 1868. The mean was considerably below the average on each day of the week, the deficiency of temperature was 11·7° on Monday, and 10·3° both on Tuesday and on Thursday. The general direction of the wind was S.E., and the horizontal movement of the air averaged 4·6 miles per hour, which was 8·2 miles below the average in the corresponding weeks of sixteen years. No rain was measured during the week. The duration of registered bright sunshine in the week was 3·8 hours, against 21·2 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

December 17th.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a moderate enquiry for the Red Clover Seed at rates current last week. No change in value of White Clover, Alsyke, or Trefoil. Rye grasses are steady. Bird Seeds unchanged. Blue Peas steady.

COVENT GARDEN MARKET.

December 19th.

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ..per dozen	1 6	2 0
Beet, per dozen.....	2 0	3 0	Mushrooms, p. basket	1 0	1 3
Cabbages.... per doz.	1 6		Onions, per bushel ..	7 0	9 0
Carrots....per bunch	0 6		Parsley, per bunch ..	0 6	
Cauliflowers, English,			Radishes, per dozen..	1 6	
per dozen	2 0	3 0	Small salading, punnet	0 4	
Celery, per bundle ..	2 0		Spinach, per strike ..	2 0	
Cucumbers, each	0 6	0 9	Tomatos, per lb.	1 3	1 9
Endive, French, doz.	2 6	3 6	Turnips, per bun.....	0 6	
Herbs, per bunch....	0 2	0 4			

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys. 80s. to 100s. per ton; Champions, 70s. per ton.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples, ½-sieve.....	2 0	4 6	Pine-apples, St. Michaels, each	2 0	7 0
Cobs .. per 100 lbs.	100 0		Pine-apples, Eng., lb.	1 0	1 6
Grapes .....per lb.	0 10	3 0			

Canadian and Nova Scotia Apples, per barrel, 7s. to 18s.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	9 0	15 0	Paper White Narciss, 12 sprays	0 9	1 0
Azaleas ....12 sprays	0 10	1 0	— — — French, doz. bunches	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Poinsettia, doz. blms.	4 0	6 0
Camellias, 12 blooms	2 0	4 0	Primroses..doz.buns.	1 0	2 0
Carnations, 12 blooms	1 0	2 0	Primula, double, bun.	0 9	1 0
Chrysanthemums, 12 blooms	1 0	4 0	Roman Hyacinths, 12 sprays	1 0	1 6
— 12 bunches	4 0	12 0	— — (French), 12 bun.	2 0	4 0
Cornflower, 12 bunch.			Roses, Tea, per dozen	1 0	3 0
Cyclamen..12 blooms	0 6	1 0	— Red .....per doz.	1 0	2 0
Eucharis, per dozen..	4 0	6 0	— Saffrano ..per doz.	1 6	2 0
Gardenias, 12 blooms.	6 0	9 0	Stephanotis, 12 sprays	6 0	8 0
Heliotropes, 12 sprays	0 6	1 0	Tuberoses, per dozen.	1 0	2 0
Lapageria, 12 blooms	2 0	4 0	Violets ..12 bunches	1 0	1 6
Lilium longiflorum, 12 blooms	5 0	9 0	— Parme, French, 12 bunches	3 6	5 0
Maidenhair Fern, 12 bns	4 0	9 0	— dark French, bun.	1 6	2 6
Marguerites, 12 bun.	3 0	6 0	Wallflowers, 12 bnchs,	4 0	8 0
Mignonette, 12 bun.	2 0	4 0	White Lilac, French, per bun.	5 0	7 0
Pelargoniums, 12 spys.	1 0	1 6			
— scarlet, 12 sprays..	6 0	9 0			

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz..	6 0	18 0	Foliage Plants, various, each.....	2 0	10 0
Arum Lilies..per doz.	9 0	18 0	Ficus elastica each..	1 6	7 0
Chrysanthemums, per dozen	6 0	12 0	Hyacinths, per doz...	9 0	12 0
— large plants ..each	2 0	5 0	Marguerites per doz.	6 0	12 0
Coleus .....per doz.			Palms in variety, each	2 6	21 0
Cyclamen ..per doz,	12 0	18 0	Pelargoniums, scarlet, per dozen	6 0	9 0
Cyperus, ..per dozen	4 0	12 0	Poinsettia ..per doz.	10 0	15 0
Dracæna term., doz.	30 0	60 0	Primula sinensis, doz.	4 0	6 0
— viridis, per dozen	12 0	24 0	Roman Hyacinths, per doz.	9 0	12 0
Evergreens, in var., per dozen	6 0	24 0	Solanums....per doz.	9 0	15 0
Ferns, in var., per doz.	4 0	18 0			

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Next Week's Engagements.

TUESDAY, Jan. 1st, 1889.—Sale of Nursery Stock by Sample at Protheroe & Morris's Rooms.

WEDNESDAY, Jan. 2nd.—Sale of Lilium auratum Bulbs, Greenhouse Plants, &c., at Protheroe & Morris's Rooms.

THURSDAY, Jan. 3rd.—Sale of Dutch Bulbs at Protheroe & Morris's Rooms.

FRIDAY, Jan. 4th.—Sale of Imported Orchids at Protheroe & Morris's Rooms.

For Index to Contents & Advertisements, see p. 282.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, DECEMBER 29, 1888.

CURRENT TOPICS.

THE NEW YEAR.—We offer to our readers a very hearty greeting on the threshold of the new year. It is true that one year passes into another as night glides into day, and without unnatural evolution or startling convulsion. Nature hardly knows of years new or old, but she knows of recurring seasons, and her years are rather those which begin with renewed life, energy and beauty, and end with restful decay for the usual period. Throughout the winter Nature seems to exist only—hardly to live. Her days, indeed, are years—the summer, the time of labour and activity; the winter, the night of sleep and repose. Not that Nature ever absolutely sleeps, for even when apparently the most restful, she is active and working, but it is labour unseen, and therefore little appreciated.

Our new year opens in the very midst, as it were, of Nature's night. It is not a cheerful time for its advent, and very buoyant indeed must be the hopes in man, who can find in the early days of black, dull, cheerless January much that is of promise for the better time that is yet remote. To be consistent, our new year should begin with the first of March rather than with January, for just then Nature is awakening from her period of repose, and there is a change imminent for the better if it has not really begun. With March comes the spring time, and the spring is our real opening of the new year. Upon the nature of that spring time also depends much of the successes and failures of the entire year, for if the spring be ungenerous, the year must prove an ungenerous one too. As it is, we must wait patiently for a couple of months, perhaps cold saddening months, ere we may fully rejoice in the real advent of the new year, and with the rest of the world will now offer in all heartiness the compliments of the season to all our friends.

WHAT WILL IT PRODUCE.—How problematical indeed are the fulfilments of hopes, and yet how sanguine may be our anticipations! We have had a couple of rather ungenerous years in those just passed away, the one so hot and dry, leaving the soil parched and thirsty, and the crops thin and sparse; the other its predecessor's antithesis, so wet, cold and wretched was it for much of its best time. If in some respects the cold and wet promoted growth, and perhaps produce, in other ways they proved very harmful, none the less, therefore, both the past years have left behind saddening remembrances. But just for that reason some feel justified in hoping for good things from the new year. Two years of identical character rarely come together, and as we have had the extremes of drought and of moisture, so may we now with propriety look for that pleasant intermediate form of season which seems, when granted, to give us all we need.

It is rare that warmth promotes disaster to crops in Great Britain, but wet and cold invariably do so. If we get warmth with a fair proportion of moisture, then we fall upon a model season; and just such an one do we look for in that which is now opening. Our fruit trees present all those appearances of fertility, which lead to the expectation of an abundant fruit crop. We can go so far as to aver that if the fruit is not forthcoming it will not be the fault of the trees, for they are fully equipped for their work, and if the spring helps, will do it well. As to other crops, we find on the whole that they are, perhaps, as dependent upon ample and properly applied labour as upon seasons; but it should be the aim of the gardener to give that labour the best direction, and thus Nature is helped in the performance of her beneficent work. Without being over sanguine, we do look forward to the new year with exceeding hope that it may prove for all engaged in gardening a period of abundance and prosperity.

A YEAR OF CONFERENCES.—Whether our fruit-growing friends purpose making any stir in regard to fruit culture during the coming year or not, at least it is evident that we shall have the conference ball kept pretty well rolling in other directions. We have already alluded to the Chrysanthemum Conference of the ensuing month, the Rose Conference of next July at Chiswick, the proposed Vegetable Conference of the ensuing autumn at the same place, and now we hear of a Chrysanthemum Centenary Conference to be held also at Chiswick in November—pretty good evidence of horticultural activity. We also reported recently that the National

Auricula and Carnation Societies contemplate similar conferences at their usual exhibitions, and yet more of similar gatherings may be heard of ere the year is far advanced.

The latter conference, which can hardly be otherwise than interesting, would have been a far more promising gathering if held at Chiswick also, but the decrees of the executive have been against the proposal. If the Rose Show and Conference at Chiswick should prove to be the success its promoters anticipate, then we believe there will be less hesitancy on the part of other bodies to follow the example of the National Rose Society. But these conferences mark something more than the year's progress, they evidence an awakening on the part of the horticultural community to the fact that mere exhibtions, however pleasing to our egotism, have not been so helpful as could be desired in promoting a taste for real horticulture. Competitions gratify pecuniary aspirations; conferences may be assumed to satisfy our intellectual needs, or if not fully satisfying, they at least help to that end. We hope the conferences will not be too much occupied with the discussion of hackneyed topics, but rather that they will be made the means of introducing new ideas, and shedding new light upon some of the most interesting subjects in horticulture.

The Hull and West Riding Chrysanthemum Show next year is fixed to be held on November 14th and 15th.

Gardening Engagements.—Mr. Geo. Beaton, gardener at Style Hall, Gunnersbury, as gardener and bailiff to Spencer Chadwick, Esq., Highfield, Shoreham, Sevenoaks. Mr. C. J. Mills, for some time foreman at Dropmore, Bucks, as gardener to Colonel Pole-Carew, Antony House, near Devonport. Mr. C. Martin, foreman at Holker, Lancashire, as gardener to Lord Dacre, at Kimpton Hoo, Welwyn, in succession to Mr. Merritt, who is going into business at Harpenden.

Grand Horticultural Exhibition at Berlin.—An exhibition of great extent is to be held at Berlin for the advancement of horticulture in the Prussian States. A provisional programme has been drawn up stating that the exhibition will be opened on the 25th April, 1890, and continue till the 5th of May following. It comprises horticultural products of all kinds, plants, flowers, bouquets, trained fruit trees, pomology, market garden culture, plans of gardens, architecture, and garden sundries; also scientific horticulture, including morphology, anatomy, physiology, microtomy, fungology, the science of fruits, the geography of plants, and horticultural literature. In all, there are classes for no less than 950 kinds of exhibits.

Proposed International Centenary Chrysanthemum Show in Edinburgh.—A meeting of the Council of the Scottish Horticultural Association was held on the 13th inst., to consider the propriety of holding an International Centenary Chrysanthemum Show next year, under the auspices of the association, in Edinburgh. It was unanimously decided to proceed with the project, and that a three days' show should be held in the Waverley Market in November next. It was further proposed that a guarantee fund should be opened in support of the undertaking, towards which a sum of about £60 was subscribed by the members of the Council present. A small committee, consisting of Messrs. Robertson Munro, secretary; McKenzie, treasurer; D. P. Laird, and M. Todd, was appointed to conduct preliminary matters, and a meeting of the Council was arranged to be held on an early day to receive its report.

A New Zealand Moss.—Mosses of various kinds are found useful in garden economy, but seldom do gardeners take the trouble to grow them specially for decorative purposes as they would a filmy Fern, a Selaginella, or even a Club Moss. That under notice is a true moss, namely Hypopterygium filiculæforme. Both the generic and specific names will, no doubt, by the gardening fraternity generally be considered rather cumbersome and unpronounceable. The plant itself is, however, neat and interesting, resembling as the specific name implies, a little Fern. The main stem rises to the height of some inches, and from this point short branches are given off, radiating all round in one plane, as if it were a peltate frond. The small leaves are in three ranks, but one of them is much smaller than the other two, which give the little branches a finely pinnate appearance. A plant may be seen in one of the filmy Fern cases at Kew.

New Pears.—It may be considered by many growers that we already have a sufficient number of Pears in cultivation. More attention is given to the raising of Apples, or of obtaining new kinds in this country; but on the Continent, as well as in America, new varieties continue to be raised. Some half-dozen kinds are described in the *Bulletin d'Arboriculture, &c.*, for November; but although the half of them are described as of first-class quality, and the remainder have also some qualities to recommend them, none of them possess a property that is very desirable in this country at present, namely, that of keeping in good condition till Christmas, or onwards into spring. Some of them have been raised from seed of Williams' Bon Chrétien, and, as might be expected, ripen very early. Those that keep longest do not extend the season beyond October or November. But as early and mid-season fruits, they may equal or even excel some of the sorts already in cultivation for quality, judging from the descriptions.

Cypripediums.—Within the last ten years or so the increase in the number of forms of this genus has been something remarkable. Some five years ago the number of species, including Selenipediums, was set down by our leading authorities at fifty, with the statement that some of them were scarcely distinct—that is, they were not all good species. Before 1878 the number of species, varieties and hybrids recorded in gardening books was about eighty. Now we have before us a catalogue issued by Messrs. J. R. Pitcher & W. A. Manda, The United States Nurseries, Short Hills, N.J., which is entirely devoted to Cypripediums, which these gentlemen believe to be the coming flower for greenhouse and stove collections both in Europe and America. Taking species, varieties and hybrids together, they enumerate 358, giving the native country of species and varieties and the parentage of hybrids. In these respects the catalogue would be a useful one to collectors generally who are interested in the history and cultivation of this beautiful class of plants. Those that are named as varieties have been imported generally from the same country as the type, and by way of illustration we may mention that under C. barbatum twenty-four varieties are recorded, twenty-four under C. insigne, nine under C. Spicerianum, and five under C. venustum. Under the hybrid C. Harrisianum fifteen other hybrids, obtained from it as one of the parents, are given.

Fruit Culture in the Australian Irrigation Colonies.—We learn from the *Adelaide Observer* that an English nobleman, the Earl of Ranfurly, has become a large landed proprietor at Mildura, and speaks confidently of a great future for the Australian irrigation colonies. With those who are interested with him in the development of these colonies he has already planted about 30,000 vines, 950 lemon, 1,500 apricot, 500 fig, and 4,000 orange trees, and next year they hope to go in more extensively in the same direction. Lord Ranfurly has gone to California in order to see the irrigation colonies there and their mode of cultivation, and also with the object of procuring fruit-trees never yet introduced to Australia. He will subsequently visit England, and hopes to return to Mildura next May. His intentions then are to stay in Australia for a few months, and after increasing the area of land leave a partner or another of his acquaintances to manage the business.

Plant Leaves and Sunlight.—At the usual monthly meeting of the Manchester Horticultural Improvement Society, held on the 20th inst., Mr. A. Stansfield presiding, Mr. W. Birkenhead, of Sale, read a paper on the function of the leaves of plants and trees under the influence of sunlight. He said that the leaves of plants in the aggregate constitute the workshop or factory in which the sun does the great work of forming out of crude materials all the floral beauties which delight the eye, all the fruits which give pleasure to the palate, and the perfumes which make the air delightful to breathe. He went so far as to say that the activities of life would cease if vegetation were swept off the earth, and nothing were supplied to take its place. To put the matter in another form, if, through the absence of sunlight, the function of leaves were permanently stopped, human existence would soon be a thing of the past. Mr. Birkenhead discussed his subject in a very exhaustive way, and, in conclusion, expressed a hope that the result of their meeting that evening would lead to that respect for the foliage of plants which their importance entitled them to. Messrs. W. Plant, W. Elkin, W. B. Upjohn (honorary secretary), and Hadfield joined in the discussion which followed. At the next meeting of the society, on January 10th, Mr. R. Tait, junior, will speak of Liliums and Cyclamens.

The Midland Counties and Birmingham Chrysanthemum Society.—The annual dinner of this society took place at the Bell Hotel, on Tuesday evening, December 18th. The chair was occupied by Mr. Latham, the much-respected curator of the Birmingham Botanical Gardens, who was supported by upwards of fifty members and friends, among the visitors being Mr. R. Parker, of Impney, the champion Chrysanthemum grower of the Midlands; Mr. J. R. Petch, of Worcester; and Mr. Alfred Outram, of Holloway. The toast of "The Society" was proposed by Mr. Outram, who, in a few well-chosen words, congratulated the members upon the great success which attended their exhibitions, the management of which reflected great credit upon all concerned. The shows were highly appreciated by the Birmingham public, and he trusted that they would continue to be supported in the future in the same liberal manner. Messrs. Cooper and Dyer responded for "The Exhibitors," and the latter gentleman proposed "The Officers of the Society," coupled with the name of Mr. Hughes, the energetic secretary, and Mr. Jones, the treasurer. Mr. Hughes stated that it was the intention of the executive to give a handsome prize for cut blooms of Chrysanthemums next season, in the hope of inducing the southern and northern growers to compete. Mr. Walter Jones, the treasurer, read a statement with reference to the financial affairs of the society, and it was gratifying to hear that there was a balance on the right side. "The Nursery and Seed Trade" was proposed by Mr. Cooper, and responded to by Messrs. Pope and Spinks; and Mr. Pope proposed "The Earliest Promoters of the Society," which was responded to by Messrs. Gilbert and Lea, who were among the first to assist in establishing the society upwards of thirty years ago. "The Visitors" was proposed by Mr. Redfern, and responded to by Mr. J. R. Petch and Mr. Sydenham. "The Chairman and Vice-Chairman" was proposed by Mr. J. Crook, and both, in replying, spoke most hopefully of the future prospects of the society.

The Glasnevin Botanic Gardens.—We learn from the report of the curator, Mr. F. W. Moore, for the year 1887, which has only recently been published, that there was a decrease of 10,170 in the number of visitors in that year, as compared with 1886. Compared, however, with any one of the ten years preceding 1886, there was a substantial increase in both Sunday and week-day visitors during 1887. Of the total number of visitors, amounting to 362,634, 19,780 were present at the musical promenades.

NEW VEGETABLES.

Possibly because so few opportunities offer to exhibit their powers—perhaps because just then in a fit of good nature—certainly the Fruit and Vegetable Committee of the Royal Horticultural Society seemed to confer a favour with indifferent cause when it gave a Certificate of Merit, at the last meeting, to a vegetable called Asparagus Chicory. So far as I can learn, this same vegetable is but the ancient Chicory, or Succory, of gardens—an edible product which had its reputation ere the fine garden vegetables of more recent years had elbowed out the astringent plants which were in great request 100 years ago.

Chicory was then grown largely, and blanched as we should Sea Kale, and consumed. Thus treated, the astringency of the leafage was corrected, and the product was, as vegetables then went, very good; but we do not now require to equip our dinner tables with the tops of Nettles, the blanched leaves of Dandelion or Chicory, or the acid leafage of Sorrel. We have fallen upon better times and products, and it does seem as if we had a hankering after the days of semi-civilisation, when we give a Certificate to the tops of Chicory. It was rather odd also, that whilst the committee invariably require of any new vegetable that it shall be tried at Chiswick first ere the Certificate be granted, that in this case the Chiswick experience, which was in direct opposition to the committee's opinion, should have been disregarded.

In your notice of this Chicory, you say that whilst its roots can be obtained for forcing purposes, those of Dandelion cannot be so procured. Permit me to ask, Why not? Dandelions seed abundantly, and if sown in a bed of good soil as soon as saved, and the seedlings properly thinned, will give an abundance of roots the following winter to lift for forcing. Happily, we do not want such a vegetable. All the world caters for us in the matter of vegetables, and there is little need for us to revert to the crude garden products of our forefathers.—*A. D.*

PELARGONIUM, SAM JACOBY.

Some growers have a great objection to dark crimson-flowered varieties of Zonal Pelargonium for bedding-out purposes, but by far the larger majority of gardeners are evidently of a different opinion, judging from the popularity of the now well-known Henry Jacoby, which is very extensively used, both in private establishments and in the public parks. The floriferous nature of the variety, and the persistency of the flowers during rainy weather, accounts, no doubt, largely for the popular favour which it enjoys. Sam Jacoby is in several respects an improvement upon the older variety, and will, no doubt, take its place for bedding purposes when it becomes known to the gardening fraternity, and gets distributed throughout the country. The trusses are of great size, and borne well above the foliage, displaying their large circular flowers to the best advantage. In colour they are of the deepest crimson, almost black, especially when fading, and remain in perfect condition upon the plant for a great length of time, where the bulk of them wither rather than fall away, at least when grown indoors. In this respect it will be a great boon to those who plant out Pelargoniums largely in summer, as it will be the gayest in wet seasons, when other kinds merely exhibit foliage. It is also useful for winter flowering. We give an illustration of a truss, and are indebted to Messrs. H. Cannell & Sons, Swanley, for the opportunity of doing so.

Pelargonium, Sam Jacoby.

ANTHRACITE COAL.

I have used this coal and find it much the best for horticultural purposes where there is a good draught to the furnace. Unfortunately in many places such is not the case—houses, stoke-holes and furnaces being thrown together without any regard to convenience or the economising of fuel or labour. When I was a young gardener I had frequently to sit up night after night during frosty weather to keep up the fires, owing to the furnaces being badly constructed and also in inconvenient places. A furnace can be so built in every instance as to secure a good draught if a little care is taken in the matter. In cases where there is a bad draught Anthracite is perfectly useless, but if a good draught can be secured, no matter how the boiler is constructed, Anthracite will be found the best fuel for heating, besides being clean and lasting; and although it seems to be high priced, yet its lasting properties make it cheaper in the end. A good fire if made up carefully at eleven o'clock at night in a reasonable-sized and well-constructed furnace ought to last until the usual working time in the morning, which is a great advantage, because if a man is obliged to sit up a great part of the night he is not fit for much work during the following day.

The heating power of Anthracite is much greater than in ordinary coal and coke, and no doubt this will sometimes have the effect upon the fire bars described by your correspondent, Mr. J. Peebles, at p. 248, but I have used it in stove furnaces where constant firing has been necessary, and I find the bars generally last three or four years. I cannot think that burning up a few bars in a shorter time than usual should be an argument against using this coal when we consider its superior advantages, as fire bars are cheap and a few could be kept in stock to replace those which are burnt out. Considering the superior advantages to be gained by using Anthracite, I must add my quota to the verdict in its favour.—*Alfred Gaut.*

HARDY ORCHIDS.

The Time to Plant.

As the present is about the best time to plant hardy Orchids, I might be allowed to draw the attention of lovers of garden plants to the value of some of the tried species as decorative subjects. The Madeira Orchis (O. foliosa) can hardly be matched as a strong-growing, free, and beautifully-flowered plant. It only requires rough peat, and a rather damp and shady situation, and all will be right. The North American O. spectabile, and the European O. undulatifolia, not to mention many of our native species, are all readily enough managed and very floriferous. Then amongst the Cypripediums we have such lovely species as C. spectabile, with its big pretty white flowers; C. pubescens, C. acaule, C. candidum, pure white; as also the curious and rare C. macranthum and C. arietinum. Bletia hyacinthina I have found to be easily enough managed out of doors; it is a pretty plant, with grass-like foliage and bright showy blooms. Goodyera pubescens and G. repens succeed well in leaf-soil and sand if planted in not too sunny a position.

Three species of Serapias have likewise done well in my garden—viz., S. lingua, with a long blood-red tongue, S. neglecta, and S. longipetala. They are all the better in a warm and sunny position, and do well amongst peat and old lime rubbish. The large-flowered Helleborine (Cephalanthera grandiflora), and the Marsh Epipactis (E. palustre) are highly ornamental plants, the latter succeeding best in damp, almost marshy ground, and the former in sandy loam. Many other hardy Orchids might be named that would be very suitable for the herbaceous border or chinks of the rock-work; but for ease of culture and beauty of bloom, the above are of particular value.—*A. D. Webster.*

WHAT CONSTITUTES A GARDENER?*

The title of my subject I put in the form of a question; first, on account of the difficulty of giving an exact definition; and secondly, with a view to invite discussion, rather than to hamper you with hard and fast rules, or unalterable dogmas, on the requirements of a gardener, which never were, nor ever can be, absolutely identical. The history of gardening has been one of continual change, if not always of improvement, and it is this change that demands of the gardeners of all civilised nations, and particularly of British gardeners, that they shall be abreast of the times if not actually in advance of them. Whoever undertakes the profession of gardening without reflection, does so without considering the importance of the duty, to the injury of the cause as well as his own. Some are born gardeners, that is, with an innate love and faculty for the occupation; others are made gardeners from the force of circumstances, but a large proportion do but swell the ranks that would be stronger without them. I do not urge, as some pessimists do, that gardening, as a profession, has more to answer for than other occupations; but its attractions are so great that overcrowding becomes inevitable with the increase of population.

Reasons for Joining the Profession.

These are multifarious, as are its thousands of followers; but no doubt the most tangible and potent is that the would-be gardener may earn a livelihood, just as the Englishman, speaking from a national point of view, is said to fight in order to better his position, and the German to make a living. Although the selection of an occupation may be one of absolute choice, yet it does not always follow that the move may prove a happy one. Voluntary choice is, however, to be recommended. On the other hand, parents are responsible for it, in the majority of cases with a laudable object let us hope; but there are instances where they made the choice because the vocation was a respectable one, and again because they believed gardening was an easy occupation, in plain speaking, a lazy one. It cannot be denied that the attractions of flowers and fruits in a well-kept garden are weighty inducements to the youthful mind; but these taken independently of a consideration of the labour necessary to produce them, almost verges on sentimentality. A most reprehensible inducement to young men is an engagement to let them off after serving two years' apprenticeship, flooding the labour market with raw youths who have learnt little, and sometimes have not had the opportunity of acquiring even the elements of their profession. These men often make the most precocious of gardeners (so called), and in many cases desire to undertake the duties of a head gardener by the time they have completed their apprenticeship, or soon after.

Requirements of a Good Gardener.

These practically mean a thorough knowledge of the whole art of gardening; and the more we study the subject, the more does it become apparent that all true gardening depends in a greater degree upon brain work than upon mere muscular strength. It is a great mistake to imagine all men gardeners who arm themselves with a spade or a pruning knife, or who stand by the potting bench, disguised as knights of the blue apron. Tools are but implements in the hands of the operator, calculated to do a great amount of good or an equal amount of mischief, according to the skill or knowledge of those who wield them. There is nothing in digging, systematic pruning, and mere routine gardening, which a handy labourer may not acquire; but to prune with discrimination and forethought, to know the why and the wherefore, means something more than rule-of-thumb practice will ever impart.

Above all things, it is necessary that a man should have a liking for gardening before he undertakes it, and that he should at all times be actuated by a spirit of inquiry, in order that he may make himself acquainted with all matters pertaining to his profession. The life of a real gardener is one of continual thought, reflection, and aggressiveness against enemies of all kinds that are constantly making inroads on his domains, or of battling with the elements in order to insure the safety of his crops. He requires a knowledge of botany in several of its more important branches, such as descriptive botany, in order to make himself intelligible to his fellow men when he wishes to communicate with

* A paper read before the Chiswick Gardeners' Mutual Improvement Association, by Mr. John Fraser, November 11th, 1888.

them, either in writing or orally, concerning certain plants or certain observations which he has made; also systematic botany, so that he may ascertain the affinities of plants with regard to the processes of cross-breeding and hybridisation, as well as the cultural treatment necessary for particular groups of plants; and physiology, so that he may become acquainted with the requirements of the subjects under his care, including food, temperature, and hygienic principles, of which proper exposure to light and air are all important; and lastly, geographical and economical botany should not be beneath his notice.

To the general cultivator, a good knowledge of chemistry as applied to horticulture is of inestimable value if he desires to excel or rise in his profession. It is not sufficient to know that his garden ground contains the elements that constitute a rich soil, when the fact remains that those elements may be locked up in an insoluble condition in the soil, which requires particular treatment in order to hasten those chemical changes that under natural conditions take place but slowly. The question of artificial manure is an important one which no modern gardener should neglect or ignore. Certain crops derive great benefit from certain kinds of manure, some of which should be applied at a particular time or at a particular stage of the crop.

Geology is in some respects allied to the subject of chemistry, inasmuch as both relate to soils and the plants to be grown upon them. A knowledge of the different rocks or formations of the earth's crust would be serviceable to an intelligent cultivator, inasmuch as they have a direct influence upon vegetation where each respective kind comes to the surface. Many kinds of plants will grow upon various soils indifferently, while others are specially adapted for certain soils only. An acquaintance with these matters is most desirable. Draining—a most important operation in horticulture as in agriculture—is intimately connected with the subject of geology, as the nature of the soil and the particular dip or direction of strata have a direct bearing upon the direction that drains should take, their depth and distances apart.

It is necessary to know something of meteorology to give an idea of the best time to sow, to plant, and to expose tender plants to the mercy of the weather. Some acquaintance with fungology and entomology would be of immense assistance in enabling a gardener to cope successfully when possible with those enemies to plant life. Other 'ologies arise, such as ornithology, pathology, and pomology; but I have no desire to frighten you. There is some utility in a knowledge of drawing and geometry, notwithstanding the so-called witty but harmless jokes of prejudiced men. A gardener should be able to take measurements of a garden or parts of it, to lay out a flower garden, a fruit or kitchen garden, to make beds or designs, make drawings of them on paper, or be able to transfer them from paper to the ground, so that except in the case of parks, pleasure grounds, or large and complicated designs, the aid of a specialist or landscape gardener would not be required. Is it any more to expect such ability in a master-gardener than it would be in a carpenter, builder, or engineer to be able to furnish plans of whatever they undertake?

The master operations in gardening, such as pruning, grafting, budding, propagating, sowing, watering, ventilation, the hastening or retarding of vegetable growth, the development of flowers or the maturation of fruit, all point to the fact that a gardener, in order to meet the exigencies of his occupation, must be a great and continual thinker, and always be able to give a reason for what he does. Fruit or vegetables have to be ready by a certain time, and not only so, but a continual supply of many things is demanded of him by his employer.

If all these subjects are actual requirements of a good gardener, young listeners will be apt to exclaim, "Who then can be a gardener?" or that no one can be so without a college education. The observations are intended merely to call attention to the fact that all good gardening is conducted or guided more by the development and outcome of brain faculty than mere muscular power. He that would rise superior to the condition of a mere labourer and be worthy of the name of gardener, must not neglect self-improvement, nor the development of the reasoning faculties in the above-mentioned subjects.

It is true that a greater length of time is necessary for a gardener to acquire a knowledge of his profession than in the case of most other occupations, but a college training is not an essential feature at all. Insurmountable and difficult as the above sciences may appear, they may be attacked singly and overcome in detail. Few, if any, will master the whole of them with any degree of thoroughness; but a wonderful amount can be accomplished by the man who is actuated by a spirit of inquiry and gives it close application. One or two subjects is quite sufficient for a gardener to study during the winter months of one year, during which time he should give them as close and regular attention as the stated duties of his occupation will allow. His attention to any one subject need not terminate with one winter's study, but be continued as occasion may offer, or in proportion to the service the same is likely to be to him in after years. *(To be continued.)*

SHELL DUST.

The compound which I exhibited at the recent meeting of the Royal Horticultural Society, and to which reference is made at p. 240, was sent me by one of our East Coast pilots, a class of mariners, who, more amphibious than other seamen, yet present one of the most valuable elements of our nautical life. This mariner wrote me such information as I was enabled to give concerning the shell dust, from on board his pilot boat—rather odd conditions under which to deal with gardening subjects. The communication included a promise to send particulars when he returned to land, and some further information has come to hand.

I learn that sea-weed, as well as shells, are calcined in the kiln, which is of a home-made character, the material produced never having been offered for sale, but used solely by the manufacturer in his own allotment ground, especially with Asparagus and Sea Kale, and by his neighbours, all of whom seem to find it to be a valuable manure. The rough siftings from the dust are used for poultry runs, as it seems to be a fine thing for fowls, helping them to produce eggs. The very finest dust obtained from the harder shells is believed to be a valuable compound in the manufacture of the best pottery; but that may be only supposition. To produce such shell flour, however, takes considerable time and labour.

My informant states that his neighbours not only hold the shell dust in high esteem as a fertiliser, but also think it a protection from Potato disease, but, of course, on that head I am sceptical. Soft shells make lighter bulk of calcined dust; hard shells give the heavier bulk, and probably also the greater percentage of nutritive properties. The manufacturer purposes keeping soft and hard shell dust separate henceforth, and testing each kind as manure. He offers to send me a bag of the material for trial as manure, and I purpose asking Mr. Barron to give it a fair test at Chiswick during the ensuing summer.—*A. Dean.*

THE ROYAL HORTICULTURAL SOCIETY.

Dates and Places of Meetings, 1889.

January 15, Drill Hall.
February 12, Drill Hall.
March 12* and 26*, Drill Hall.
April 9* and 23,* Drill Hall.
May 14*, Drill Hall.
May 30 and 31, Temple Gardens.
June 11* and 25*, Drill Hall.
July 2, 3 and 9, Chiswick; 23,* Drill Hall.
August 13* and 27, Drill Hall.
September 17, Drill Hall; 24, 25 and 26, Chiswick.
October 8* and 22*, Drill Hall.
November 12 and 13, Chiswick.
December 13, Drill Hall.

* A short popular Lecture will be given at 3 p.m.

The Fruit and Floral Committees meet on the above dates at 11 a.m., except May 31, July 3, September 25 and 26, November 13.

The Scientific Committee meets at 1 p.m. in the Library on the above dates, except May 30 and 31; July 2, 3 and 9; August 13 and 27; September 17, 24, 25, and 26; November 12 and 13.

The Annual General Meeting will be held in the Library on February 12 at 3 p.m.

National Auricula Society's Show, April 23, Drill Hall.

Great Summer Exhibition, May 30 and 31, Temple Gardens, E.C.

Great National Rose Conference, July 2 and 3, Chiswick.

Chiswick Flower Show, July 9, Chiswick.

National Carnation Society's Show, July 23, Drill Hall.

Great Vegetable Conference, September 24, 25 and 26, Chiswick.

Chrysanthemum Centenary Conference, November 12 and 13, Chiswick.

GARDENING NOTES FROM IRELAND.

The Weather.

The extraordinary mildness of the weather at this season is the subject of general comment, and its effect on flower and vegetable growths is most remarkable. For the last two months I have seen many of the garden varieties of Primroses partially in flower, but just now they are abundant, and even the common ones of the hedge-rows are to be frequently met with in well-sheltered positions. Pear blossoms, and even diminutive fruits, have been pointed out to me in gardens; and I saw to-day a Pear tree, that was pruned a few weeks ago, pushing buds and developing leaves on several parts of it; also, in a sunny well-sheltered spot, a plant of white-flowering Syringa bearing a lot of opening flowers upon it. Chrysanthemums, too, where grown on walls or out of doors, are still giving a supply of blooms. Such varieties as Madame Lacroix, Peter the Great, King of Crimsons, and others, are showing and opening blooms well. There are other instances of plants flowering out of their usual season, which I shall allude to in their proper place.

As regards vegetables, a very general thing has occurred with Cauliflowers intended for use at the present time; they were fit to cut, but in ill-grown condition, long before they were wanted; and Lettuces, Spinach, &c., is as forward in growth now as is usually the case with them in the spring months. In all this, however, I think there is nothing more remarkable than the very premature way in which the various varieties of Christmas Rose have flowered.

Helleborus niger.

Where it used to often occur that these would not be seen flowering until after Christmas, the best of their flowers are gone before that time; and stranger still, the section known as Lent Lilies, and which usually bloom from February to May, are now beginning to show flowers. Of the class of Hellebore which produce their flowers on stems there are numerous named varieties, and a large collection of seedlings of the same kind, at the Glasnevin Botanic Gardens. Among them are some exceedingly interesting plants, all flowering freely, and with stems and foliage reminding one of well-grown herbaceous Pæonies. The form and colours of these seedlings were very various, and ranging in colour from pink, white edged with pink, pure white, green, and white centred ones with purple or green edges. As another indication of what Christmas weather is around Dublin, I may mention the hybrid perpetual

Roses.

In numbers of gardens where there are collections of these, flower buds are plentiful, and on two large beds in Glasnevin Gardens, I noticed, on the 21st inst., a numerous lot of buds and half expanded flowers. While many of the plants had lost most of their foliage, others were still retaining a good deal, and on these, among which I may mention such varieties as Dupuy Jamain, Jean Cherpin and Madame H. Jamain, the half-opened Roses looked well. In other respects the season is a most unusual one, as never before, I believe, has the pastures been covered with such a growth of grass, and it may well be asked, as many are doing, if this expenditure of growth now, means a correspondingly poor return next year from an overworked soil.

Orchids.

There are, for this season, a good number of Orchids in flower at Glasnevin, chief amongst them being some good forms of Cypripediums. These are C. venustum pardinum, C. Haynaldianum with its beautifully brown-blotched sepals, which are almost transparent and thrown out widely; C. Dormanii, said to be a hybrid of C. Pearcei and C. caudatum; C. nitens, a cross from C. villosum and C. insigne; C. Spicerianum and C. callosum. There are a few good plants of Lælia anceps, one of them carrying eight spikes and looking in robust health. There is a small plant of Trichopilia nobilis, with two beautiful white flowers; these look showy, but its great value consists in the lovely perfume it exhales, the surrounding atmosphere being strongly impregnated with it. Then there were Lycaste Barringtoniæ (var. grandiflora), L. lanipes, L. Skinneri, Oncidium incurvum, O. tigrinum, Houlletia chrysantha, Cymbidium Lowianum, and various Calanthes, conspicuous amongst the latter being C. vestita rosea, which looked very gay. Without giving the names of others flowering just now, and which must be regarded amongst Orchid collections as

an acquisition, I should not pass over two Odontoglossums—O. Insleayi and O. leopardinum—both of which are handsome-blooming Orchids.

Berried Hollies.

Not for many years have I seen Hollies weighed down with such a weight of berries. The ambition for berried holly, which most householders use at Christmas time for house decoration, ought to be fully satisfied this year. The profusion of berries is general, and less harm has been done to the beauty of trees than is usual. This, of course, is due to the absence of severe weather, and the consequent abundance of food which birds can otherwise obtain. Glasnevin has got its full share of fruiting Hollies, and being treated in most cases as single plants, their beauty, as they stand alone on the well-kept grass, the branches bending down with their burdens of highly-coloured berries, can just now be well understood. I think I may add that at the present time no other hardy berry-bearing plant can approach the Holly in its decorative appearance.

St. Brigid Anemones.

I have had many inquiries lately as to where seeds of the St. Brigid Anemones can be obtained, and from what I can learn the persons with whom the strain originated have disposed of the seed supply to a London firm of seedsmen. Now, if these Anemones are desirable to have, and I know of many people so wishing, I think it would not be too much to ask the holders of the stock to give some intimation as to where they can be procured, as well as price, &c. I have no doubt their cultivation would increase rapidly if people knew where to obtain them.—*W. D.*

FERNS: FROM SPORE TO TREE.*

(Concluded from p. 265.)

We have another form that is sterile, or produces no spores. In this case the pinnules have over-grown themselves. To such an extent is this carried in Scolopendrium vulgare var. crispum, that the margins become beautifully undulated, thus forming, when well grown, one of our prettiest varieties of British Ferns. Other instances of this occur in Polypodium vulgare var. Cambricum, and also in Adiantum tenerum var. Farleyense. In the latter case I can show you specimens under the microscope on the table, where at least the indusium is formed, and under which I have been able to detect a few sporangia; but the specimen is in too young a state to say that they would ever reach maturity. I am one of those who think it quite possible that the plant under favourable cultivation will reproduce itself from spores. The pinnule which I exhibit, showing the indusium, presents no sign of becoming contracted or smaller as in A. tenerum, and on that account I am inclined to believe it to be a species, and not a variety of A. tenerum.

If we now turn to the roots and stems we shall find a great many different forms. In the Hymenophyllum, as the plant grows, it forms thread-like branches or rhizomes, and as these rhizomes grow the fronds are given off singly along them. In the common Polypody we have another creeping rhizome, only much thicker, from the upper side of which the fronds are given off, and the roots from the under side. In Lastrea Filix-mas we find a different form of stem. The fronds are produced from a crown in a tuft, and even should the plant live to a great age it grows very little in height. The tallest stem I have seen of this was about 1 ft. high; and no doubt the situation in which it was growing had much to do with this. The plant was the most luxuriant I have seen of this species, the fronds reaching above my head. The situation was a tiny island in a mountain brook. This kind of stem is generally called a caudex. This caudex attains a considerable size in some species. In Cibotium Barometz it rises out of the ground supported upon its rootlets, and the plant has been described as a vegetable sheep growing on a stem, and devouring every other species existing within its reach. In the Tree Fern the caudex grows upright; and in most of the species adventitious roots are given off, which grow and interlace with each other, thus helping to thicken and strengthen the stem.

Ferns have a wide distribution, and are to be found almost in all places where vegetation exists; but it is where we have a moist warm atmosphere that they attain the largest dimensions. They are to be found in all manner of places—from the hot swampy grounds of the tropics to the dry arid heaths of our own country, on old walls, in the rich loam by the running brook, in crevices of rocks, or it may be by the waterfall, where the fronds are kept wet by the falling spray. Such a sight is always beautiful, even in winter, when the icicles are to be found hanging from the fronds.

Tree Ferns form, in their native country, one of the most interesting and beautiful features in the landscape. At home we have to content ourselves with them under glass, except for a few months during the summer, when they can be very effectively used in subtropical gardening. Some of the sights presented by tree Ferns, as arranged in some of the large conservatories throughout the country, are by no means to be despised. They give to us, who have not the opportunity of seeing them in their native habitats, a good idea of the imposing feature they present there. More especially must this be so when we bear in mind that they are to be found varying in height from a few feet to 40 ft. or more. But although we have not now the tree in this country to enrich the landscape, it was not always so; for if we turn to our rich coalfields, we shall find that there the tree Fern plays an important part. There we find what at one time must have been vast forests of tree Ferns. In some seams of coal in the west midland counties, we find that the coal is almost entirely composed of Fern spores. These spores must have withstood the action that entirely destroyed the stems and fronds.

Ferns owe their popularity to their chaste beauty, as their economical uses are neither extensive or important. The pith of Cyathea medullaris is, however, eaten by the New Zealanders. The stems of Pteris aquilina, P. esculenta, Calliopteris esculenta, as well as the tuberous roots of Nephrolepis tuberosa have been used for food, but generally when nothing better was to be obtained. The scales of Cibotium Barometz are used for stopping hæmorrhage in wounds, also for stuffing cushions and beds. The rhizomes of Pteris aquilina are, when ground to a powder and mixed with a little barley meal, used for food by the people in some of the Canary Islands. The fronds also afford a considerable quantity of alkali by burning, and in some places their ashes are made into balls and used as a substitute for soap. Lastrea Filix-mas has the reputation of being a good remedy against intestinal worms. The common Adder's-tongue (Ophioglossum vulgatum) is gathered by the country people for making adder's-spear ointment, which is considered a good remedy for recent wounds. The Royal Fern (Osmunda regalis) is used as a rustic vulnerary and as an application for sprains and bruises. The Maiden-hair (Adiantum Capillus-Veneris) is employed by confectioners in the form of capillaire.

In conclusion, I would strongly advise all young gardeners and those interested in Ferns, who wish to become acquainted with the peculiarities of the different species and varieties, to adopt the plan of drying specimens for the herbarium. These specimens when nicely mounted on white paper form an interesting collection; and by having to handle them so often in the drying, mounting and labelling, one becomes thoroughly acquainted with the specimens. In labelling do not forget to state where the specimen has been found (if collected in a wild state), as this adds considerably to the interest of the collection. A most interesting collection of Ferns may be had without having recourse to the cultivation of the plants at all. We in this neighbourhood are not favourably placed for collecting wild specimens; but those who are, have a splendid field of recreation open to them. As an example of the interest I took in collecting at one time, I may state that I once travelled sixty miles to find Lastrea æmula; I was ten miles from where it was said to be found, and I travelled the distance three times before I discovered it. Even then I considered myself amply recompensed for my trouble. What a sight was before me! I can picture it to myself even yet. The situation was a deep ravine, the banks on both sides being clothed with luxuriant masses, which recalled to my mind at the time, Todea superba. The banks were dripping with water, and shaded with trees; the sun was just about setting, sending its mellowed rays through the branches, thus causing the drops of water which hung from the Fern fronds to sparkle and glitter like diamonds in an emerald setting. I would fain have lingered at the spot, but darkness coming on reminded me that I had better get what specimens I wanted, and again seek my way home. In that district, the Campsie Falls in Stirlingshire, I collected thirty-two species and varieties of the British Fern, Amongst the rare varieties I found were Lastrea montana var. truncata and Athyrium Filix-fœmina var. euforme Wrightii, which was new. I may say that in those excursions in search of Ferns I derived much pleasure and instruction. I have sat by the waterfall and seen Asplenium viride enjoying the shower of spray from the falling water, and I have seen the Parsley Fern (Allosorus crispus) growing by the acre, and many other scenes and plants which I should never have witnessed had it not been for those excursions in search of specimens. In all my travels in search of specimens and uncommon-looking plants, those that I could not satisfactorily make out were put in the vasculum, and after another examination when I got home, if there was still any doubt I had them potted, and grew them on to see if they would retain their character. I was by this means able to learn the effect the situation had upon the character of the plant.—*Alex. Wright.*

NOTES FROM SCOTLAND.

Notes on Plant Culture.—The advantage of glass structures which are capable of admitting a maximum of light is very apparent in the short dull days of mid-winter, more especially to those who are expected to keep up a constant supply of cut flowers; and in no department of horticulture is the modern glass structure more appreciated than for the cultivation of plants for the purpose indicated. With the assistance of a little warmth in the hot-water pipes, quite a show of bloom (as I have overheard it called) may be secured at a time when it is most highly valued. With good cultural advantages, the difficulty as to such plants as Primulas damping off is reduced to a minimum. Cinerarias, if wanted early, can be readily got into bloom if sown at the right time, and early Camellias are to be had with but little forcing. Then such a magnificent floral treat as zonal Pelargoniums in full bloom at the shortest day in the year, it is not too much to say would be a reward in themselves to any garden proprietor, for erecting a house specially for their cultivation. Some of the most popular flowering varieties have done good service since the end of October.

Liquid Manure for Ferns.—In the rage for decorative materials at this festive season, Fern fronds of the Adiantums are generally in brisk demand. Besides abundance of light, which in winter especially is an important factor in producing fronds of good substance, I have noticed that after a few applications of weak guano-water there was a perceptible improvement in the vigour of the plants. The varieties to which the guano-water was applied were Adiantum cuneatum, A. gracillimum and A. Williamsii, the latter variety having made remarkably vigorous growth within the last eight weeks. This plant, which I have had for only a year and a half, and then only a weakling in a 5-in. pot, will be ready in spring to shift into an 8-in. size. Regarding the general merits of this noble Fern I can only call attention to the papers referring to it in a recent issue of The Gardening World.—*Western.*

Rhubarb Forcing.—Tastes vary much as to the quality of Rhubarb when forced, some preferring that which is grown in the dark and gathered before leaves are formed. The colour, when of a deep crimson, is valued; but I think that the best Rhubarb at this season is gathered from roots which have never been in a dark position or away from the light at all, but placed in full sun, where air can be admitted at pleasure. In market establishments where I was employed for many years ago, to force all kinds of produce for Covent Garden, Rhubarb was an item which received special attention, and every conceivable space which was vacant and could be spared was filled with Rhubarb roots. Where a quantity of Pine Apples was cut, the plants would be cleared out, and Rhubarb roots packed closely together over the fermenting material (warm tan), when in a short time—about twenty days or so—plenty of Rhubarb could be gathered. Under stages in stoves, intermediate houses, and greenhouses, successions were brought forward. Where Vines were started early, with a bed of fermenting material along the centre of the house, Rhubarb roots were quite at home, and did grandly in such positions. Though there was a deal of land connected with this London market concern, Rhubarb was never forced outside. Plenty of horse manure was always at command, but it was valued too much for the thousands of Gardenias, Pines, and other valuable productions raised than to cover pots of Rhubarb in the ground. Victoria was the kind chiefly raised for market at that time; but for first gathering—say, the end of November or early in December—Prince Albert is more suitable in every way. It forces in half the time before the new year. —*Caledonian.*

FLORICULTURE.

Undressed Flowers.

We frequently read articles protesting against dressed, and advocating classes for undressed, blooms at flower shows, and especially classes for undressed Chrysanthemums. This is an old cry. Some years ago George Glenny and others established what they called the Central Society of Horticulture, and the main object sought was to protect amateurs and gentlemen's gardeners against the purchase of worthless subjects. This society, at one of its meetings, passed a resolution "seriously recommending all Chrysanthemum societies to adopt a class for undressed flowers." Further, the members of the Central Society were required to pledge themselves that they would use no means to disguise a flower, nor conceal its defects, nor alter its character, and all raisers or owners of novelties were invited to show them, that the whole of the members might, by ballot, decide upon their merits, recommending to the public and their own members, in all parts of the country, all those plants that were considered worthy of being grown. This society attempted to introduce classes for undressed Chrysanthemums in all shows held about the country; but I believe they failed in so ambitious an attempt. However, they did one praiseworthy act—they awarded a First Class Certificate to Merry's Golden Christine as a *hardy border flower*. What would old George Glenny say if he could visit the earth again, and see Golden Christine occupying so nigh a place among exhibition reflexed Chrysanthemums?

Occasionally this cry for undressed flowers on the exhibition table crops up; but who is to decide what is and what is not an undressed flower? This is how Glenny set forth the process of dressing. He is writing of Queen of England, and he states that by throwing the whole strength of the plant into one flower, the consequence is "a coarser growth, wild florets, and loose, open, moss-like flowers. This has to be met by a system of coaxing in dressing as the flower advances. The wild florets are pulled out, the petals are poked up towards the centre by digging a point into the bed from which they spring, and pressing it inwards, beginning not far from the middle, and repeating it all round. The point is then put in further back, and it sends another row or two back up to the first, and so it is continued to very nearly the outside. All the centre of the flower is thus closed up a good deal. The finish is given after cutting, when the stem is drawn down into a cup—nearly as wide a cup as a wine-glass—which squares the back petals up, and makes the otherwise loose flowers compact."

Dressing is still followed. I do not say in the very way in which Glenny sketched it; but it is still done, and will continue to be done as long as the Chrysanthemum is employed as an exhibition flower. It is difficult to find in any schedule of prizes classes for undressed flowers, and then who is to say when a flower is undressed? It is just there where the difficulty lies. Glenny himself states that the required symmetry in a flower has to be produced by a "system of coaxing in dressing as the flower advances," and therefore it is a continuous work, and not something performed just previous to placing it upon the exhibition table, as is generally supposed. Every florists' flower grown for exhibition is dressed—Auriculas, Carnations, Dahlias, Tulips, and many others; and any criticisms upon the practice with the intention of bringing about its discontinuance will be as powerless to effect the purpose sought as it was in Glenny's day.—*R. D.*

Carnation, Souvenir de Malmaison.

While the flowers of this fine Carnation are at all times acceptable, how much more so are they now than at their usual time of flowering! In addition to the stock kept for the summer flowering, a lot might be set apart for the purpose of being stopped, so as to bring them into flower a little before, or at the present time. This was the plan adopted with a group I lately saw in flower, and there would be very little difficulty experienced in carrying it out. It is the rarest thing to be met with in Ireland, in winter-flowering collections of plants, growers usually confining themselves to having it in flower during June and July, a time when there is generally a plentiful supply of other flowers. Now, instead of allowing the present year's layers to flower in the pots in the usual course, the flower stems showing during the summer are pinched out when they appear, and if the plants are shifted as they require it, and are otherwise attended, to before being put under glass in September, a good bloom during the winter months may be expected from plants so treated. There is not much trouble with them, as it will be found that two shifts will be enough to get the plants into their flowering pots, and when they show flowers the application of weak liquid manure will suffice for them. I have no doubt that the growth of many more difficult subjects to treat are attempted for the production of winter flowers, that give less satisfaction than this Carnation.

CHRYSANTHEMUM NOTES.

The Cutting-back System.

For the benefit of "F. N." (p. 211) I may say that the system of cutting-back Chrysanthemums to render them dwarf and more suitable for decorative purposes has much to recommend it, dwarf plants, with strong, healthy, dark green foliage, and flowers of good substance, fine shape and colour, without coarseness, being invaluable especially in preparing groups for exhibition. They are also very convenient for housing at flowering time, and can often be put in the houses without the necessity of removing the stages, which many have a great objection to doing.

The way to get the plants dwarf is to cut them hard back to from 3 ins. to 8 ins. of the bottom in the first week in June, beginning with the later-flowering varieties early in the month, say, for example, Boule d'Or, Grandiflorum, Meg Merrilies and yellow sport, Yellow Dragon, Cherub, Princess of Teck, Mr. D. B. Chapman, Gloriosum, Pelican. Mid-season varieties, such as Elaine, Mrs. G. Rundle, and Prince Alfred, should be cut down about the middle of June, but none later than this date if they are to be in flower for the November exhibition. To be successful it is necessary that the plants should be strong, healthy, and well established in 48-size pots, with plenty of good healthy roots.

They will bleed a little after being cut back, but by keeping them rather dry for a day or two beforehand, and given only a slight sprinkling afterwards, they will not take much harm. Care will be necessary to thin out the shoots which will make their appearance to the required number, and to support them with thin sticks, or they will be easily broken. At this stage transfer the plants into the largest pots, and when rooting into the new soil remove them to their summer quarters, allowing ample space between the plants, as crowding quickly spoils their appearance, drawing them up weakly and ruining the foliage. As soon as the roots reach the sides of the pot, and are properly established, feed with liquid or artificial manure.

The first buds produced on the shoots should in nearly all cases be selected as being best suited for the production of the largest blooms, and the height of the plants then correspond with the natural growth from break to break. Some varieties, such as Val d'Andorre, Mons. Freeman, Triomphe du Nord, Florence Percy, Coquette de Castille, Anna Roudiere, Cullingfordi, &c., will not reach more than 24 ins. to 30 ins.; and others, such as Belle Paule, Bertier Rendatler, Fair Maid of Guernsey, Baronne de Prailly, Carew Underwood, Mons. John Laing, &c., would only grow 3 ft. to 5 ft., and the other varieties in proportion to their habits.

I have also tried an experiment in another direction, and find that by using much smaller pots for some of the varieties than are usually recommended, and by limiting the number of blooms proportionately, very satisfactory results have been obtained. Thus specimens in 48 and 32 pots, both of incurved and Japanese varieties, in several cases gave from two to four blooms of exhibition size and quality, and few would expect to secure such returns from plants in pots so small as that. I find that some of the varieties are particularly adapted for culture in small pots without cutting them back. For instance, Mons. Wm. Holmes must not be stopped, as upon stopped plants the blooms come much lighter in colour, with the centre of a bronzy orange shade, and quite distinct from a well-developed bloom upon a plant that has not been stopped.

Avalanche, also, in my opinion does not require to be stopped, its natural habit being dwarf. It retains its foliage in good condition for a long time; it is free-flowering, and what is of great importance, its blooms expand well, and remain pure white, thus making it very effective as a pot plant. The number of cut blooms exhibited this year at the leading shows illustrates the fact that a really good white Chrysanthemum will always come quickly into favour, and proves also that it offers no special difficulties in culture. The value of this pure white Chrysanthemum as a pot plant cannot be overrated, especially to those who have a demand for white cut flowers, or for plants for conservatory embellishment. Lastly, let me say that the cutting-back system is adapted to a certain extent for the 4 ft. groups at the Royal Aquarium.—*R. J. Hamill.*

MEALY-BUG ON VINES.

At this season of the year, as regularly as the seasons come round, the subject of mealy-bug makes its appearance in the horticultural press. It is a detestable pest on anything, but particularly so on Vines, for when it gets established it finds its way into the bunches of ripening fruit; and I have seen bunches so badly attacked that they had to be dipped in a vessel of water, and then strung on a pole to dry before they were presentable. Mealy-bug on Vines is more frequently found in small gardens where the amount of glass is limited, as the vinery is turned into a plant house, and if some of the usual occupants of the stove, at all liable to the pest, are transferred to the vinery, it is sure to migrate on to the Vines, and when once it has gained a lodgment it is very difficult to eradicate. Preventive measures may be used that will tend to keep it in check, but to thoroughly stamp it out—make it a thing of the past, so that the vinery knows it no more, is a feat the accomplishment of which I am somewhat doubtful about. But as most of us have to face such a difficulty some time or other, perseverance must be the word.

Having to deal with such a case myself, the pest being part of the stock-in-trade, as it were, that I have taken to, perhaps I had best state my *modus operandi* in trying to evict such an undesirable tenant. I have lately pruned the Vines to a good bud at the base of the spurs, and cut close off all the old snags left from previous pruning, then I removed all the loose bark. Although no advocate for skinning Vines, in fact I consider it a barbarous practice to so treat clean rods, yet when infested I would take severe measures, and scrape off any bark behind which there was the least likelihood of any bug lurking. After cleaning the canes I dissolved some soft soap in hot water, and added some paraffin, in which as an insecticide I am a great believer, and I may add that I have read with interest the correspondence anent its use that has lately appeared in your columns. I then gave the rods a good washing, using a spoke brush for the purpose. After they were thoroughly dry I painted them with a mixture of lime, soot, sulphur and tobacco powder mixed with water, to which soft soap and paraffin had been added, using a stiff paint brush, and carefully painting all over and filling up every crevice with the mixture.

Some advocate the use of clay to give consistency to the paint, but I fail to see any deterrent in such ingredients against bug. After the Vines have been so treated, the house should be thoroughly lime-washed, and the woodwork painted, the paint containing a good proportion of turpentine, and during the growth of the Vines a sharp look-out should be kept for any stray insects that may have survived the ordeal.—*Pathfinder.*

CINERARIA EMPEROR FREDERICK.

This singular variety made its first appearance before the London horticultural public on the 12th of April, 1887, when it was exhibited at a meeting of the Royal Horticultural Society at South Kensington, by Messrs. Gordon & Sous, Haymarket, Edinburgh, and received a First Class Certificate under the name of Alexander Warwick, whom we presume was the raiser. Since that time it has passed into the hands of Messrs. James Carter & Co., to whom we are indebted for the opportunity of illustrating it in our columns. In March of the present year, the Messrs. Carter exhibited it at the Crystal Palace, when it was also certificated by the judges under the name of Emperor Frederick. The striking peculiarity of the novelty consists in the tubes of the ray florets being elongated to nearly the same length as the rays themselves. The tubular portion is rose-coloured, while the lamina or blade of the florets is of a rich dark crimson hue, and both together give the flower heads a singular and unique appearance. The small central disc is deep purple, and although the florets appear perfect, no pollen is produced, consequently no seeds can be obtained, at least, not without artificial fertilisation with the pollen from one of the ordinary varieties. The plant is, however, readily propagated by root cuttings or suckers, precisely in the same way as the double varieties. One advantage of the flowers being barren is that the stock cannot deteriorate, as it certainly would do by being raised from seeds. The plant is of medium height, compact, free-flowering, and of considerable decorative value.

CHRISTMAS ROSES.

It is the practice of some to regard all the species of Hellebore and their varieties as Christmas Roses; but as the great majority of them flower too late for use at the Christmas festive season, it is more proper to regard Helleborus niger and its varieties as the true Christmas Roses. The species grows wild in Austria, and there is every reason to suppose that most of the fine varieties in cultivation, and widely disseminated throughout the country, originated there and found their way here amongst some of the many importations that have been made from time to time.

The most noticeable differences that prevail are presented by the breadth or narrowness of the leaf segments, which are entire or variously toothed, in the colour and markings of the petioles and flower-stalks, and in the size and colour of the flowers. From a horticultural point of view, the size and colour of the flowers, together with ample foliage, are the most important characters, and upon which most stress is to be laid. As far as the foliage is concerned there can be little question that cultivation is largely responsible for it, although the more permanent characters of some varieties are not in any way destroyed by it. The colour varies but little while the flowers are in perfection, and even then it is more or less modified by the shelter which the plants enjoy while in bloom.

The smaller Christmas Rose (Helleborus niger minor) is by some regarded as the typical form, while others consider it a variety which is smaller in all its points. Where a collection is grown it is certainly worth a place. Several others, varying in less important particulars, are grown under different names, but they all agree in having larger and more generally useful flowers, whether for cut-flower purposes or for the decoration of borders, or the margins of the shrubbery, where they succeed remarkably well if merely sheltered and not overpowered by being too closely overhung by bushes, especially evergreen kinds.

Cineraria, Emperor Frederick.

The darkest red variety in this class is H. niger ruber, having flowers of large size, and of a beautiful purple-red externally, particularly noticeable in the half-expanded state. Internally the sepals are rosy white. It certainly merits good cultural attention, and improvement by seed sowing and selection so as to intensify the colour. It flowers rather late in the season. A spring-flowering variety is mentioned in Sweet's *British Flower Garden* under the name of H. niger vernalis, but the flowers are white. Another form of this species named H. n. caucasicus has fragrant flowers, more or less tinted with rose externally; but the first character is the more important, and ought to be developed if possible.

The grandest of all the Christmas Roses are undoubtenly H. n. altifolius and H. n. angustifolius. The former is also known as H. n. latifolius and H. n. maximus, and is larger in all its parts. The flowers are borne singly or in pairs on a stalk, and under good cultivation measure 4 ins. or 5 ins. in diameter. If much exposed the tips of the sepals are more or less tinted with rose; but if grown in partial shade and sheltered by shrubbery or trees as grown at Devonhurst, Chiswick, the flowers come pure white. In fully exposed positions the same results may be obtained by covering each plant with a hand-light or large bell-glass, or by placing a frame over the whole bed.

The narrow-leaved Hellebore (H. n. angustifolius) is said to be the real Christmas Rose, inasmuch as it naturally flowers at Christmastide, whereas the other varieties come in earlier or later. There are, however, generally a number of the varieties in flower at Christmas, dependent to some extent upon the mildness of the autumn and winter. This same variety is much grown in Ireland under the name of St. Brigid's Rose. The segments of the leaves are very narrow, and the flowers are pure white. There can be no doubt that this and H. n. altifolius are the cream of all the Christmas Roses.

In the neighbourhood of London, Hellebores do not thrive so satisfactorily or grow with so much vigour as they do in the northern counties and in Ireland, where the climate is moister during summer, It is then that the fate of the Christmas Rose is determined, that is, during the growing season, because if ample and abundant foliage is produced, and there is a good root development, we may be certain there will be a rich harvest of bloom. A severe winter may delay and prolong the flowering season, but both flowers and foliage are perfectly hardy, and may with impunity be repeatedly frozen. If the flowers are gathered in a frozen state they should be gradually thawed in cold water, otherwise they will droop on the stalk. Another point of importance concerning the leaves is, that when a huge mass of them are produced, the flowers require no other shelter, and even H. n. altifolius comes of a pure white. Protection by handlights is only necessary when there is a scanty development of foliage.

In choosing a situation for Christmas Roses, the soil should be deep, rich, well drained, and naturally rather moist even in summer. If somewhat shaded and sheltered by tall trees, or even shrubs, so much the better. But be careful that the roots of tall trees do not ramify in and impoverish the beds, as Hellebores enjoy liberal treatment. Manure the bed well, and mulch rather heavily in autumn, taking care that the crowns are not covered. The tall-growing variety delights in a rather heavy and retentive soil; but if the latter, after a few years, gets too solid and inert, trench it up afresh to the depth of 2 ft. to 2½ ft., adding hot-bed manure.

THE CULTURE OF ASPARAGUS.*

This subject is one the general methods of cultivating which, are very well known to British gardeners. That being so, it may appear superfluous to say more on the subject. There are, however, circumstances in which the generally-adopted methods of cultivation have to be varied to meet the exigencies of the case. It is on this ground that I bring Asparagus Culture before you to-night.

In some gardens Asparagus succeeds very well, while in others up and down the country it is not a satisfactory crop, and is sometimes a failure altogether, even though some care has been bestowed upon its cultivation. No doubt there are reasons for its not succeeding, and at different places the reasons may be different also. I will not presume to give all the reasons for non-success in its culture, but I will mention one which is probably as potent as any, and that is the unsuitability of some soils.

The most unfavourable soil for good results is a heavy tenacious clay; on such material I am doubtful if Asparagus will succeed at all—at least, satisfactorily; by adopting exceptional means, however, it is quite possible to succeed fairly well with it, and as Asparagus is a much-esteemed vegetable, and comes in at a time when others are scarce, it is worthy of a little special trouble. As far as I can ascertain, wherever Asparagus is found in its wild state—whether it be inland in the steppes of Russia or Poland, or in maritime situations—the soil is always of a sandy character. The far-famed Asparagus of the Paris markets is cultivated on a sandy loam. These facts, I think, point clearly to the medium in which Asparagus likes to grow. On stiff retentive clay, even though well drained, the thick fleshy roots and crowns, if embedded in such a soil during winter, are very liable to perish; and again, on the other hand, in summer, when it becomes dry and hard as a brick, the roots cannot be expected to extend freely into it. Having had to produce Asparagus in a garden of heavy clay, I will describe the mode of culture I have pursued, and by which a fair degree of success has been attained.

The site chosen for the new plantation had been occupied by Asparagus; it might have been planted two or three years, but only a solitary stalk reared its head here and there, the plants having all perished in the winters. It had been planted in beds with alleys between them—the former 3 ft. wide the latter 1 ft. wide. Such was the aspect of the site chosen for the new plantation towards the end of the month of May. The preparation of these old Asparagus beds for the new plants about to be planted was simple; it only consisted in Dutch-hoeing the weeds and grubbing up the few solitary remaining plants of Asparagus. This being accomplished, the beds were ready for the reception of the young plants. These, however, were not planted in the natural soil of the beds; to have done so would have been to perpetuate failure, but they were planted upon the surface of the beds amongst prepared soil. This prepared compost consistsd chiefly of refuse soil from under the potting-shed bench, decayed vegetable matter, leaf-soil and sand, all passed through a 1-in. riddle and thoroughly mixed; this mixture produced a soft, free and moderately rich compost. A sufficiency of this being in readiness, the next thing to determine was the distances at which to plant. Four feet between the lines, and 2 ft. in the lines was decided upon and marked off accordingly, a mark being made where every plant was to be placed.

This arrangement gave a row of plants up the centre of each of the old Asparagus beds. Such distances are not too wide, for if really large and fine Asparagus heads are to be produced, large individual plants must first be obtained; and one main factor in obtaining them is to allow room for their development. At each of the

* A paper read by Mr. A. Porter, Luchie Gardens, North Berwick, at the meeting of the Scottish Horticultural Association, on December 4th.

marks made for the plants, a little flattened mound or hillock of the prepared soil was formed about 4 ins. in height; on the top of each of these little hillocks an Asparagus plant was placed, spreading the roots equally round. The plants properly set in position were then covered up with additional compost, which was made firm by the hands; this raised the mounds to about 6 ins. or 7 ins. in height, and 20 ins. in diameter at the base. In order to ensure to the plants a thorough supply of water, a little hollow or basin was formed on the top of each of the mounds to hold water when applied; this was a necessity, because when the light sandy soil of which the mounds were composed became dry, the water ran off them as off a duck's back.

The planting and mounds having been thus finished, a thorough soaking of water was given to each, which percolated through the whole mound and settled the soil about the roots of the plants. Next a thick mulching of short grass was spread all over the mounds to prevent evaporation and keep them moist. In dry weather the damp mounds of soil soon attracted birds, that if left alone would have scraped them down level with the beds in a few days; to prevent this, a light covering of long stable litter was spread over the short grass, which stopped them from committing the mischief. The treatment required during summer consisted in giving water occasionally in dry weather; and as the growth of the plants progressed, a small stick was fixed to each, to which all the shoots were securely tied before they became feathery and heavy at the tops. In autumn, all those mounds on which a plant had failed to grow were marked with a stick to indicate where to plant a fresh one in the following year. The ripe stalks were then cut down, and a mulching of rotten manure added; this completed the first year's course of cultivation.

Now it will no doubt appear obvious to you that those cocked-up mounds of soil must have been very susceptible to drought, and therefore very precarious and unsuitable for a moisture-loving plant like Asparagus. They certainly entail more attention than cultivation on the natural level of the soil, but when well mulched they resisted drought wonderfully well. It would have been better to have had a larger body of compost about the plants—as much as would have connected the mounds, and thereby formed continuous ridges the whole length of the rows; this I would have done, but at the time I had no more available soil at hand, and so had to make the most of what I had.

Second Year's Course of Cultivation.

Early in the spring of the second year, having accumulated another lot of soil of the same quality as I have already described, it was taken to make up the spaces between the mounds; the mulching of manure that had been applied in the previous autumn was allowed to remain and be covered up with this additional soil. This completed, the Asparagus quarter now presented the appearance of a series of ridges about 6 ins. or 7 ins. in height, and 20 ins. in diameter, the summit being left a little hollow to hold water when applied. In April, just as the shoots were pointing through the soil, an application of nitrate of soda was sprinkled over the ridges, choice being made of a rainy day, which caused it to dissolve and be carried down to the roots rapidly. Some time after a sprinkling of guano was applied, and again later on another application of nitrate of soda.

Where plants had failed to grow the first season, others were planted in their stead, in the month of May. Water was only applied on one occasion this summer; but would have been given frequently only the source of supply ran dry. To counteract drought, a thick mulching of short grass was spread over the ridges early in the season, which answered very well, and the plants increased in strength; but with plenty of water they would no doubt have done much better. As in the first season, stakes were put to each plant, and the growths carefully secured thereto. In autumn, the stalks were cut down and another mulching of rotten stable manure added, which completed the second year's course of cultivation.

(To be continued.)

The Amateurs' Garden.

Veronicas for Amateurs.

There is a large number of Veronicas natives of Australia or New Zealand, and which are so nearly hardy that amateurs might well grow a few of them to keep the greenhouse gay in winter. They will not flower at that season, but they form compact and interesting evergreen bushes that will maintain a fresh appearance, even in a greenhouse that is not artificially heated in any way.

Amongst the first rank is Veronica Traversi, that outlives all but the severest winters out of doors, forming a dense but neat evergreen bush bearing a profusion of white flowers, while from 1 ft. to 3 ft. in height. It is one of the hardiest. Very different from this is V. pinquifolia, the foliage of which is of a hoary glaucous colour, and always interesting whether in flower or not. It varies from 4 ins. to as many feet in height, and when laden with its white blossoms is very interesting. It is also highly suitable for dry banks out of doors, such as rockeries, where it does not often much exceed 1 ft. in height. V. formosa grows taller, but bears a great quantity of bright blue flowers. The foliage is dark green, but not so pretty or distinct as in the former species. Then there are several varieties of V. Andersoni, differing in the colour of its flowers; but the most important is V. A. variegata, which when fairly well grown is very handsome with its creamy yellow and white foliage. All are easily propagated from cuttings, and may be kept in a cold frame if not required in the greenhouse.

Christmas Roses Indoors.

It is not everyone who is in possession of a few plants of Christmas Roses that is willing to dig them up and place them in the greenhouse or even the window for the sake of their exquisite snow-white flowers at the Christmas festive season, as by so doing the roots get damaged to a great extent, and if the plants are not properly taken care of till a suitable season for planting out again, many of them perish. Plants of any given size can, however, be grown in pots, boxes or tubs, all the year round, and transferred to the greenhouse or the table in the dwelling house when in flower, without doing any damage to the roots whatever. The pink tints that much exposed flowers acquire in the open air are altogether avoided or prevented when they are expanded under glass. The plants should not be kept in dwelling rooms for any great length of time, unless a light position near the window can be given them, otherwise the health of the foliage will suffer. After the weather becomes sufficiently mild in spring, the pots or tubs containing the plants may be stood in a sheltered, somewhat shaded position for the summer, and well looked after in the matter of watering. If the pots can be plunged in ashes or coco-nut fibre, and somewhat shaded, comparatively little water will be required.

Tulips and Ferns.

A very pretty and effective combination at this season of the year can be had by inserting a small Fern—either a Maidenhair or a Pteris—in the pots containing Tulips after the latter come into flower. In the case of the Duc Van Thol Tulips which are now in flower, very small pieces of Fern must be used, so as not to overtop the former, as that early-flowering kind does not exceed 5 ins. or 6 ins. in height. The best plan to be pursued under the circumstances is to have small seedling Ferns in pots, and there is usually plenty of them where old plants are grown. A few of the seedlings that spring up spontaneously might even be potted up for the purpose for use when required. By this means dwarf plants may be had for the occasion. After the Tulips come into flower, knock some of the Ferns out of their pots, and plant them in the centre of the pot of Tulips. Lily of the Valley might be grown on in pots or boxes, and when in full flower also worked in amongst the Tulips. By these means a very pretty and effective combination may be secured. To get the plants named in flower at Christmas some forcing will be necessary, but it can be done a little later on in the greenhouse.

Orange Trees.

Some objection is taken to the growing of Oranges in small greenhouses, on account of the size they attain, or the size necessary before fruit will be freely produced. The owners of small greenhouses would do well to obtain a few small specimens of the Otaheite Orange, which can be fruited freely when only from 10 ins. to 14 ins. high. The fruits range in size from that of a marble to twice the size of a pigeon's egg, and assume a good colour when mature.

Chinese Primulas and Cyclamens.

These, especially when in flower, should always be placed at the warmest end of the greenhouse, provided always that they are advantageously situated with regard to the light. The flowers will be all the more freely produced and keep in better condition by a congenial warmth. Comparatively little watering will be required, but that little must not be neglected. A dose of weak liquid manure given once or twice a week will assist them in the production of large flowers.

CHRYSANTHEMUM CULTURE.*

Leaving the question of seed raising, the first step in cultivation is, of course, taking the cuttings. This may be done from November to April, and even May; but I think the best time is the beginning of December—that is, if one has all the conveniences for growing the plants properly after being struck. Many amateurs whose accommodation is limited strike the cuttings, and then allow them to become drawn and spoilt for want of room to pot them on at the proper time. Those in this case would do better to preserve the stumps of their Chrysanthemums in a cold frame until the spring, and then insert the cuttings when there is more chance of their receiving proper attention. In choosing cuttings, preference should be given to the stout suckers which push from the roots, when these can be obtained; but it is, however, not always possible to get these, especially from the Japanese kinds, many of which rarely throw up a sucker, and only produce stem-cuttings sparingly. Care should be taken in cutting these last down not to cut too low, but to leave a foot or so of the old stem, for want of which precaution we lost all our stock of Marguerite Marrouch some two or three years ago, not one of the stumps producing a cutting. Thousands of cuttings are spoilt annually by too much heat, becoming thin, spindly, and often mildewed, after which no amount of care can coax them into first-class plants. Putting them into perfectly cold frames is, I think, going to the other extreme, though much preferable to too much heat.

After several experiments, I have settled upon one of our small houses as the best place for the purpose. It is about 30 ft. by 10 ft., has a path down the centre with a bed on each side, in which the cuttings are plunged. One 4-in. pipe runs down each side of the house, returning under the beds, and as these pipes cannot be made really hot, the heat is just sufficient to keep the frost out. Though Chrysanthemums will strike in a cold frame, I am convinced that much time is lost during severe frost, when for a month at a time they just exist under coverings of mats, &c., which, of course, exclude light as well as frost.

Treatment of the Cuttings.

In taking cuttings, begin, if possible, with the late-flowering kinds, such as Cherub, Mrs. Heale, Meg Merrilies, Princess Teck, Eve, &c., which require a long season of growth; insert them—that is, all the incurved and Japanese—singly in small thumb-pots. The Pompons and singles may be put seven or eight round a 4-in. pot. The reason for this is that some cuttings will strike much before the others put in at the same time, and so become drawn before being taken from the bed. The singles and Pompons may be kept in order by pinching the points out as soon as they begin to grow, which cannot be done with the others if they are intended for specimen blooms. No glass or other covering need be placed over the bed except for the latest cuttings in spring, which may require a newspaper laid over the beds for shade in the brightest part of the day. As soon as the cuttings are rooted, they should be at once removed to a bench nearer the glass to prevent drawing, one covered with ashes or coco-nut fibre refuse being preferable to bare wood, as it is easier to keep them in an equable state as regards moisture.

At this stage the grower should make up his mind, if not done before, what style of plants he intends to grow, whether the object be exhibition, cut blooms, or conservatory decoration. Some growers are utterly blind to the beauty of a flower which will not at least figure creditably on the front row of a showboard, while others attempt to develop a bloom to the extent of which it is capable. I think myself that perfection, as in most things, lies between the extremes, and is best attained by endeavouring to bring each variety to perfection on its own lines—*i.e.*, in the way best suited to its natural character. There are many varieties, as for instance Bouquet Fait, W. Robinson, Source d'Or, L'Or du Rhin, Chevalier Domage, Tendresse, &c., which naturally form dense bushy plants smothered with bloom, forming beautiful objects for the conservatory, and providing abundance of flowers for cutting. The only effect of disbudding these is to destroy the natural grace of the plant and throw away nine-tenths of the flowers, as the blooms are very little larger on a disbudded plant than when grown naturally. These remarks, of course, apply still more forcibly to the Pompons and singles. On the other hand, those who never disbud make almost as great a mistake, as it is only by limiting the bloom that the proper form of the incurved and the splendid size and colour of the

* Condensed from a paper read by Mr. Charles Pearson, of Chilwell, at the Horticultural Club, on December 11th.

Japanese varieties can be properly brought out. The waste is also not so great as it appears at first sight, as I have often noticed that perfect flowers, I suppose from their greater substance of petal, last much longer than ordinary ones.

The varieties which specially require disbudding are the large incurved kinds, as the Queen, Beverley, and Rundle families, and the largest Japanese, a list of which may be got from the first prize lot at any good show. There is a further class, which is utterly useless unless well grown and disbudded to the crown bud, and which should be avoided by the ordinary gardener who does not make Chrysanthemums a specialty and study the peculiarities of each variety; of these are Comte de Germiny, Boule d'Or, Grandiflorum, Thunberg, Baronne de Prailly, &c. An advantage of the mixed system of growing is the possibility of making more artistic groups when the plants are of varying size and habit, which give more light and shade in grouping and avoid the appearance of a gaudy carpet, which is attained when all the flowers are brought into one plane. It follows that to do this each variety must be studied separately and notes made of its habit, size of bloom, &c. It is not a bad plan with a new variety, if the plant be received early enough, to take off the top, strike it and run up without stopping for one or two good blooms, growing the decapitated plant into a bush, thus getting a good idea of its capabilities the first season.

Going back to our cuttings, which were just struck, after being taken from the bed and placed in a higher position for a few days, they should be transferred into small pots, about 2 ins. will do, the soil used being decayed turf lightened with sand and leaf-soil; this should not be made too firm the first potting, as the young plants recover and begin to grow again much more quickly if rather lightly potted. Between now and the end of May is a very critical time with Chrysanthemums, during which numbers are wholly or partially ruined, many people having their frames filled with bedding plants, &c. During spring the Chrysanthemums have to put up with a position in the greenhouse, yards from the glass, and probably 10° or 15° too hot. They may remain in the greenhouse if cool and airy until the second move into 5-in. pots, after which they should certainly go into the cold frame, where, as soon as they have recovered from the potting, all the air possible should be giving by tilting the lights, and, if possible, removing them altogether on warm days. The object is to secure a slow, sturdy growth as a good foundation for the future specimen. If grown too quickly the plants are ready for the final potting before the cultivator is, as this cannot be done until it is safe to place them outside—at least, by anyone with ordinary accommodation. This brings us to the most important operation of the series,

The Final Potting.

The principal points in this are the size of pot used and the character of the soil. The first depends upon the class of plant required. I use three sizes—7-in. for the plants to be run up with single stems, except the Queen family, which require more room, and have 9-in.; 10-in. for those to be stopped and grown as bushes; and for forming large masses for cutting, 13-in. are employed, putting three plants in each. Our soil is turf from a rather light loam (alluvial drift), so that little or no sand is required: it is, however, enriched by the addition of manures. We mixed up this year about sixteen cartloads; this contained three good loads of dung, scattered between the layers of turf when it was stacked, about three months before wanted, to which was added half a load of wood ashes, 5 cwt. of bone dust, and 6 bushels of soot, the whole being turned two or three times to incorporate it thoroughly. In potting the last time the compost is made thoroughly firm, using a wooden rammer for the purpose. The next item to be referred to is

Stopping.

In the first place, those plants which are required to produce exhibition blooms should not be stopped, but grown steadily on to their natural height, varying according to the variety from 4 ft. to 6 ft. and even 8 ft. or 9 ft. Those for cut bloom and decorative work may be stopped when 5 ins. high, again after making three or four leaves, and at intervals until the end of May, avoiding performing the operation within a few days before or after potting. If the aim is to get flowers of as nearly full size as possible on dwarf plants, the "cut down" system, as it is called, may be followed. This consists in letting the young plant grow uninterruptedly until it is established in its 5-in. pot, then cutting it off to within 4 ins. or 6 ins. of the soil, after which keep somewhat dry until the stem has broken. Allow from four to eight growths, according to the kind, to grow without further interference, disbudding each to the crown bud. The time for cutting down varies with the character of the plant operated upon. Such free-growing early varieties as the Rundles may be cut as late as the first week in June; but very late sorts, such as Princess Teck, Meg Merrilies, &c., should not be left later than May 1st, the Queen family about the second week of May, and other kinds between these dates. Some varieties do better under this treatment than others, and are almost as good as if grown to their full height. Examples: E. Molyneux, the Queen and Beverley families (especially the latter), Meg Merrilies, Mr. Garner, &c., while others have proved comparative failures under it. Of these may be mentioned Lord Wolseley, Prince Alfred, Jeanne d'Arc, Grandiflorum, Duchess of Albany, Marsa, and all the Anemone-flowered section.

Disbudding.

Now as to disbudding, which always appears somewhat of a mystery to the uninitiated, though very simple when once grasped. A Chrysanthemum when grown naturally produces three kinds of buds—viz., the July, the crown, and the terminal. The July, called so from the general date of its appearance, need scarcely be considered practically, as the shoot grows past it, and it remains a bud, withering up in time; if the shoot be stopped at this bud when it appears, it will swell and grow into a flower, but nearly always a very coarse and deformed one. The crown bud is the one formed at the end of each of the three branches into which an unstopped plant naturally divides, and appears from the beginning of August (except in abnormally early plants) and onwards. Soon after the formation of this bud at the end of the branch three small shoots may be seen starting from just underneath it, and if the crown bud is intended to be retained for a show flower these must be removed early, or they will rob it and seriously retard its development. The removal of these three shoots to throw all the strength into the crown bud is what is technically called "taking" the bud. Most growers do this with a knife or pointed stick as soon as they can be seen, often injuring the stem, which is very soft at this time, and causing the bloom to come lop-sided. I think a much better way is to wait until the shoots are just long enough to get hold of and break them off with the thumb and finger. N.B.—The shoots are brittle and break easily in the early morning before the dew dries; when the sun is hot they are tougher. If these three shoots above referred to are allowed to grow, each forms a bud at its summit called the "terminal," generally surrounded by a cluster of smaller ones.

The great point in disbudding for exhibition is the proper time to take the buds; this varies from the beginning of August for the very late kinds to the end of the month for the earlier. As a rule the Japanese may be taken before the incurved, which come coarse and out of character if taken too early, about the 20th being soon enough for them When the crown bud appears too early, it and two of the shoots springing from its base should be removed, leaving the third shoot to produce a flower from the terminal; this, in the case of some incurved varieties will, if not quite so large, be much more refined than from the crown. By careful disbudding, plants which would naturally flower from early in November to Christmas may be bloomed all at one time.

Feeding.

Almost every grower has his nostrum which he swears by, but my own practice is based on the idea that no one mixture contains every necessary ingredient, and that variety of food is most conducive to success. I begin with a little weak liquid, containing soot and cow-dung, as soon as the pots are full of roots after the last move; this, however, much diluted until the buds begin to form, after which time watering is done as follows:—first time, clear water; second, diluted stable drainage; third, clear; fourth, chemical manure (Beeson's, guano, Pearson's, &c., in turn); fifth, clear; sixth, the stable drainage again very weak (the tank in which the first dose was mixed being filled up with clear water); seventh, clear. Other points to be noted with regard to feeding are—always use manure-water clear, and do not stir up the tank before drawing from it; never give a dry plant liquid manure; too much ammonia (the sheet anchor of many growers) spoils the foliage, making it brittle; some plants are much more tender at the roots than others, and if watched will give warning when you are "coming it too strong;" and, lastly, in a sunless season like the past it is easy to over-feed and produce coarse wood which cannot be ripened.

Insects and Diseases.

The Chrysanthemum is less affected by these than any other of our cultivated plants. The following are, nevertheless, troublesome at times:—Green and black fly, earwigs, and mildew. The larva of the lady-cow will often keep the first two in order through the summer if not disturbed, and the larva of the lace-winged fly or golden-eye is also a splendid aphis destroyer, but is, unfortunately, rather plain and grubby in appearance, and is, therefore, too often regarded as an enemy and squashed accordingly. If the aphis, in spite of these enemies, increase too fast, dust them with tobacco powder on a dewy morning, the best preparation I have tried being that called "Thanatos," sold by Messrs. Wood & Son. This should not be done after the plants are housed, as it gives them a filthy appearance when the rain cannot wash it off; a much better plan is to give a good fumigating the first quiet night after the plants are inside, whether they appear to want it or not; they will then keep clean until after the show is over. For earwigs the only plan is trapping, and the best traps are pieces of dry beanstalks; these should be looked over every morning and the earwigs blown out into a pan of water. If mildew appears while the plants are outside syringe them with the following:—1 lb. soft-soap, ½ lb. sulphur, and 10 gallons of soft water; mix with boiling water, and add the remaining quantity cold, stir constantly while using. This is a perfect cure, and far before any method of dusting sulphur, &c. After the Chrysanthemums are housed, a coat of sulphur and linseed oil on the hot-water pipes is a very good preventive. I have not seen a speck of mildew in our large show house this season, which I attribute to this precaution.

Gardening Miscellany.

Gishurst Compound.

I first saw the light in a private garden, but for nearly thirty years have been the useful servant and friend of gardeners of all classes, and as the advertisement says, have outlived many preparations intended to supersede me. My feelings were first hurt when sulphides was talked about as something new to cure plant plagues; sulphide has always formed part of my constitution. Again, paraffin is spoken of, especially for American Blight. I have always been death to this plague, and washed the bark besides. I am not proud, and am willing to work with paraffin; I improve the emulsion, but cannot take the same responsibility as when acting separately.—*Gishurst Compound, Belmont, Battersea, S. W.*

Mistleto as a Parasite.

At p. 257, "R. D." says that "the Mistleto is regarded as the only true parasitical plant indigenous to Britain." Such may be the popular estimation, but it is none the less a popular error, as we have some species of Orobanche and some of Cuscuta (the Dodder), which are more strictly parasitical than the Mistleto, and far more degraded. They belong to two other natural orders, in which the nearest allies belonging to the same order as the Dodder, or to a different order in the case of Orobanche, are highly developed plants with showy flowers. The parasites in question live upon the roots of various host plants, and are entirely destitute of chlorophyll, or only show traces occasionally. The roots and leaves of the Dodder are entirely suppressed, so that the whole plant is reduced to slender thread or cord-like stems, according to the size of the species, twining round the stems and leaves of the host plant, into which they push sucker-like processes termed haustoria, by means of which they derive their sustenance entirely from the plant on which they are parasitical. They, however, continue to produce flowers and seeds by which they perpetuate and disseminate themselves. The leaves of Orobanche and Lathræa squamaria are reduced to small bracts of various dull colours, but are never green. The flowers are brown, yellowish, pinkish, or some other colour, generally of a livid and uninviting hue. The Mistleto on the other hand, although it does not derive any nourishment from the soil or decayed bark, has nevertheless well-developed green leaves, which testify to the presence of chlorophyll. Physiologists can hardly recognise the presence of functionless chlorophyll, and therefore do not consider that Mistleto is entirely dependent upon the host plant for its sustenance.

Indeed, it is not exactly certain whether it does not merely absorb the raw juices of the host plant, and manufacture them for its own use. The carbon is no doubt for the most part absorbed from the atmosphere by means of its leaves and green stems, as in the case of other green plants. Then it may be said that the Mistleto is entirely epiphytical, that is, fixed to another plant, but is not entirely parasitical, that is, not dependent on the host plant for the whole of its sustenance.—*F.*

Cobæa scandens variegata.

THE variegated variety is even superior to the type for conservatory decoration, inasmuch as the foliage always wears a gay and lively appearance. The leaflets have a broad margin of creamy yellow until getting old, when the yellow changes to white, which is even more striking. For large conservatories it is specially well adapted, as it will ramble to any distance, and may be trained up the rafters or along any horizontal support, or even under the top ventilators of a span-roofed conservatory when not too high to be readily caught by the eye. In this position it does remarkably well, owing to the free change of air it gets from the opening of the ventilators. Small plants, may, however, be utilised by growing them in pots, and training or staking them up in some way or other. If a batch of small plants were kept a few of them could be introduced to heat, so as to make a little fresh growth at any given time, and then introduced to the conservatory in winter by way of variety. We noticed a fine batch of it in the nurseries of Messrs. H. Cannell & Sons, Swanley.

Lambert's Pine.

SEEDS of this magnificent tree were introduced to this country in 1827, when they were germinated in the Royal Horticultural Society's Garden at Chiswick. The seedlings were distributed the following year, but most of them died after having attained a height of 4 ft. or 5 ft. Further introductions having been made, there are happily some fine samples of it now in the country, which have long since proved it to be as hardy as any other North American Pine, including one of its near allies—P. Strobus. P. Lambertiana is a native of California, on low hills, where it attains gigantic dimensions, almost rivalling the Mammoth Tree itself, the heights recorded ranging from 150 ft. to 215 ft. In Loudon's time it had not flowered in this country, but a large tree at Dropmore, Bucks, produced cones last year measuring 9 ins. and 10 ins. in length. It is, however, only one of the many fine trees that have found their way to Dropmore, and succeeded beyond all expectation. The leaves are produced five in a cluster, long, slenderly needle shaped, and dark green, covering the branches with a wealth of foliage that resembles great fox brushes.

Tillandsia Lindeni.

THE typical form of this plant is mostly always designated T. Lindeni vera in gardens, in order, probably, to distinguish it as the true T. Lindeni ; but amongst gardeners it is generally supposed to indicate a variety, and that a very fine one. As to the latter qualification there can be no doubt, as a well-grown plant is really handsome. The leaves are densely arranged in a neat vasiform tuft, from the centre of which springs a flower stem about 1 ft. long. All the upper part of this is covered with boat-shaped bracts, closely overlapping each other in a two-ranked manner, giving the inflorescence a flat, blade-like appearance. These bracts are of a warm rosy carmine, and last a long time in perfection even after the flowers are gone. The latter are large, deep blue, and protruded from the axils of the bracts, forming a long succession of bloom. Both old plants and a large number of seedlings may be seen in the nursery of Messrs. J. Veitch & Sons, Chelsea.

The Double Rose-leaved Bramble.

SEVERAL striking species of Bramble grow wild on the Himalayas, and this one is all the more interesting, from a horticultural standpoint, from the fact that it can be flowered at various times of the year, both summer and winter. A rather warm temperature is necessary at the latter period to bring it into flower, and it does best also if the house is tolerably well ventilated. It is the Rubus rosæfolius coronarius of botanists, and bears fully double, pure white flowers like a small white Rose. The single variety has only five small petals, and would be uninteresting but for the fact that very showy, red, Raspberry-like fruits are produced. They are, however, rather insipid, and only of ornamental value, but very interesting. Of the double variety there is a large batch at Swanley, in the nurseries of Messrs. H. Cannell & Sons, with whom it is now flowering.

Crinum Seed Germinating.

AT p. 262, "J. W. O." mentions a case where the ungathered seeds of Crinum latifolium had germinated while still in the capsule. This is not, however, a solitary instance of the kind, either in Crinum or in genera belonging to different natural orders. Crinum capense is even hardier, if anything, than C. latifolium, and it is quite a common thing for it to behave in this manner. There are several slight varieties of it as well, and when the capsules get large, they either bear the flower stalks to the ground by their weight, or they drop, and should the weather be dry and otherwise unpropitious, they will rest in that condition for a time ; but when the moist autumn comes, the seeds germinate in the capsules while lying on the surface of the ground. The seedlings will also continue growing for some time even if taken to a dry place under cover, in a drawer for instance. This they are able to do from the large amount of nutritive matter stored up in the seed. It is probable that Nerine would behave in the same way under similar conditions, as the seeds attain such a size that they burst the capsule before they are full grown. May we not consider it a provision of nature to enable the seedlings to germinate and establish themselves in a dry country ? Other plants whose seedlings occasionally or habitually germinate in the fruit, are the Ivy, Skimmia, Sechium edule, the Papaw, the Mangrove, and others.—*F.*

The Gentian Lithospermum.

THOSE who know this handsome hardy rock plant could hardly expect to see it in flower at Christmas. It is botanically the Lithospermum prostratum, and derives the above popular appellation from the fact that the intense blue of the flowers resembles that best seen in many species of Gentian. It is an old-fashioned subject, introduced from South-western Europe in 1825, and thrives more satisfactorily in the northern counties than in the south, where the dry atmosphere is rather inimical to its welfare during the summer months. Its natural flowering period is about midsummer, when, notwithstanding the wealth of flowers at that period, it is much appreciated for its intense blue colour and the profusion in which the blooms are produced. It has been flowering for some time in one of the houses in the nursery of Messrs. H. Cannell & Sons, at Swanley. The plant is rather an old one, forming a little standard trained to a stake, and has a drooping habit. Of course, when grown in the rock garden the shoots are perfectly prostrate.

Echeveria retusa.

SOME of the more interesting succulent greenhouse plants are included in the genus Echeveria, and the species under notice is one of the best for indoor cultivation, from the fact that the leaves are not confined to the apex of the stem, as in E. gibbiflora or E. metallica. There is a tuft or rosette of leaves on the apex of the perennial part of the stem, but they are less formally or densely arranged than in the species named. All along the flower-stalks smaller oblong ones are arranged, taking off the nakedness of the stems and setting off the flowers to advantage. Perhaps the most interesting and pleasing plants are those that are grown on annually from strong cuttings to the flowering stage. In this case the rosette of leaves lies on the soil which it covers, while old plants have a more leggy appearance. It is a capital plant for those having only greenhouse accommodation ; and it bears scarlet and yellow flowers that last a long time in perfection.—*J.*

The Winter Daffodil.

IN this we have another of the many instances of the wide application of English plant names, as the subject in question does not even belong to the same genus as the Daffodil, although it belongs to the natural order. The flower resembles a yellow Crocus, to which, however, it is more distantly allied than to the Daffodil. The leaves are strap-shaped or linear, evergreen, and not unlike those of the last-named genus. From an horticultural point of view, it is valuable from the fact that it flowers in autumn and onwards into winter according to the season, when the bright yellow flowers pushing from amongst the leaves have a pleasing effect when flowers generally are scanty. It is also interesting from the fact that it is one of the many plants which is supposed to have been the Lily of the field mentioned in Scripture. It has now been cultivated in this country for upwards of 300 years, yet it is comparatively infrequent in gardens. The accepted botanical name is Sternbergia lutea, but it has also been named Amaryllis lutea and Oporanthus luteus. When once established it should not be disturbed for many years, on account of its evergreen foliage.—*J.*

The Cephalonian Silver Fir.

ALTHOUGH by some regarded as a mere variety of the common Silver Fir, this beautiful tree is as markedly distinct as many others admitted as true species. The leaves are awl-shaped, and terminate in a sharp bristly point, and owing to a curious twist at the base they are more scattered round the branches than in the common Silver Fir (Abies pectinata), in which they are arranged so as to give the branches a flattened and comb-like appearance. The cones of Abies Cephalonica are also longer and proportionately narrower than those of its congener. It sometimes gets the name of the Mount Enos Silver Fir, from Mount Enos, the highest point of Cephalonia. As an ornamental tree it is invaluable, even in the climate of Scotland, where it grows with great rapidity, with a straight leader throwing out many side branches which it retains to the ground, giving it a beautiful pyramidal appearance. —*Taxus.*

Aucuba japonica and A. himalaica.

WHEN the Japan Aucuba was first introduced it did not seem to have been done for the sake of its berries, but for its handsomely spotted foliage. The plant was accordingly barren from the time it was introduced in 1783, or more than 100 years ago, till green-leaved and male plants were introduced in 1861 through the agency of the late Robert Fortune, who was instrumental in enriching our gardens with many beautiful hardy plants. A. himalaica was introduced about the same time as the male plant of A. japonica, but it does not seem to have found its way into many establishments during the last twenty-seven years of its culture in Britain. It flowers with great freedom, and produces a large quantity of oblong berries similar in colour to those of A. japonica, but much larger.—*J.*

Jasminum grandiflorum.

To the casual observer, this species bears much resemblance to Jasminum officinale ; but the flowers are larger, pure white when fully expanded, and the leaves are divided into more nearly equal but broader leaflets, with the terminal ones confluent, than in the last-named species. It also greatly differs in habit, and may be grown as a dwarf bush, in the same way as the stove species, J. pubescens. It is, however, sometimes trained up the rafters, but never attains any great height. It would therefore be suitable for small greenhouses or conservatories, and is really a greenhouse plant ; but to have it in flower at Christmas as we saw it recently at Swanley, it must needs be placed in a warmer temperature than that of a greenhouse. It is largely cultivated in many tropical countries, but is a native of the North-Western Himalayas, where it ascends to an altitude of from 2,000 ft. to 5,000 ft.

NOTES ON FRUITS.

WARNER'S KING, APPLE.

Some idea may be had of the popularity of this fine old culinary Apple from the fact that there were 150 exhibits of it at the Apple Congress, at Chiswick, in 1883. At the recent Apple and Pear Conference it was certificated ten times, being the largest number given to any one Apple at the Conference. Cox's Orange Pippin came nearest to it with eight certificates. These facts indicate how frequently it is grown in nurseries and private establishments ; but the bulk of the fruit is grown for private use, so that the fruit-loving public who have no means of growing their own (and they are by far the largest part of the community) have really no opportunity of getting it. What supplies of home-grown fruit reach the market, do so mostly in autumn, so that what fruits are grown in this country for market purposes are early kinds. It is, therefore, rather to be regretted that Warner's King is not grown for market purposes, when it would come in for use from November to March. It is a large Apple, somewhat flattened at the crown, with a

very broad base, and when collected is of a grass-green colour, becoming greenish yellow. The flesh is white, tender, juicy, and sub-acid, but so agreeable to the palate that some would not disdain using it for dessert purposes. Some of the fruits attained a weight of 14½ ounces at Devonhurst, Chiswick, even in the past unfavourable season.

GOLDEN SPIRE AND POTT'S SEEDLING APPLES.

In conversation a few days ago with a nursery traveller, whose keenness of observation is only equalled by his sound and extensive knowledge of matters pomological, our friend told us that for planting in sand near the sea at such places as Southport there was no Apple more reliable as a bearer than the Golden Spire, even small trees of which planted in pure sand bore regularly. For smoky towns, or districts in which Lord Suffield or hardly any other sort will do well, he considered Pott's Seedling as the best sort to plant, and would always give it the preference, on account of its hardy constitution and free-bearing qualities under climatic circumstances that hardly any other good sort will stand. Owners of small town gardens especially would do well to remember this.

VICAR OF WINKFIELD PEAR.

If the histories of our oldest fruits could be cleared up, many of them would no doubt be proved to have eventful ones. In 1790, the Pear which now bears the name of the Vicar of Winkfield was found growing in a wood called Fromentau, in France, by a curé in that neighbourhood, who took it in hand and propagated it, when it soon after got widely distributed in its native country under sixteen different names. The Vicar of Winkfield, in Berkshire, was the first to introduce it to this country, and it has been named in compliment to him ever since. In this country it attains good dimensions and presents a fine appearance in favourable seasons, but particularly when planted against a wall. It then comes into use during November, and continues good till January. Although for dessert purposes it may be described as a second-class fruit, it is nevertheless serviceable for stewing when it does not ripen properly. It attains a handsome size in most gardens.

BALDWIN APPLE.

The quantity of this Apple now in the various markets throughout the country is something enormous. The fruits are all of American growth. The tree has been grown to some extent in this country for many years; but the fruits are neither so large nor so handsome as when grown in their native country. Nor is the quality the same. These facts apply to many other Apples which have been raised in a country with a different climate from that of Britain. This should be an inducement to British fruit growers to raise new seedlings from trees grown in this country, and even from those that originated here, so that the progeny may be constitutionally adapted to our climate. This can hardly be expected of trees raised elsewhere. The fruit of the variety under notice is ovate-conical, with a smooth skin, yellow on the shaded side and red next the sun; but under favourable conditions nearly the whole surface is of a beautiful deep red.

ORCHID NOTES AND GLEANINGS.

ONCIDIUM CUCULLATUM MACULATUM.

THE varieties of Oncidium cucullatum in cultivation are very numerous, and many of them have been honoured with varietal names. A spike of the above-mentioned variety has been sent us by Mr. William Lees, South View, Greaves Street, Oldham. It is a newly-imported piece, and is now flowering for the first time. The sepals and petals are brownish purple, as in the more typical forms, but the lip is large, and handsomely spotted over its whole surface with deep rich purple on a rosy purple ground. The varieties already in cultivation under this name differ in some slight respects, but they all agree in the rich spotting of the lip.

DENDROBIUM BIGIBBUM AND D. SUPERBIENS.

Two really good Orchids now in bloom are Dendrobium bigibbum and D. superbiens. Both belong to the North Australian section, and they are without doubt two of the handsomest, as well as the most free-flowering of any class of Dendrobes. They are of easy culture, and succeed well when grown at the lightest and coolest end of the stove suspended close to the glass, where they can receive plenty of light and sunshine, which they require to make them flower freely. Abundance of water should be given them whilst growing, and they should not be allowed to get dry even while resting. If treated as above, the stove at this dull season should be rendered gay with their beautiful rosy racemes, which are produced freely both from the old as well as the new growths.—*S. C., L.*

ODONTOGLOSSUM GLORIOSUM.

IT is really a treat to enter a house where a few plants of this lovely Hawthorn-scented Odontoglot are flowering. So fragrant is its perfume that all amateurs who do not already possess it might do worse than include a plant or two in their small collections; and as it requires the same treatment as O. Alexandræ, I see no reason why they should not obtain some fine spikes of this lovely yellow and brown-spotted sweet-scented Orchid.—*S. C., L.*

THE LONG-TAILED MASDEVALLIA.

IN most of the species of this popular genus the tails or elongations of the sepals constitute a conspicuous feature of the flower, although the tails of the lateral sepals are almost absent in some of the finest species. Those of Masdevallia macrura are of unusual length, however, varying from 4 ins. to 6 ins. It is a rare and stately Orchid, which it is hoped will become more common. The flowers are altogether different from those of the M. chimæra type, and may be compared to M. Reichenbachiana in shape. The tube is, however, proportionately shorter and wider, while the segments of which it is constituted divide into two unequal lips. The upper one is triangular, and gradually becomes narrowed into the tail; the lobes of the lower lip taper even more gradually; and in both cases they are pale reddish brown, beautifully spotted with brownish purple, while the tails are yellow. The flowers are borne singly on the stems, and rise up above the leathery, glossy green leaves. It is a native of Columbia, and flowers in winter. We noted it the other week in the nursery of Mr. William Bull, King's Road, Chelsea.

ANGRÆCUM SESQUIPEDALE.

A FINE batch of this is now rapidly approaching the flowering period in the nurseries of Messrs. Hugh Low & Co., Clapton. The plants were imported some two years ago, and are now fairly established, forming compact, healthy pieces about a foot in height. Unfortunately, in the neighbourhood of London, they flower at a period when very liable to be destroyed by fog. Should the atmosphere be, however, moderately clear during the flowering period, the handsome wax-like flowers are very acceptable at this season, more so even than those of the late-flowering variety, which blooms at a period when flowers of many kinds are much more plentiful.

BURLINGTONIA DECORA.

THE flowers of this pretty species are as freely produced, or more so than those of any other belonging to the genus. Some growers may object to its somewhat straggling habit; but the manner in which it throws out roots from the stems gives it a peculiar and interesting appearance. Between the pseudobulbs the stem elongates, forming rhizome-like structures, which carries the former farther apart than usual. On this account it should be grown in a basket or on a block, and hung up close to the glass. The flowers are white, streaked with rose, and there is a handsome spotted variety called B. d. picta, which is even prettier than the type. They flower during winter.

ODONTOGLOSSUM EUGENES.

AMONGST the numerous supposed autumnal hybrid Odontoglossums, this one stands out prominently as something very distinct and striking. Its supposed parents are O. Pescatorei—amongst a batch of which it was introduced—and O. triumphans, taking after the former in its growth, but after the latter in its magnificent flowers. The sepals and petals are pale yellow, almost white along the centre, tipped and margined with deep yellow, and handsomely spotted with large chestnut-brown blotches. The lip is white with a prominent yellow crest, resembling that of O. Pescatorei, and has a large central chestnut-brown blotch. It requires the same treatment as its supposed parents. —*Orchid Album*, pl. 355.

CALANTHE MASUCA.

SEEING that this terrestrial East Indian Orchid was originally introduced in 1842, it is more rarely met with in cultivation than one would expect considering its beauty. The leaves are 18 ins. long by 6 ins. broad, and strongly plaited. From amongst these the flower stems rise to the height of 2 ft. or 3 ft., bearing a raceme of handsome flowers. The sepals are of a deep violet-purple, while the petals are shaded with white. The lip is rich purple, fading with age to brownish salmon, with a conspicuous deep yellow disk. It requires moist stove treatment.—*Orchid Album*, pl. 354.

THE PARKFIELD COLLECTION.

OUR correspondent "Rusticus" writes:—In the choice collection of Orchids at Parkfield, Worcester, there are now in flower some very good things, including the rare and beautiful Lælia flammea, Lycaste Skinneri alba, Lælia Goldieana, and Cattleya exoniensis. The Calanthes are very fine also, and many examples of Masdevallia tovarensis are superbly bloomed.

THE GARDENERS' CALENDAR.

THE GREENHOUSE.

REINWARDTIAS.—Those who grow R. trigyna—better known under the name of Linum in gardens—find it of great service during the winter months; but there is another species in cultivation equally worthy of attention or more so. This is R. tetragyna, which has a dwarfer habit than its congener, with larger dark green leaves, and larger paler yellow flowers. The latter are produced in great profusion from buds of different ages. A long succession is therefore kept up from a few plants. A greenhouse with a night temperature of 50°, or an intermediate house, will meet its requirements admirably when in flower. It is readily propagated from cuttings.

TREE CARNATIONS.—In order to flower these satisfactorily, they must be given a light position not far from the glass, so that they may enjoy the full effects of the feeble light, which has been unusually bad for some time past owing to the heavy fogs. Comparatively little watering will be required; but if the pots are well filled with roots, an occasional dose of weak liquid manure will assist greatly in the production of flowers. A temperature of 50° will be necessary to enable the blooms to expand freely and regularly, as well as in the development of the odour in fragrant varieties.

TEA ROSES.—In order to counteract the dearth of flowers that always prevails during the early months of the year, a batch of Tea Roses should be brought in and subjected to forcing. The temperature at first should not on any account be too high, otherwise the growth made and the flowering will be unsatisfactory. Little pruning will be necessary beyond shortening back the more rampant shoots and cutting out weak or superfluous growths. Give little or no water until some advance has been made and the roots are fairly active.

THE FRUIT HOUSES.

PEACHES.—The buds in the earliest house will now be swelling fast. The temperature must not, however, be allowed to run up too high, otherwise the results will be unsatisfactory; from 45° to 50° will be quite sufficient at night, even in mild weather, allowing a rise of 10° or more during the day with sunshine. Ventilation should be given by the top ventilators, even at night during mild weather; and a more vigorous and healthy growth will be fostered thereby. Later houses should be kept as cool as possible, and any further cleaning, pruning or tying that may yet be necessary should be accomplished without delay.

CUCUMBERS.—Use every possible means to ensure a free but vigorous growth in the young plants now advancing. Tie up the shoots every few days, so that the leaves may benefit by a full exposure to light. Further encourage them with a moist genial atmosphere, by damping down the paths and other exposed parts of the house, which should be closed early, so as to fully utilise sun-heat when that can be had.

PEAS.—The first sowing of these indoors, and ultimately to be planted out, may now be made. Varieties suited for this purpose are the old Sangster's No. 1, William I., Emerald Gem, American Wonder, and Ringleader. The American Wonder is exceedingly dwarf, and less easily accommodated than the others should the spring be so backward as to prevent their being planted out early. Some prefer to grow them in small pots; but they may be cultivated in greater quantity by nailing two boards loosely together, forming a V-shaped trough, with cross-pieces at the ends to make them stand. They may be cut to any required length, and placed in any suitable position in an early vinery or Peach house until they germinate. When this has been accomplished the pots or boxes must be transferred to some cooler structure, where frost is kept out and plenty of ventilation is given on all favourable occasions. The bottom of the boxes should be filled with rough, rich material, the siftings of old potting-bench soil for instance, or hot-bed manure, in which the roots will ramify strongly. They may finally be planted in the open ground when the weather becomes suitable, and after thoroughly hardening them off.

HORSE RADISH.—The present is a highly convenient time to plant Horse Radish, when outdoor work is less pressing than we may expect it to be a little later on. In order to grow it well, some further trouble is necessary than simply having some old starved bed in some neglected corner of the garden, as is too often the case. A good method is to take out a trench about 18 ins. deep, filling it up with old hot-bed manure, and then placing the soil over it. Select the longest roots obtainable of second or third-rate thickness, and dibble them into the ridge made in two lines, about 12 ins. apart and 9 ins. asunder in the rows.

QUESTIONS AND ANSWERS.

GRUB-EATEN PEAS.—*H. B.*: If very much affected, the safest plan would be to destroy or burn the Peas. It is said that Peas in this condition are injurious to animals that eat them, but whatever the case may be if eaten in a raw state, the harm cannot be so great when the peas are cooked; for Peas destroyed in this way by the grubs of Bruchus granarius are very plentiful in some parts of the country. The perfect beetles pair in summer, while the Peas are in flower, and lay their eggs in the seeds. From these eggs grubs are hatched out, which feed and bore into the peas in which they reside till a suitable time next spring or summer, when they assume the perfect form and commence operations again. Therefore, if you sow the peas affected with grubs, they will certainly be attacked in like manner again.

MAIZE RIPENING.—*J. R. L.*: Yes, you may be able to ripen fruit in your locality in the open air in a favourable season. Last summer, although you failed, is no criterion of what can be done in this country, because the amount of sunshine was abnormally small and the temperature much below the average. Next spring, say in March, we would advise you to sow seeds in pots, pans, or boxes, as may be most convenient, and forward the plants under glass until the weather becomes favourable for planting them in the open ground. Of course the more liberally you treat them the stronger they will be in May or June, when they should be transferred to a piece of rich ground in a sunny open position. The spikes of fruit may not be so large as those grown in warmer countries, but they will ripen and generally be as highly coloured.

MOORPARK APRICOT.—*J. Norie*: It is quite common for this tree to go off suddenly even when grown under glass as in your case. Many other stone fruits are liable to lose large branches in a single season, although apparently in fair health; but the Moorpark Apricot is specially liable to this failing, and a half or even the whole tree will die in a single season, although it may have borne heavily the previous one. You might try the Peach Apricot, which is so closely similar as to be almost identical. It is so far different, however, that it must be grown on the Brompton, Brussels, or Damas Noir Stocks, and not on the common Plum. Like the Moorpark variety it is a very old one.

NAMES OF PLANTS.—*C. W. K.*: A species of Eria, which we cannot identify from the materials sent. *A. C.*: 1, Oncidium ornithorhynchum; 2, Odontoglossum nebulosum; 3, Maxillaria punctata.

PARSNIPS EATEN.—*H. Findlater*: Your best plan under the circumstances would be to try growing the Parsnips in a different part of the garden, so that the insects which destroy the leaves to such an extent may not so readily find the plants when they are again hatched out in summer. The mining of the leaves is done by the larvæ of a small fly named Zephritis Onopordinis. Towards the end of the summer, when the larvæ have attained their full size, they change into pupæ in the leaf, or more often drop into the soil, and there assume this form. By carefully examining the soil you may even be able to detect them as small, oval, dirty green or brownish bodies about the eighth of an inch or slightly longer. The best means of destroying them at this season would be to dig gas-lime into the soil. When the plants are growing, look after them rather closely, and pinch the grub between the finger and the thumb, whenever it makes its appearance in the burrows.

SHIRLEY POPPIES.—*A. Strachan*: These merely constitute a modern strain of the common field Poppy. It is more than probable that the same or similar varieties existed in gardens many years ago, when the cultivation of this species was first taken in hand. In process of time, double varieties began to be produced, and as they increased in number and were improved in quality, they gradually displaced the single forms, until, at length, according to the fashion of the day, double varieties only were considered worth cultivating, just as in the case of Pinks, Carnations, Dahlias, Roses, &c. Single flowers of many kinds are now greatly appreciated, hence the development of a single strain which was first taken in hand at Shirley Vicarage, Croydon, and is now being widely distributed over the land. The flowers are large, frail, and not very durable, but display a great variety of the most pleasing shades of rose, scarlet, red, pink, white, and mixtures of several of these shades in one flower. You may safely get them for ordinary border decoration, for which they are well adapted.

COMMUNICATIONS RECEIVED.—R. S. & S.—D. P. L.—W. J. M.—J. T. B.—C. W. K.—C. M.—A. O.—A. G.—J. P.—E. W. & S.

TRADE CATALOGUES RECEIVED.

E. WEBB & SONS, Wordsley, Stourbridge.—Spring Catalogue for 1889.

DICKSON & ROBINSON, 12, Old Millgate, Manchester.—Vegetable and Flower Seeds.

DICKSONS (Limited), Chester.—Vegetable and Flower Seeds.

STUART & MEIN, Kelso, N.B.—Amateurs' Gardening Guide and Spring Catalogue.

COVENT GARDEN MARKET.

December 26th.

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ..per dozen	1 6	2 0
Beet, per dozen.....	2 0	3 0	Mushrooms, p. basket	1 0	1 3
Cabbages .... per doz.	1 6		Onions, per bushel ..	7 0	9 0
Carrots ....per bunch	0 6		Parsley, per bunch ..	0 6	
Cauliflowers, English, per dozen	2 0	3 0	Radishes, per dozen..	1 6	
Celery, per bundle ..	2 0		Small salading, punnet	0 4	
Cucumbers, each	0 6	0 9	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos, per lb.	1 3	1 9
Herbs, per bunch....	0 2	0 4	Turnips, per bun.....	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples, ½-sieve.....	2 0	4 6	Pine-apples, St. Michaels, each	2 0	7 0
Cobs .. per 100 lbs.	100 0		Pine-apples, Eng., lb.	1 0	1 6
Grapes .....per lb.	0 10	3 0			

Canadian and Nova Scotia Apples, per barrel, 7s. to 18s.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	9 0	15 0	Paper White Narciss, 12 sprays	0 9	1 0
Azaleas ....12 sprays	0 10	1 0	— — — French, doz. bunches	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Poinsettia, doz. blms.	4 0	6 0
Camellias, 12 blooms	2 0	4 0	Primroses..doz.buns.	1 0	2 0
Carnations, 12 blooms	1 0	2 0	Primula, double, bun.	0 9	1 0
Chrysanthemums, 12 blooms	1 0	4 0	Roman Hyacinths, 12 sprays	1 0	1 6
— 12 bunches	4 0	12 0	— — (French), 12 bun.	2 0	4 0
Cornflower, 12 bunch.			Roses, Tea, per dozen	1 0	3 0
Cyclamen..12 blooms	0 6	1 0	— Red .....per doz.	1 0	2 0
Eucharis, per dozen..	4 0	6 0	— Saffrano ..per doz.	1 6	2 0
Gardenias, 12 blooms.	6 0	9 0	Stephanotis, 12 sprays	6 0	8 0
Heliotropes, 12 sprays	0 6	1 0	Tuberoses, per dozen.	1 0	2 0
Lapageria, 12 blooms	2 0	4 0	Violets ..12 bunches	1 0	1 6
Lilium longiflorum, 12 blooms	5 0	9 0	— Parme, French, 12 bunches	3 6	5 0
Maidenhair Fern, 12 bns	4 0	9 0	— dark French, bun.	1 6	2 6
Marguerites, 12 bun.	3 0	6 0	Wallflowers, 12 bnchs,	4 0	8 0
Mignonette, 12 bun.	2 0	4 0	White Lilac, French, per bun.	5 0	7 0
Pelargoniums, 12 spys.	1 0	1 6			
— scarlet, 12 sprays..	6 0	9 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi, doz. .	6 0	18 0	Foliage Plants, various, each.....	2 0	10 0
Arum Lilies..per doz.	9 0	18 0	Ficus elastica each..	1 6	7 0
Chrysanthemums, per dozen	6 0	12 0	Hyacinths, per doz...	9 0	12 0
— large plants ..each	2 0	5 0	Marguerites per doz.	6 0	12 0
Coleus .....per doz.			Palms in variety, each	2 6	21 0
Cyclamen ..per doz,	12 0	18 0	Pelargoniums, scarlet, per dozen	6 0	9 0
Cyperus, ..per dozen	4 0	12 0	Poinsettia ..per doz.	10 0	15 0
Dracæna term., doz.	30 0	60 0	Primula sinensis, doz.	4 0	6 0
— viridis, per dozen	12 0	24 0	Roman Hyacinths, per doz.	9 0	12 0
Evergreens, in var., per dozen	6 0	24 0	Solanums....per doz.	9 0	15 0
Ferns, in var., per doz.	4 0	18 0			

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Next Week's Engagements.

MONDAY, Jan. 7th.—National Chrysanthemum Society: Meeting of General Committee at 7 p.m.

WEDNESDAY, Jan. 9th.—National Chrysanthemum Society's Mid-Winter Show at the Royal Aquarium. Conference of Chrysanthemum growers at 5 p.m. Sale of Bulbs, Plants, &c., at Protheroe & Morris's Rooms.

THURSDAY, Jan. 10th.—Sale of Lily and other Bulbs at Stevens Rooms.

FRIDAY, Jan. 11th.—Sale of unflowered Odontoglossums, &c., at Protheroe & Morris's Rooms.

SATURDAY, Jan. 12th.—Sale of Bulbs, Plants, &c., at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JANUARY 5, 1889.

CURRENT TOPICS.

VISCOUNT EVERSLEY.—In another column we record the death of this fine old English gentleman and kindly patron of gardening. But for the fact that he was such, and that his name must always be indissolubly connected with one of the best and most attractive gardens in the kingdom, we should hardly have given Lord Eversley such prominent mention. But in spite of the democratic tendencies of the age, we are far from being forgetful of the fact, that gardening in this country—that is the gardening which is

purely decorative and non-mercantile—owes very much to the patronage and kindly sustenance afforded to it by noblemen and gentlemen, of whom Lord Eversley was a bright example. The most beautiful gardening and the best gardening ability have always been associated with the stately homes of our nobility and gentry, and sorry will be the day when such sustenance is no longer afforded.

Not that gardening will die because the old order changeth, but rather we cannot hope for such high-class gardening as is found in the best places, or that any other conditions of social life can reproduce such fine garden developments as our nobility and aristocracy sustain. For that reason we find ample cause to lament the loss to horticulture which the decease of every old patron of the type of Lord Eversley presents. In too many cases now the void created is never filled, and the place once so well cared for is allowed to suffer neglect, or becomes a mere market garden.

Sometimes the successor is one of the newer aristocracy, which the commerce of the country has created, and the means are greater, while the horticultural taste is not less; but we have a sneaking regard for the old style of patron all the same. The maintenance of our gardens, and especially those of the more extensive kind, in their old form, is a matter of the first consequence to our horticultural trade; whilst to gardeners it is of no less importance, because these places constitute to them the prizes of the profession.

Northern Chrysanthemums.—Those societies which a humorous correspondent recently designated the "Little Nationals' — little only, however, because so few persons are found here, in the south at least, to cultivate the lovely hardy flowers these bodies are established to promote—have from the first found it needful to have northern and southern divisions, for the simple reason that nature makes a difference of from seven to fourteen days between the flowering season of the respective plants in northern and southern districts; hence each flower is annually represented by two exhibitions, north and south.

Remembering the remarkable development of the culture of the Chrysanthemum in the south no less than in the north, and also realising the fact that ordinarily some ten to fifteen days separate the blooming season of the flower in the north and south, it seems obvious that some sort of re-organisation of the National Chrysanthemum Society, which should lead to the establishment of northern and southern sections, is needful if the society is to become as national in its operations as its name implies it should be.

Possibly an alliance of the northern societies for the purpose of holding one great northern national exhibition annually would be a good arrangement, the two sections working harmoniously and jointly, but with certain independence of action all the same. The effort to hold a show, national in character, at Sheffield last year was a failure, perhaps as much because the southern organisation was little known in the north, as that southern flowers would not keep to suit the needs of exhibitors. It is true that now and then northern flowers have come south and won, but that was in days before the southern growers had woke up to a knowledge of their capabilities. Now a northern man has little chance at the southern shows held in the early part of November, while the southern men, it is only too evident, have little hope of being successful in the north later on. Everything, therefore, seems to point to the need of the establishment of a northern section of the National Chrysanthemum Society, and we commend the subject to the executive for its earnest consideration.

Vegetable Abundance. — There is this winter a wondrous wealth of all vegetable crops; even Potatos, apparently a little time since such a light crop, remain abundant all the same, and cheap, although not so good as could be desired. However, after such a season as was the past summer, it is marvellous that there should be Potatos in plenty, and we dare not grumble at lack of quality, when sunshine was so scarce an element in the production of the tubers. But the very weather which destroyed Potatos wholesale, in some parts of the country seems to have very generally favoured the production of all forms of hardy garden vegetables; indeed, in fields also are they presenting truly wonderful crops. We rarely ever at this season of the year saw such wealth of all forms of the Brassica family; such abundance of Turnips and of Spinach: in fact, of everything which during the winter habitually forms marketable produce. There is such an abundance that the demand for vegetables is far more than met; it is indeed doubly met, so that the market returns are low, and sometimes ludicrously so, if anything can be ludicrous which means financial loss.

It seems odd that abundance should not also mean wealth and prosperity, but in disposing of such abundance at its market worth, it is soon found that too much is as great an evil as too little; indeed, with too little the returns are always good, whilst the cost of marketing is always moderate. We find our market growers of vegetables actually wishing for a spell of severe weather to check the marketings of this wealth of vegetables and to send up prices. A heavy fall of snow, for example, would be in their estimate a Providential dispensation, even though it made the labour of collecting a load of vegetables very difficult, and the haulage of the same to market laborious and costly. One fact is that just now there is literally no return for present cost, compared with outlay; and any change would be a change which would limit production and afford some temporary relief. The autumn, and so far the winter, have been as generous to all the Brassica family as the summer was; hence we have an inordinate quantity where there should only have been enough.

Sir Hugh Low.—Among the New Year's honours conferred by Her Majesty upon public men we note the following: — Sir Hugh Low, K.C.M.G., late British Resident at Perak, Malay Peninsula, to be Knight Grand Cross of the Order of St. Michael and St. George.

Chedale Floral and Horticultural Society.—The next flower show of this society is fixed for the 16th and 17th of August.

Spring-flowering Bulbs is the subject of a paper to be read by Mr. W. Bardney, Norris Green, Liverpool, this (Saturday) evening, at the monthly meeting of the Preston and Fulwood Horticultural Society, to be held at the Castle Hotel, Market Place, Preston.

Gardening Engagement.—Mr. James Ashdown, for some time foreman at The Cedars, Harrow Weald, Middlesex, as gardener to Charles R. Humbert, Esq., Dellfield, Watford, Herts.

Presentation to Mr. W. Burton, of the Victoria and Paradise Nurseries.—Mr. B. S. Williams has lost an old and valued servant by the retirement, last week, of his general manager, Mr. William Burton, after twenty-seven years' service at Holloway. Mr. Burton, who is going to live in the neighbourhood of Bristol, was presented before leaving with a handsome timepiece by the nursery staff, accompanied with the good wishes of all for his future welfare.

Removing Large Trees.—In our issue for December 15th last, Mr. Beckett, of Aldenham, referred to the expeditious and satisfactory manner in which some large trees were being moved about that time in the park of Mr. J. Blundell Maple, M.P., at Childwickbury. We now learn from another source that some of the trees were as much as 40 ft. high, and were readily removed from a wood into the park on an improved "capstan" trolly, while the means of subsequently watering them was provided for by a Merryweather "Valiant" fire-pump, drawing its supplies from a source a mile away, and distributing the water over the trees by means of a flexible hose-pipe and American spreader.

National Chrysanthemum Society.—The members of the General Committee and representatives of affiliated societies are requested to attend a meeting at Anderton's Hotel, Fleet Street, on Monday evening, January 7th, at seven o'clock precisely. The Floral Committee will meet at the Royal Aquarium, on Wednesday next, at 12.30, and the conference, as noted below, will be held the same afternoon, at 5 p.m. precisely. The annual general meeting will be held at Anderton's Hotel, on Thursday, January 31st, at 7 o'clock, when the election of officers for the ensuing year will take place, and the Challenge Trophy, recently won by the Weald of Kent Society, will be presented. A special prize fund has been started as usual, and Mr. Holmes hopes to be able to announce at the annual meeting that considerable support has been promised. Offers of special prizes for vegetables, to be competed for in 1889, have already been received; and in order to facilitate the preparation of the schedule, Mr. Holmes will be glad to receive intimation of any others at an early date.

The National Chrysanthemum Society's January Conference and Show.—The sub-committee—Messrs. Castle, Gordon, and Payne—appointed by the National Society to make arrangements for a conference to be held in conjunction with the winter show of Chrysanthemums at the Royal Aquarium, on Wednesday and Thursday next, announce the following programme: The conference will be opened in the Westminster Aquarium at 5 p.m. on January 9th, when it is expected that the president, E. Sanderson, Esq., will take the chair. The subjects of the papers (each limited to a quarter-of-an-hour) will be as follows: "Manures for Chrysanthemums," by Mr. E. Molyneux; "Damping in Blooms," by Mr. C. Gibson, followed by Mr. J. Doughty; "Mid-Winter Chrysanthemums," by Mr. Kipling; and "Sports," by Mr. N. Davis. Each paper will be followed by discussion as far as time will permit. All members and visitors to the show will be admitted to the conference, and the room or hall in which it will be held will be announced on the morning of the show.

Gardeners' Orphan Fund. — There was a good attendance of members of the committee at the last meeting of the year, held on the 29th ult. The honorary secretary, Mr. Barron, reported the receipt of £50 7*s.* 7*d.* in various amounts since the previous meeting. Mr. Barron also announced the sad intelligence of the death, after a very short illness, on Christmas Day, of Mr. G. Howe, Benham Park Gardens, Newbury, one of the local secretaries of the fund, and an *ex officio* member of the committee. Mr. Howe took great interest in the fund, he was much respected by his co-workers, and a letter of condolence was ordered to be sent to Mrs. Howe. Mr. J. H. Harraway, Vicarage Street Nursery, Warminster, was appointed local secretary for that district; and at the conclusion of the business a hearty vote of thanks was accorded to Mr. Deal for the able and courteous manner in which he continues to discharge the duties of chairman.

Presentation to a Flower Show Secretary.—On the evening of the 26th ult., Mr. E. D. Stone, honorary secretary of the Cheadle Floral and Horticultural Society, was presented by his friends among the subscribers to the society, and exhibitors at its shows, with a handsome Silver Cup, in recognition of his faithful and unselfish labours during the long period of twenty-one years. The president of the society last year, E. H. Sykes, Esq., took the chair, and was supported by Dr. Mould, the treasurer, and Messrs. R. Mackellar, G. Alcock, J. Oldham, and other members of the committee. The presentation was made by Mr. Sykes after Dr. Mould had expressed the high regard in which Mr. Stone was held by his co-workers in the society. Mr. Stone was essentially a worker, not a talker, and he hoped he might long be spared to enjoy the use of the present then made to him. In reply, Mr. Stone, after expressing his gratitude to the subscribers, remarked that the Deepleach Hall, in which they were then assembled, might be said to be the home of the society. In it the first show was held, and in it he had paid away prize money to the amount of over £2,200. The subscribers the first year numbered 20; last year they were 164. The visitors on the first Saturday were a little over 500, and last year they were 6,254. He had been told that on the show days he was one of the worst-tempered fellows on the field. He was glad, however, to find that he was understood, and it was a source of satisfaction to him to know that he so thoroughly enjoyed their goodwill.

THE CHISWICK CHRYSANTHEMUM CONGRESS.

I AM surprised to find that the Council of the Royal Horticultural Society have determined to hold a congress in association with the Chrysanthemum during the second week in November next. That seems to be a false move, and one distinctly predestined to failure. In the first place the society never has done anything to promote the interest of the Chrysanthemum beyond granting some Certificates of Merit now and then. In the second place, the existence of the National Chrysanthemum Society is a standing protest against the neglect the Royal Horticultural Society has shown towards the Chrysanthemum, whilst it is also popular evidence of the fact that naturally it is recognised as the chief and most fitting promoter of the interests of the Chrysanthemum.

It is a Chrysanthemum society pure and simple, practically created because of the wondrous popularity of the flower, and of the demand of growers everywhere for some such nationally representative society. With such a body in existence, and one fully and actively alive to the welfare of the Chrysanthemum, why should the Royal Horticultural Society wish to interpose its little conference next winter just at the time when the great National Show will be held? That Chrysanthemum growers of every class will just then be fully occupied with the annual shows there can be no doubt; indeed, the date fixed for the show is not only the date of the Kingston Show, but must conflict with scores of others, so that the proposal is not only uncalled for but is absurd.

Does the Royal Horticultural Society wish if possible to take the wind out of the sails of the proposed National Centenary Celebration; as this little Chiswick affair is, I notice, designated with the appellation of Centenary Conference? To assume that any representative Centenary Conference of the Chrysanthemum can be held at Chiswick right in the midst of myriads of the ordinary exhibitions is ridiculous. If the Council chose to fix a meeting of the committee at Chiswick for the 12th of November all well and good, but to arrange for a conference worthy of the object is foredoomed to failure. —*Leo.*

A TRIAL OF PEAS IN 1888.

I AM one of those who think that everyone should try and prove what sorts of vegetables suit their soil and situation before recommending them to their friends, and also give them more than one season's trial before saying this, that, or the other is the best. I believe that we can all grow Peas to perfection if we try, but in some soils more trouble and care is required than in others to do them well. No doubt the very best way is to trench the land from 2½ ft. to 3 ft. deep, putting in plenty of good manure the previous autumn, and leaving the surface as rough as possible. Should the subsoil not be good enough to bring to the surface, the best plan is to break it up, leave it in the bottom of the trench, and add some manure; this will give from 6 ins. to 9 ins. more depth of soil, and there is nothing that Peas like better than a rich deep soil. Of course, the time of sowing much depends upon circumstances, but most people like a dish of peas as soon as they can get them, and gardeners, as a rule, try to get them as early as possible, each one to beat his neighbour, and if only a day's march is stolen, the grower is well pleased.

As to varieties, well, we shall soon have the new catalogues and new Peas beyond number. Some of these we know nothing about, but I can say this, that many of the later introductions will not stand comparison with the old ones; still, grand improvements have been made, and made in the proper way. This fact notwithstanding, many sorts are put upon the market before being adequately proved that they are improvements, and it would be a boon if all vegetables or fruits were properly tested by the Royal Horticultural Society before being put into commerce. The varieties sown on March 13th—not early, but early enough, for my purpose, were:—

ALPHA (Laxton's). A very fair early Pea, which gave good satisfaction, and which I think may be depended upon as a good general early variety.

AMERICAN WONDER. Truly a gem for small gardens and a fine variety for growing in about 3-ft. beds, with a few sticks stuck in amongst them to keep them up. In this way they are very productive, and the pods can be gathered without treading the plants down. This I consider a first-class variety which should be largely grown.

EARLIEST OF ALL AND WILLIAM THE FIRST are very good varieties for early sowing, but not over heavy croppers with me.

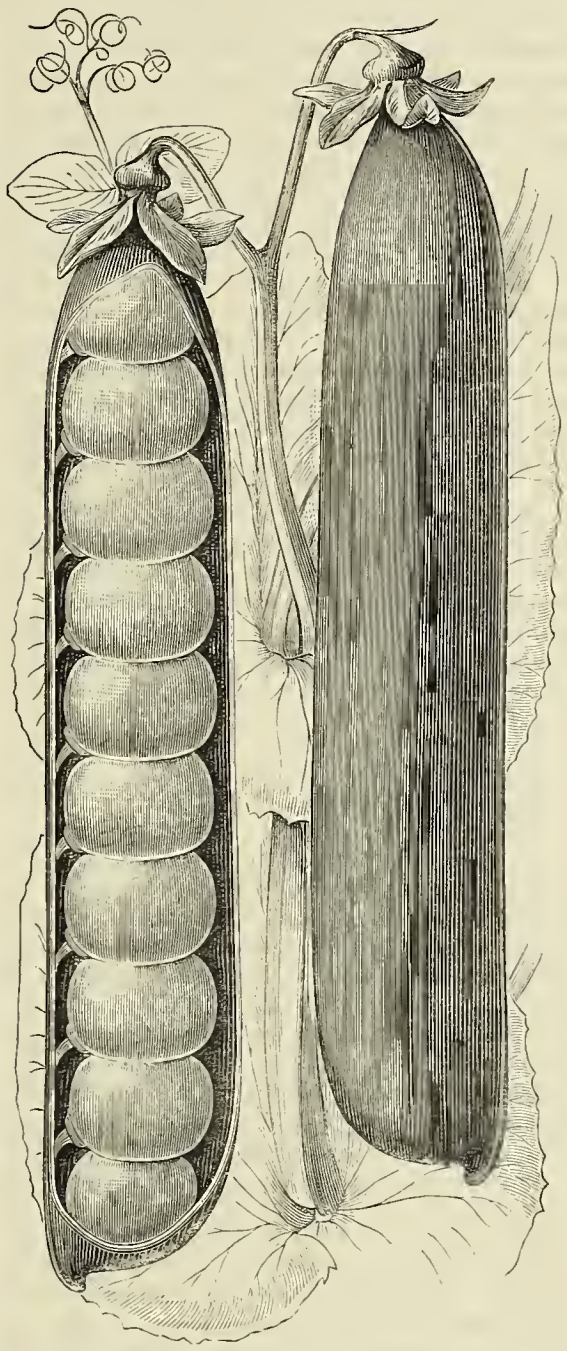
DR. HOGG. A splendid green wrinkled early sort, and one that bears a very fair crop and grows tolerably strong.

LIGHTNING (Carter's). A small white Pea, coming in very quickly, and an abundant cropper.

DR. MCLEAN. Still a grand wrinkled marrow of fine flavour, with well-filled pods, and growing 3½ ft. high. This is a variety that should be largely grown.

PRIDE OF THE MARKET (Carter's). A splendid sort for market purposes, being a heavy cropper and yielding long pods well filled with fine large green peas. It is a strong grower and requires to be planted thinly.

DIGNITY (Eckford). A grand main crop wrinkled marrow; a very strong grower and a heavy bearer of stout pods, with from six to eight peas in each, and of splendid flavour; should be grown by exhibitors.



PEA: VEITCH'S AUTOCRAT.

MAGNIFICENT (Eckford). A variety of robust habit, growing about 5 ft. high, and a heavy cropper. It is rather light in the colour of the foliage and the peas, but the flavour is delicious; a fine table Pea and one that would pay for market work.

BRITISH LION (Laxton). Grows about 4 ft. high, is a good cropper and worthy of a place in every garden. It makes a good companion to Magnificent.

VICTOR. A good strong-growing, splendid-bearing, and fine-flavoured variety.

SUTTON'S MATCHLESS MARROW. A fine variety with long pods, well filled with splendid peas, sweet and delicious in flavour. Will prove a grand exhibition Pea, growing about 3 ft. 6 ins. high.

SUTTON'S MAIN CROP MARROW, 4 ft. high. A grand Pea for market use, being a heavy cropper, and yielding long well-filled pods. A strong robust grower, and requires good sticks to support the heavy foliage.

SUTTON'S DWARF MAMMOTH. Very large, and of fine flavour; a strong grower, and requires planting thinly, and to be supplied with good stout sticks. It grew about 3 ft. 6 ins. high last season. A grand addition to the dwarf section.

AUTOCRAT (Veitch). In my opinion, this is without doubt the finest of all the recent introductions. I can with confidence say that I never before saw two such grand rows of Peas as I had of this. One row 14 yards long was first gathered from on the 3rd of July, and we continued picking till the end of September. The other row, 21 yards long, was saved for seed, and it was a picture, the pods hanging from top to bottom in pairs. It grew with me 5 ft. high, with heavy foliage, and bore long well-filled pods with nine or ten peas in each, of a beautiful dark green colour, and of the flavour of the old Ne Plus Ultra; I would recommend everyone to try this kind. I believe 4 ft. to be about the average height, but last season being wet, it grew rather higher.

PRINCE OF WALES is another very useful Pea, growing about 3 ft. to 4 ft. high. A good cropper, and a fine-looking white Marrow.

DUKE OF ALBANY. A grand exhibition Pea, and I think one of the best of our new varieties.

TELEGRAPH and TELEPHONE did remarkably well with me, and the old

CHAMPION OF ENGLAND still holds a place amongst mid-season varieties.

STRATAGEM came in for a good share of praise as a useful dwarf Pea, and it may be relied upon for a splendid crop on any good land. It grows about 2 ft. high, and requires sticks.

NE PLUS ULTRA is still a grand old favourite with me, and continues to hold its own with some of the longer-podded varieties. On the exhibition table and for flavour it is not to be surpassed.

EARLY BIRD (Burbury).—Of all the varieties of early Peas I have grown as yet, I have not found one to beat this. It was early, prolific, strong-growing, and of fine flavour, and I intend growing it largely this year.

The opinions I have given above I state from my experience of the varieties in my own garden, and I would add that anyone giving either of them a trial should sow thinly in the rows, and allow a good distance between them. I sow in rows 5 ft. to 6 ft. apart, and the Peas in broad drills 2 ins. from seed to seed. Some of the new sorts came up badly last year, but through their strong branching habits, I had some splendid rows of Peas after all, and was well paid for allowing them to remain, although at one time I was very much disheartened with so many blanks. My advice is to sow Marrowfat Peas very near the surface if the land is at all wet, for last year I found that many of them split open after swelling to a good size, and then quickly decayed.—*Joseph Lane, Palgrave, Diss.*

TIMBER PRICES.

THE prices of home timber have not increased during the past year; indeed, if anything, they still show a downward tendency. This is a matter that is much to be regretted, for the quantities of excellent timber that are lying about on many an English and Scotch estate, and that cannot be disposed of even at a very low figure, are quite unprecedented. Firewood is in no greater demand; indeed, with all home forest produce the prices are so low that it is with difficulty that one can pay for the cost of labour entailed in cutting and converting.

Landowners, in very many instances at least, can hardly be persuaded to form new plantations, unless they be for the express purpose of shelter or ornament to the estate. Why such a state of matters exists has more than once been asked, but all to no purpose, for the reason, although palpably evident, is not wished to be known by certain classes of persons, who are, or rather should be most interested in the matter. The plain fact is this: on almost every estate in the country, foreign wood is used exclusively, and our home produce is either sold at a ruinously low rate or allowed to rot in the woodland. The architect and joiner will not go to the trouble to convert our home-grown wood, be it ever so good, foreign battens being of the size, and scantling cut ready for immediate use.

Not for one moment do I wish it to be understood that home-grown wood is to be preferred for all uses on an estate, but that there are ways in which it may well be employed is evident to every forester in the land. If estate owners or their agents would give orders that home-grown timber was to be used wherever it possibly could be, the price would rise considerably, and another good would be brought about by land-owners planting extensively, and so giving employment to hundreds of men, where not a dozen can find a job at present.—*A. D. Webster.*

GARDENING NOTES FROM IRELAND.

GREENHOUSE PLANTS.

OF flowering plants for greenhouse decoration, there are many things to be met with worthy the attention of the private grower. In the Camellia house at Glasnevin there are many of these plants in flower, and here and there, in front of them, one still finds plants of Chrysanthemums doing duty, the blooms still looking fresh, although somewhat drawn. Along the shelves I noticed a good plant of Rhododendron Princess Royal covered with flowers, and another of R. jasminiflorum. Both these plants are most desirable as flowering subjects at this time of the year. In this house also were some well-grown plants of double white and pink Primulas, of which too much could not be said regarding their handsome and long-flowering properties for greenhouse or table decoration. The wonder is that more use is not made of them for either purpose. Zonal Pelargoniums in flower are always welcome as imparting a gay decorative tone when used among other subjects; but when one sees plants at this season carrying trusses 6 ins. across, and of the most dazzling colours, their importance can hardly be overrated. Of this class is Daphne, Cannell's Paul Charbonier (a semi-double), Hettie, Mrs. Keiller, Kate Farmer, Mrs. Gordon, Rubis (another semi-double), and the well-known old and useful Henry Jacoby. No doubt to secure such fine trusses of bloom there must be a large stock of plants kept up, as special treatment will be required for them. The way adopted here is to pinch out the points of the shoots as soon as a few flower trusses are formed, and the plants are usually confined to 6-in. or 7-in. pots. This, of course, makes it necessary to change the plants often, but where a large number can be kept, there need be no difficulty experienced, as the various batches of plants can be made to succeed each other regularly. Cinerarias also have begun to put in an appearance here, and altogether this house presents a good floral display for a dull season. If the Chrysanthemum display held in these gardens lately attracted such a vast number of visitors to it, there is a plant now in a tall conservatory, which is a wonder in itself, and well worth a visit from anyone wishing to see a plant furnishing so unusual a profusion of flowers under glass. This is the Luculia gratissima, and it would be no easy task to convey an idea of its appearance by trying to give a description of it. It appeared to me to be planted out in a very confined space for the roots to work in, considering the large amount of head room it occupied. It was trained along a frontage of 5 or 6 yards, and ran to a height of 8 ft. or 10 ft., and from the ground upwards the plant was covered with hundreds of its pink, Syringa-perfumed blossoms. It was by the merest accident that I came across the plant, and I should have been sorry had I missed such an opportunity. Sometimes the plant is to be found in plant collections, but only in pots, and anyone having seen it grown as such, can hardly realise what it is when grown planted out, and with good head-room to run in. I would certainly advise more use to be made of it by those who can give it a place on the walls or pillars of greenhouses or conservatories.

AGERATUM, CUPID.

FOR the formation of a blue band or line among dwarf bedding plants, I saw no Ageratum during the past summer and autumn equal to Cupid. Notwithstanding the excessive amount of rain that fell during that period, the plant maintained its fine dwarf habit, as well as its very floriferous character. Although it has been in cultivation now for several years, it does not appear to be so well known as it should be. Anyone having much summer bedding to attend to would do well to look it up for next season.

IMPATIENS HAWKERII, &c.

FROM time to time complaints are heard as to failures attending these plants when in a progressive state of growth—that is, when they require shifting into larger-sized pots. I do not know if the various failures can be due to one cause only, but I have known many failures to arise from the neck or collar of the plant being placed at a lower depth in the soil than it was previously. Another point of danger is giving what is known as a good shift, and then giving a good watering "to start them," the result being in most cases that instead of "starting" them into renewed vigour, they "start" to rot at the neck. This latter part of the plant should be always kept high, so as to prevent the possibility of water being retained about it, and water should be given very sparingly at potting time, and until the plants have taken hold of the new soil. In trying to have rich soil, the mistake is often made of causing it to be somewhat retentive of moisture; there can be no objection to having the soil rich, but while doing this care should be taken to have it perfectly porous.—*W. D.*

ONIONS.

THAT the Portugal Onions sold so cheaply by grocers are milder flavoured and therefore pleasanter eating than our own, there can be no doubt, and if some of that mildness should be found in the new kind, Lord Keeper, referred to on p. 246, it will be none the less meritorious. Certainly the Portugal and Spanish imported Onions lack that firmness and solidity which our best grown Onion bulbs present, but both features may be as much due to climate as to any other cause. Now no one wants big Onions for ordinary domestic use—indeed, they only result in great waste, and perhaps, on the whole, do not give a better return per rod of ground than do some kinds which give a fine crop of medium-sized hard handsome bulbs; and certainly are less profitable in the market. But still a really fine stock gives just such a return as this under what may be called ordinary garden culture, and perhaps there are fewer more profitable crops than is found in a large breadth of Onions, if of good size, thick and handsome.

But whilst we may not, because of the objectionable perfume emitted, partake of Onions too freely, it is certain that some of the larger and milder bulbs, stewed or baked, and served up with melted butter and condiments, do make a fine supper dish for the winter season. The cooking seems to abstract the objectionable perfume, and the native hotness gives place to the more appreciated heat of the fire. Then when colds are prevalent—and during the winter these physical ills seem to be always with us—there are few more appetising bedtime doses than a basin of Onion broth or porridge. Perhaps the Onion has some medical virtues, perhaps its native heat is helpful in exorcising the cold, in any case the patient rarely rises from his bed after partaking of an overnight basin of Onion porridge, without finding himself greatly benefited.—*Lactuca.*

NOTES ON FRUITS.

THE QUARRENDEN.

Anyone would have thought "F." could have given some good reason for being amused at this Apple being called Quarantine, but from his silence I presume he has none. In your issue of the 15th inst. I note your editorial remark that the Devonshire Quarrenden is mentioned in the *Complete Planter and Cyderist*, published in 1690, and also that it was not grown in London nurseries before the beginning of the present century; this somewhat strengthens my statement, as my ancestor, who I contend introduced and named the Apple Quarantine, kept a nursery at Ealing some time between the years 1780 and 1810. Although "A. D." (at p. 264) holds that Quarantine is a corruption, he gives no proof, therefore his opinion as to the correct name is really valueless, but he is quite correct in his description of the fruit as it was forty or fifty years ago, for the Apples we now get bearing the name are very unworthy descendants. Perhaps some of your numerous readers, who possess old pomological books, can give a description of the Quarrenden as it appeared in 1690 or thereabout that perhaps would throw some light on the matter.—*S.*

ANNE DE BRETAGNE PEAR.

Out of thirty-one varieties of new Pears sent by the Messrs. Transon, of Orleans, to another grower in France, the above has as yet turned out to be the best. It was raised in 1883, and has already given great satisfaction with regard to size, beauty, fertility, keeping qualities, and flavour. In the latter quality it is compared with Doyenné du Comice, while it is as large as Catillac. During 1887 a pyramidal tree of four years' growth matured thirty fruits of great size, and the same tree last year gave twenty-six fine fruits, but rather smaller than those of the previous season. The description of the fruit is large or very large, always of a bright vermilion on the side next the sun, marked with pale specks; before it is ripe the skin is rough and deep green, but afterwards it becomes glossy and pale green on the shaded side. The flesh is melting, slightly acidulous, and of the first quality; and the fruits are in season from November to January. A coloured plate of it is given in the *Bulletin d'Arboriculture, de Floriculture, &c.*, for December last. The fruit there represented measures about 4½ ins. long and 3¼ ins. at the thickest part.

KESWICK CODLIN APPLE.

It would seem superfluous to speak of this Apple about three months after it is reckoned to be out of season. This is generally considered to be out of season about two months after ripening; but such need not be the case if it be kept in a cool dry place. Specimens kept up till the end of December lose greatly in flavour it is true, but it is an Apple that might certainly be kept for a much longer period than is generally the case. During August and early in September it is rushed into the market, and that in most cases in a green and unripened condition, and we see no more of it for another year. What is more, it seems to be degenerating under the present system of culture, as we seldom see good samples of it in the market. Probably the trees are old, but an early culinary Apple having the good qualities of Keswick Codlin ought to receive more generous treatment. It has been in cultivation at least since 1793, and as in the case of other valuable old Apples, the question might well be raised whether the constitution of the said varieties is becoming played out, or whether the system of culture is at fault.—*F.*

THE CULTURE OF ASPARAGUS.

(Concluded from p. 278.)

IN the spring of the third year additional soil of the same character as had been already employed was added to the sides of the ridges, which now transformed them into beds 3 ft. wide, with 1 ft. of an alley between them. They were now practically completed, so far as additions of soil were concerned, no more being necessary. From some of the strongest plants a few heads might have been taken for table, but this was not done, and the plants were allowed another season for their development. The same course of treatment was pursued as in the two former years. This year, as the plants were throwing up from eight to twelve stems each, of an average height of from 5 ft. to 6 ft., it was found that to support the entire plantation individually, a large number of strong stakes would be required. A simpler method had therefore to be adopted. At distances of 10 ft. or 12 ft. along the rows stout posts or stobs were fixed, and to these two strong tarred cords were stretched equi-distant, and to this fence-like erection the stems of the Asparagus were tied. After the ripe stems had been cut down in autumn, 2 ins. or more of the surface soil was drawn from the beds into the alleys, the annual top-dressing of manure, about 2 ins. in depth, being then spread over the beds, and covered with the soil in the alleys. This completed the third year's course of cultivation, and in subsequent years the same routine is gone through. In the fourth year the plantation was in a bearing state.

This plan of forming a plantation of Asparagus may appear unique; that it is a variation from the well-known method I admit, but it is only a variation to suit a peculiar circumstance. It is entirely based on the French system of cultivation. The French, on their porous sandy loam, form little trenches, similar to those employed for Celery, but not so wide nor so deep, in which to grow their Asparagus. In these trenches they form small hillocks on which to sit the plants, and by degrees they annually add the soil of the ridges to the trenches, until the ground again resumes its natural level. The difference, therefore, between the French method and the way I have described is not great. The French plant on hillocks in trenches, while I planted on hillocks on the surface; that is all the difference. To have formed small trenches on adhesive clay, and planted in them as the French do, would inevitably have led to failure, because in winter the plants would be in the same condition as in a wet ditch. On the sandy ridges of prepared soil the crowns were comparatively dry in winter, and what rain fell quickly passed through them.

All growers seem to concur in this—viz., that though Asparagus likes plenty of water when growing, it cannot do with it stagnating about its roots at any time, but least of all in winter. Such is a brief outline of a method devised to meet the exigencies of an unfavourable situation.

The results were not extraordinary, but where I am led to believe Asparagus had previously been a failure a fair degree of success has been attained. Last summer, the fifth of the plantation's existence, and being a wet one, the plants grew stronger than usual, many of the stems reaching 7 ft. and 8 ft. in height. It is a truism that in gardening matters hard and

fast lines cannot often be followed. The course of culture followed at one place may not be suitable at another; we must have regard to the wants of the plants and the circumstances of the position, therefore the course of culture I have related would not be desirable under all conditions; indeed, it would be foolish to attempt it, as for instance on sandy and medium soils—soils naturally well fitted for the growth of this vegetable.

Regarding the depth to which the soil should be prepared for Asparagus, the erroneous idea at one time was entertained that it was necessary to trench and manure to a depth of 2½ ft. or more. This is an unnecessary depth, for if we lift a plant of Asparagus it will be seen that all the roots extend horizontally or at most obliquely; few if any taking a downward course. Where, then, is the use of manuring and expending labour on the soil to such a depth? The roots never reach it, and are better not so far down. It has also to be borne in mind that the crown and roots of Asparagus have a tendency to rise to the surface of the soil. If the soil be stirred and manured to a foot or 16 ins. in depth it ought to suffice. This depth and preparation of soil is simple and inexpensive compared with what was once detailed in the "Memoirs of the Caledonian Horticultural Society," by a Dr. McCulloch. The following preparation of beds for Asparagus, says Dr. McCulloch, has been tried in Scotland with success. "A pit the size of the intended plantation is dug 5 ft. in depth, and the mould which is taken from it must be sifted, taking care to reject all stones, even as small in size as a Filbert nut; the best part of the soil must then be laid aside for making up the beds.

"The materials of the bed are then to be laid in the following proportions and order:—6 ins. of common dunghill manure, 8 ins. of turf, 6 ins. of dung, as before, 6 ins. of sifted soil, 8 ins. of turf, 6 ins. of very rotten dung, and 8 ins. of the best soil. The last layer of soil must then be well mixed with the last of dung. The compartment must now be divided into beds 5 ft. wide by paths constructed of turf, 2 ft. in breadth and 1 ft. in thickness." I venture to assert that neither in Scotland nor elsewhere would such a laborious and expensive preparation of ground now be undertaken for Asparagus.

Varieties of Asparagus.

In trade lists the names of several varieties of Asparagus are given, but probably they are only synonyms. Good culture and bad culture will change the character of a variety. Messrs. Vilmorin, Andreaux & Co., of Paris, in their book, *The Vegetable Garden*, describe seven varieties of Asparagus which they consider possess really distinctive characteristics. Of these seven varieties one deserves special notice, and that is the Early Purple Giant Argenteuil, so much grown for the Paris markets, and so much lauded for the thickness of its shoots and their rosy-coloured points. Heads of this variety are said to have been grown from 3 ins. to 6 ins. in circumference about Paris. It has been obtained by selecting from seedlings of the Giant Dutch Asparagus. By all accounts, this is the variety that should be cultivated in British gardens. In saving Asparagus seed some discretion is requisite. A French grower advises to select the best plants not under six years old, and not to cut any heads from them the season the seed is to be saved, the finest heads only to be allowed to run to seed, and when ripe the largest berries only to be selected, avoiding the top ones. In saving for ourselves seed of any flower or vegetable, we always select what we consider the best plants of a sort: the Cineraria with the most compact habit, the most profuse bloomer, the best-formed flowers, and these with the brightest colouring and best-defined markings; or the Beet with the darkest leaves or most symmetrically-formed roots.

In Asparagus the qualities we look for are size of head, quantity of heads to a plant, and earliness. Plants with the largest combination of these qualities should be selected for seeding. Selection is a matter of moment, and worthy of careful attention either in flowers or vegetables. The high standard of excellence these have now attained is due in a great measure to selection. Asparagus seeds retain their germinative power for five years.

Seed Sowing.

With regard to sowing the seed there is not much to be said. The chief point of consequence is to have the soil well pulverised and moderately rich. If the weather is favourable, February or March are the best months in which to sow. It is most convenient to sow on beds or in drills 1 ft. apart. When the young plants become sufficiently large to handle they should be thinned out to 6 ins. or 7 ins. apart. In the following May the plants should be transferred to their permanent quarters, and be allowed 1 yard each way. One-year-old plants are preferable to older ones.

Asparagus for Profit.

Everything now-a-days has to be viewed very much from the commercial standpoint, and to those who grow this or any other vegetable it is the only practical view that can be taken. Unless it will pay it is of no use attempting it. The question then is, Will Asparagus pay? According to some this is doubtful. From Shaw's work on *The London Market Gardens* it seems that its cultivation is being restricted in the neighbourhood of London. I quote the following from Mr. Shaw's book:—"Our chief supply of early Asparagus comes from French gardens, in which it is cultivated on a better system than that followed about London. French Asparagus, which is supplied as early as November, has, therefore, so materially altered the price and demand for English-grown Asparagus, that the Fulham growers and others are continually reducing their plantations, and some have entirely done away with Asparagus to make room for quicker-growing and more remunerative crops." Apparently, then, the French growers, with their better system of cultivation, are beating British growers on their own ground. That it must be a profitable crop with the French need not be doubted, otherwise they would cease to send it to this country.

Though I have never myself grown Asparagus for the purpose of marketing, yet from what I have noted I incline to the belief that on suitable soil and under proper management it would be a remunerative crop. That I might be able to state an opinion on this matter not merely from theory, I, this spring, marked out eighty of the strongest plants in our plantation and had the produce of them sold. From May 7th to June 11th I gathered from these eighty plants, 1,250 heads of Asparagus, for which I realised 3*s.* 4*d.* per 100. On an average each plant produced fifteen heads. Assuming now that an acre of ground had been planted with Asparagus—one plant to each square yard—and that each plant had produced and realised to the same extent as the eighty, a sum of £126 per acre would be obtained. This would allow a large sum for working expenses, and would surely leave a sufficient margin of profit besides. Of course, a good profit would be needful to recoup the expenditure and no returns for the first three years; but by intercropping the lines of Asparagus the first two years some returns might be made. I do not think the estimate I have made of the profit that might be realised an extravagant one, as I have shown I only gathered heads from the plants for a month, and on an average only took fifteen heads from each plant. Now from plants that were allowed to mature from ten to fourteen good shoots the previous autumn, they were certainly not severely robbed by losing fifteen heads each the following spring. I consider, therefore, that my estimate is moderate.

Blanching.

About the practice of blanching the young shoots of Asparagus with the view of improving their quality for table, there has been, and probably still is, some difference of opinion in this country as to whether blanched or unblanched shoots are best. Probably some prefer them better the one way than the other. As it is an important point in their production, it may not be amiss to state the opinion of our neighbours the French anent this matter. I quote the following from a French author:—"In certain localities in France they do value the distinction between blanched and green Asparagus, and occasionally prefer the latter; this is an error very prejudical to the consumer's interests. Properly blanched Asparagus is infinitely more tender and delicate. All Asparagus cut when green is not fit to be eaten in the usual way, but may be used cut up small as an accompaniment to other dishes. To serve up green Asparagus is to dishonour the table. In the markets of Paris the green Asparagus is worth a franc a bunch when the blanched is worth three francs; they do not eat it (the green Asparagus), it serves for the manufacture of syrup of Asparagus." Such is the testimony of a Frenchman, given in *Parks and Gardens of Paris.*

Gathering the Crop.

It is a well-known fact, and does not need repetition, that the heads should not be gathered too far into the season. If this be persisted in it materially weakens the plants, causes them to be late in maturing their growth, and probably later in starting into growth the following season. When commencing to gather heads from a young plantation for the first time, it will happen that some plants have not kept pace with the others, but are weaker. These weak plants should be marked out, and no heads taken from them till another season, which will allow them to gain strength and be equal to the others. The practice of starting to cut a head wherever it appears is a bad one. Each plant should be treated as a separate individual.

The preservation of the shoots during their growths, and until they are matured, is of paramount importance, and owing to neglect of this, failure is courted and also caused. It is quite obvious that if any plant or tree be denuded of its foliage at an untimely season it will weaken its energies for the future, and smaller leaves and weaker growths will be produced. In the case of Asparagus it is the same—the annual stems support the entire leaves of the plant, are its lungs in fact; destroy these and the plant must deteriorate, hence, therefore, the necessity of supporting the stems.—*Alex. Porter, Luchie, North Berwick.*

Notes from Scotland.

Coleuses for Winter Decoration.—These plants are not turned to so good an account as they might be for the winter decoration of the intermediate house. Several specimens about 3 ft. high, and the same in diameter, have continued effective till now with us, and are still in good order, the beautifully tinted foliage having remained intact, thus affording a pleasing contrast with such things as light and dark Dracænas, Abutilons, Ferns, and Palms, with small plants of Mrs. Pollock Pelargonium on the lower benches. Now that so many choice varieties of Coleus can be had so easily from seed, no one having the command of a little fire-heat under glass need be without these valuable and inexpensive plants for winter decoration. It is well to bear in mind that very rich soil should not be used when potting the plants, otherwise the variegation may not be so perfect. Maiden loam, peat and sand will be found a suitable compost for them.—*Western.*

Pruning Gooseberries.—The pruning of Gooseberry bushes, although often regarded as a commonplace operation, is, nevertheless, one which might well be performed in many gardens with more intelligence in regard to the prospects of a crop of fruit being secured. Some practitioners of the old school, who may still have their representatives in the ranks of gardeners, maintained, in order to secure highly flavoured fruit, that, together with other items of cultivation, a sparing use of the knife was essential to the end in view, and except for the purpose of removing all useless spray and such shoots and branches as were overcrowding each other, the knife was not used, all the points of the young shoots being left intact. In commenting on the various systems of pruning Gooseberries with a bothy companion a quarter of a century ago, he informed me that among other methods he had seen practised, was that of all the work being done by means of the finger and thumb, no knives being allowed to touch the bushes. Apart, however, from the question of flavour in directing our modes of pruning, there is the equally important one of protection from spring frosts to consider, and while anxious to secure fruit large and fine in quality, cultivators will do well to err on the safe side by leaving at least a portion of their bushes with as much useful bearing wood as is practicable. In the garden from which I write, the crops of Gooseberries have been plentiful for the last six years, excepting 1887, and the bushes, it may be remarked, were more freely thinned at the preceding pruning season. It may be mentioned also, that, on the contrary, the heaviest crop ever gathered was in 1886, when from unavoidable circumstances pruning was left practically undone. In some localities, it may be remembered, the spring frosts of that year did much injury to Gooseberries in bloom, the result being a meagre crop of fruit.

The necessity of liberal manuring, either in a liquid or solid condition, in order to promote good size and quality, should not be overlooked, more especially on light, shallow, and gravelly soils. The difference in the quality of the fruit produced on bushes so attended to, as compared with neglected plantations, is a sufficiently strong argument in favour of generous treatment at the roots. A line of Warringtons and other late varieties, which have received extra liberal treatment for a few years past, have always rewarded us in due time with exceptionally fine fruit.—*Western.*

FLORICULTURE.

Forms of Chrysanthemums.*

Knowing the importance of correct ideas as to the classification and properties of the several classes of Chrysanthemums, it is with much pleasure that I comply with the request to give an address on the forms of the flowers. But it must be understood that in the comparatively short time at my disposal, it is not possible to deal with the subject with the fulness its importance demands, and all that I can hope to do is to briefly touch upon the chief characteristics of the several sections. It is only within a comparatively recent period that the question of classification has occupied the serious attention of cultivators and others interested in the Chrysanthemum, and ten years ago it was quite common for societies of considerable importance to provide classes for "large-flowering Chrysanthemums," and allow exhibitors to stage any of the sections in mixture or otherwise in them. With the increase in the show and rapid multiplication of Japanese varieties there arose a desire for a classification of the varieties, and such definitions as would enable both exhibitors and judges to at once determine to what class any particular variety belonged. In compliance with the request of a secretary of one of the societies, I prepared, in the autumn of 1879, a classification which, so far as it went, has proved of considerable service. This was not the first classification nor has it been the last. In 1833 Mr. Hayworth prepared a classification of the varieties grown at that time in the Chiswick Gardens of the Royal Horticultural Society, and this was published in *Loudon's Gardeners' Magazine.* This arrangement was enlarged by the late Mr. John Salter, and given in his work, *The Chrysanthemum.* A month or so after the appearance of my definitions in print, two other writers attempted to deal with the question, and at the same time appeared anxious to show that they were oblivious of what had happened during the forty-three years that had elapsed since the publication of Mr. Hayworth's classification, which I would add is of no practical value at the present day. In the classification I prepared in 1879, I divided the great family into seven sections, but the changes that have been brought about during the past decade renders some modification necessary to adapt it to the requirements of the present day.

I do not propose to discuss the history of the flower farther than is necessary to elucidate the evolution it has undergone since its introduction to this country ninety-eight years since, and I must refer those who may be anxious to increase their historical knowledge to the excellent *Short History of the Chrysanthemum*, by Mr. Harman Payne, who is unquestionably the best authority on historical matters we have. The leading classes into which the Chrysanthemums are divided are the Incurved, Japanese, Reflexed, Large Anemones, Japanese Anemones, Pompons, and Pompon Anemones. The Japanese may be sub-divided, as I shall show in the course of my remarks.

The Reflexed Varieties.

Chronologically the reflexed flowers stand first, for it is an undoubted fact that the first large-flowered Chrysanthemum introduced to this country in 1790 belonged to that section. This variety, figured in the *Botanical Magazine* as the Old Purple, and included by Mr. Haywood in his classification under the name of the Tasselled Purple, is so similar to that well-known variety, Dr. Sharpe, that an attempt has been made to show that they are one and the same, but I have no doubt whatever as to their being perfectly distinct. But if the reflexed have the advantage in age they are far behind the incurved and Japanese in importance, and the incurved must certainly have precedence. It wonld be a very interesting study to trace the development of the incurved flower, but time will not permit to do more than deal with broad principles. It must not be supposed that the Old Purple is the progenitor of the many beautiful incurved flowers we now have, or that the process of development to the highest degree of perfection known to us extended over a long period. On the contrary, there can be little doubt that they have descended from the Incurving Lilac, Two Coloured Incurved, Superb White and similar varieties, which were introduced about 1828. As shown in the coloured plates which appear in vols. iv., v. and vi. of the first series of the *Transactions of the Horticultural Society of London*, several of the varieties introduced to this country from China about the year mentioned had a tendency to incurve. If we accept the year mentioned as the date of the introduction of the progenitors of the present race of incurved, we can say that the flowers forming the section attained to their highest perfection in the comparatively short period of twenty-four years, for the Queen of England, the finest of all the incurved varieties, was introduced in 1847. Whether Empress of India or Lord Alcester is preferable to the Queen of England does not affect the argumeut, for they, with several others, have descended from that variety as sports.

Properties of the Incurved Section.

This brings us to the question of properties, and I will at once tell you that the incurved flower should be perfectly globular, and I would mention Empress of India as the most closely approaching perfection of form. The flower should be well filled up in the centre, and the florets should incurve regularly, and be well rounded at the points and free from notches, as indentations are disfigurements. We are told that a globe is inelegant and meaningless by those who are not sufficiently educated to appreciate the graceful curves of a perfectly-developed bloom of the variety I have mentioned as a type; but without stopping to discuss that point, the more closely your flowers approach that form, the greater will be the chance of your obtaining a high position in a close competition. Solidity is of hardly less importance than a good outline, for thinness is at once seen by the trained eye, and will not fail to heavily discount the chances of the cultivator taking a high place on the prize list. Freshness is essential, and the want of this important quality frequently places boards of blooms at a disadvantage when put upon the exhibition stage, and in not a few instances is the cause of much disappointment. Without freshness it is impossible to have the colour at its best, and although many cultivators fail to recognise the fact, to stage a bloom in its true colour is of the highest importance. It should always be remembered that it is no part of the duties of judges to determine what the flowers were a fortnight before the show, or what they are likely to be a fortnight afterwards. Their duty, as I understand the case, is to determine the merits of the blooms on the day of the exhibition, and those who have them at their best on that date will be most likely to occupy a foremost position.

Characteristics of Reflexed Flowers.

As already mentioned, we have had the reflexed varieties from the first, and although a period of nearly 100 years has elapsed since the introduction of the first variety, so little has been done in improving them that they are the most unsatisfactory class of all. There is not, in fact, half a dozen varieties that are even fairly good. The several Christines, which have long been in cultivation and are the most popular of all, are very coarse, and the more recent introductions—such as Elise and Cullingfordi, which are so useful for decoration—have so much Japanese blood in them that they usually lack the refinement we have a right to look for in the section. With reference to the properties of the reflexed varieties, I would say that the larger the blooms are the better, provided they are free from coarseness. They should be circular in outline, form as nearly as possible a half globe, and be free from any trace of thinness or confusion in the centre. The florets should be broad, quite flat on the upper surface, free from notches at the tip, and regularly recurved. The colour ought to be clear and decisive, and, as in the case of the incurved, be at its best when the blooms are staged. There is yet much to be learned in connection with the reflexed, for large numbers of exhibitors, and not a few judges, regard mere size as the chief test of their quality, with the result that first-class blooms have frequently to play second fiddle to others of the coarsest description, which represent the liberal use of fertilisers rather than skilful culture.

The Japanese Types.

The Japanese varieties afford such a diversity of form that it is no easy matter to indicate their chief characteristics. There are three well-marked types—namely, the incurved, reflexed, and those with more or less twisted florets. A sub-division, under the designation of reflexed Japanese, has been created by the Catalogue Committee of the National Chrysanthemum Society; but it remains to be seen to what extent it will prove useful so far as the exhibitions are concerned. The best type of the reflexed group is Elaine, which, as so well known, has long, flat, ribbon-like florets, that are more or less reflexed, but not with the regularity characteristic of such varieties as Chevalier Domage and Dr. Sharpe. With such a large nnmber of distinct forms as is to be found in the Japanese, it is not possible to do more than refer to their properties in general terms without occupying more time than can be spared. One of the chief points of merit is size. Small-flowered varieties are exceedingly useful for decorating the conservatory and supplying blooms for the drawing-room and other indoor apartments; but for exhibition purposes those of large or medium size are alone suitable. Large size may therefore be accepted as an important property. Fulness and decisiveness of colour are properties not less essential than size, for flowers that are thin or ineffective in colonr fail to do an exhibitor much service when placed on an exhibition stage. In the reflexed class large size is also desirable, but the florets should be flat, somewhat regularly arranged, and more or less reflexed; the colour of these also should be clear and decisive. Boule d'Or, Edwin Molyneux, Grandiflorum, Belle Paule, Madame C. Audiguier, and Avalanche may be mentioned as representing the finest types of Japanese, and all collections should contain a due proportion of varieties of similar character, as they carry much more weight than flowers so regular in form that it is not easy, in certain stages, to determine whether they belong to the Japanese or the reflexed classes; and I hope the quaint and fantastically-formed flowers will ever continne to have a proper value attached to them by judges when shown in classes, without restriction as to character of bloom, as it is most important that the exhibitions should be as varied as possible. So much depends upon the colour, in the case of the Japs, that blooms should be shown in as fresh a condition as possible. Stale blooms are so objectionable that to obtain a high position with them, when there is any competition, is impossible.

The Anemones.

There are three classes with Anemone flowers, and these are known as the large Anemones, Japanese Anemones, and Pompon Anemones. The most perfect type is the large Anemone, but there is plenty of room for improvement, as by far the majority fall much below the standard. Speaking generally, a large proportion of the exhibitors and many judges would do well to make themselves better acqnainted with the properties of these sections, for much too high a value is attached to size, and we freqnently see comparatively large flowers, with hardly the ghost of a disc, placed before blooms a size smaller, but perfect in development. Indeed, some of those who regard themselves as authorities consider a disc altogether nnnecessary in the case of the Japanese Anemones. The blooms of both the large and the Pompon Anemones should be circular in outline; the ray florets be flat, stout, free from indentation at the point, and regularly arranged; and the disc be high in the centre and regular in outline, forming, as near as may be, a half globe. In the Japanese Anemone, a high, full centre is of prime importance; the ray florets may be long and drooping, much curled, or otherwise irregular, but the fringe should be full. A distinctly fantastic character is a decided advantage, and I would like to emphasise the fact that indifferent quality does not, as some appear to suppose, change a large Anemone into a Japanese Anemone. To convert the Japanese section into a receptacle for the rubbish from the seed bed is a serious mistake.

The Pompons.

These may be referred to but very briefly, although they constitute a very useful group. If the florets incurve, the blooms should be more or less globular in form; but if they reflex, a half globe will be preferable. In all cases they should be neat and regular in outline, and not exceed 3 ins. in diameter. A diameter of 2 ins. would be preferable, and it may be said that too much eucouragement is given to the production of flowers of excessive size. This is done by the stipulation that the blooms shall be shown singly, or by not prohibiting thinning. In my opinion, thinning should not be allowed in the case of Pompons grown for exhibition, as when grown naturally, aud staged in bunches as cut from the plants, they are uot only more attractive, but they afford visitors a better idea of their elegance and beauty than is to be obtained from an inspection of flowers staged in triplets and grown so out of character as to be barely recognisable.

* An Address given by Mr. Geo. Gordon at the meeting of the Chiswick Gardeners' Improvement Association, Dec. 21st, 1888.

PHLOX DRUMMONDI.

Although this beautiful half-hardy annual has been cultivated more or less in this country since 1835, yet its improvement has been effected within comparatively recent years. There is every evidence of its growing popularity from the splendid beds of it that may now

be seen in many gardens during summer. The best results for that purpose are obtained by sowing the seeds under glass, and pricking them off into boxes or frames, so as to get them well established before being planted out. If the soil where they are planted out is on the dry side, they will come into flower early, but undoubtedly the finest and longest display will be obtained where the soil is rich and rather moist. They also attain their best development when planted at 9 ins. or 12 ins. apart. Those now in cultivation exhibit great variety of colouring of the most beautiful shades, from pure white to the most vivid crimson. These may be obtained in packets of mixed kinds, or separately in distinct and handsome named varieties. Of these we may mention the old P. Drummondi grandiflora, also the more recent Splendens, vivid crimson; Splendens stellata, with a five-rayed white star in the centre; Queen Victoria, purple; Snowball, white; Prince Bismarck, purple, with a white margin; and many others comparable to Verbenas in their brilliancy.

LUCULIA GRATISSIMA.

Where there are large or moderately large conservatories to fill, a good-sized plant or two of this good old-fashioned greenhouse subject would greatly enliven them at this dull period of the year. The masses of bloom produced by a well-grown plant is truly surprising, and the effect is altogether different from that of other subjects, such as Camellias, Oranges, or Poinsettias, where old plants are preserved for years and treated on the cut-back system.

The best results with the Luculia are obtained by planting them out in a bed of good fibrous loam, with an admixture of peat, taking care that there is efficient drainage. Of course, when grown in this way, care should be taken to give it a good position with regard to light, so that the evergreen foliage may be properly developed, the wood ripened, and, finally, the flowering buds well set in autumn. If crowded or overshaded by taller Camellias or other shrubs, the upper branches only can be expected to bloom, while naturally it forms a branching round-headed bush, flowering from the apex of every strong shoot. It lasts in beauty for some weeks, and when out of flower may be cut hard back according to the dimensions required or the space at its disposal. A certain amount of pruning is, however, necessary to keep the bush in shape, and also to encourage the production of strong shoots for next year's flowering. Plants of any size may be obtained, from 2 ft. to 9 ft., as may be required.

Should there be no convenience for planting it out, it may be grown in pots or tubs according to size, so that when out of flower its presence may be dispensed with in the conservatory. Then there is this advantage, that any position may be given it while growth is being made. The same compost will be suitable as when planted out—namely, good fibrous peat and loam; but an adequate quantity of silver-sand should be given in order to maintain the porosity of the soil, which is liable to become impervious through much watering. When flowering is over, the latter should be gradually withheld to firm the tissues, after which the young growths should be hard cut back, and watering almost discontinued till growth recommences.

The chief difficulty with this plant ever since its introduction in 1823 has been its propagation. Cuttings root slowly and with more difficulty than is generally experienced with other popular stove and greenhouse plants; but it may be mastered, and this is the method pursued for effecting its increase:—They should be taken off in summer, when the wood is getting firm, and inserted round the sides of pots, using a compost containing a large proportion of silver-sand. If they can be kept in a close frame in the propagating pit for a fortnight, and then plunged so as to derive benefit from bottom-heat, the emission of roots will be greatly favoured. Towards the spring following the plants will be ready to pot off into a size much larger.

The flowers of this species are pink, fragrant, and produced in large panicled cymes; but another kind bears larger, pure white, and more deliciously fragrant blooms. It seems to have been lost sight of for some years, but why it should be thus neglected is difficult to say.—*B. B.*

PARAFFIN IN THE GARDEN.

I was pleased to see the confirmatory evidence in your late issues of the value of paraffin as an insecticide and remedy for various garden ills. Such testimony will go a long way to convince those who still doubt its merits, or who have not given it a trial, that its use is of great importance in the garden. "W. D." affords us very valuable information when he states that by its use he has been able to produce good sound crops of Carrots, where they had refused to grow before applying paraffin. It is this confirmatory evidence that convinces others who may be placed as your correspondent was, and which induces them to give it a trial. Many are the insecticides and other means that have been tried to prevent the ravages of the Carrot maggot (Psila rosæ), but none have proved so cheap and effectual as paraffin when applied as directed on p. 229.

There are hundreds of amateurs and gardeners throughout the country who have the greatest difficulty in getting Carrots and Onions to grow. With the latter, resort is often had to autumn sowing to prevent the ravages of the maggot of the Onion fly (Anthomyia Ceparum), and by this means Onions can often be grown satisfactorily when spring Onions altogether fail, but they have not the keeping qualities of spring-sown Onions. When visiting some gardens in the autumn, I saw whole breadths of autumn-sown Onions being taken off by this maggot, causing great vexation and disappointment to the gardeners after all the trouble they had taken. Had paraffin been used as directed, I do not think they would have been disappointed after their labour.

Mr. Gaut, p. 243, does not think that steeping the seed of Peas in paraffin would have any effect on the young growth as it comes through the ground, and he is borne out in that idea by "W. D."; but although the taste of the paraffin may not be strong enough in all cases to prevent the sparrows from attacking the young growths, I am inclined to think it has some effect on the plant during the time the young seedling is drawing its nourishment from the food stored in the cotyledons, as would be the case with the Pea. The paraffin is absorbed by the cotyledons when they are steeped in it, thus imparting, I think, the taste of paraffin to the young growths. No doubt as the young plant drew its nourishment from its own roots, so the taste of the paraffin would cease. I knew a wood where the wild garlic grew abundantly, and the rabbits during the spring and summer were unfit for use on account of the strong taste they had of the Garlic. I think Mr. Gaut is on the right track when he advocates that "prevention is better than cure," and the application of the syringe with a weak solution of paraffin will be found a most effectual means of preventing insects ever getting a foothold.

I can quite agree with "Amateur" when he says "there is much to be learned by our failures"; they stand out as a landmark in our after-life, showing us what to avoid. As regards failures, or injury to plants by the use of paraffin, the only case that I can remember was the destruction of some plants of Eranthemum pulchellum, but that was caused by dipping, which I was careful not to advise anyone to do in my previous article on paraffin. I have no case to give where I have applied it as an insecticide and found it an entire failure, although there are some plants which I should not care to experiment with; for example, I should not care to syringe a plant of Odontoglossum Roezlii with paraffin, to kill the yellow thrip, to which this Orchid is so liable.

I could, however, point to a great many mistakes that have been made with paraffin. I once saw a large vinery in which all the Vines were killed to the ground by painting them with paraffin, and a case where a houseful of Pelargoniums was killed by syringing Peach-trees overhead with a strong solution of paraffin. These are landmarks to be avoided. I regret I cannot tell "Amateur" if wireworms would be killed by the application of paraffin without injuring the plants, but I fancy if they were not killed by the paraffin they would soon seek "fresh fields and pastures new." A good trap to get rid of wireworms in the ground is to bury pieces of carrot, and examine them daily, when the worms will be found burying themselves in the carrot and can then be destroyed.

As regards watering Tomatos in pots or in the open ground with a mixture of paraffin and water, I may say that I have never tried it, but would have no hesitation in doing so did occasion require.—*A. Wright.*

Phlox Drummondi varieties.

APHELANDRAS.

These comprise a genus of stove plants that seems to have fallen somewhat into disrepute of late years, but which under good cultivation will amply repay the grower by the showy appearance they make amongst other plants. Some of the species have beautifully variegated foliage, independent of the fine spike of flowers they produce on the top of the stem. They thrive best in a good stove heat, and during the

growing season the syringe requires to be well plied amongst them, being careful to work it well under the foliage, which is very liable to be attacked with thrip and red-spider.

They all root readily from cuttings, and in some instances may be obtained from seed. A compost of rich loam suits them well, and in the case of A. cristata, which is one of the best of them, and should be grown in bush form to obtain as many heads of its orange-scarlet flowers as possible, good doses of liquid manure may be applied as soon as the flowering-spike begins to show itself at the terminal point.

A. aurantiaca Roezlii is a useful winter-flowering sort, and should be grown in about 5-in. pots, with single stems, for decoration during the dull months of the year.

A. Leopoldii and A. Fascinator are both plants with variegated foliage, the former with green leaves upon which are distinct white lines, the flowers being citron coloured; the latter has leaves of a darker green with distinct white lines, the under surface of the leaf being of a purplish violet colour, whilst the inflorescence is bright vermilion.

A. Chamissoniana and A. Chrysops are both good yellow-flowered kinds with distinct variegated leaves, and may be grown with profit in the general collection. —*W. G.*

The Amateurs' Garden.

Maidenhair Ferns.

Many amateurs have a difficulty in maintaining their plants in a healthy green condition after this season of the year, especially if grown in windows. The real cause of the fronds dying in dwelling-houses is the dry atmosphere, which thin-fronded Ferns at all times dislike, especially if much fire and gas is burned in the rooms. A bell-glass would assist greatly in the retention of the fronds. In the greenhouse, not only the dry atmosphere but a low temperature must also be held accountable for the decaying of the fronds, which, in a more congenial atmosphere, would be partly prevented, and young ones would, in greater or less quantity, be thrown up, giving them a fresh appearance. It is bad policy, however, to cut down the fronds wholesale, even if they do look a little shabby. Those that are perfectly withered up may be removed, just as withered or decayed leaves may be removed from a Pelargonium; but all that are still green, or partly so, should be retained to strengthen the fronds, in order that a good fresh set may be produced in spring when the temperature rises.

Bedding Plants.

The mild and damp or foggy weather that has prevailed for some time past has made bedding plants suffer considerably. Pelargoniums suffer most by this state of things, but Lobelias, Tropæolums and other soft-foliaged subjects also suffer more or less materially. Go over the whole carefully and pick off all the leaves showing traces of mouldiness, and then light a fire occasionally, even when no frost prevails, so that the damp may be dispelled. This should be given in the forenoon, giving at the same time plenty of ventilation. Watering cannot wholly be dispensed with, as poorly rooted subjects would in consequence suffer. This should also be done on the mornings of fine days, so that the superfluous moisture may be dispelled before the time to close the house.

Planting Spring Flowers.

The mild weather may induce many to plant out their spring-flowering subjects from their seed beds, where they still remain through lack of opportunity or from inconvenience at an earlier period. Amongst these may be included Wallflowers, Catchfly (Silene pendula compacta), Daisies, and even perennials, including Arabis albida and Aubrietia deltoidea in variety. This may conveniently be done, and should the mild weather continue, they will be well established before the flowering period. Many other subjects may also be transferred to their permanent quarters at this time, including Canterbury Bells (Campanula medium), Sweet Williams (Dianthus barbatus), Celsia cretica, and Foxglove, all of which furnish an enormous quantity of beautiful flowers in their season, and are easily managed by the least experienced. A long growing season, with plenty of room, enables these plants to develop their best capabilities.

Primula obconica.

Now that this beautiful half-hardy Primula has become so common it might be more frequently employed by amateurs for the decoration of their greenhouses in winter. If kept in a healthy, slow-growing condition it will flower all the year round. A moderate-sized pot, with just sufficient room for a little increase, and a compost consisting of good fibrous loam and a quantity of leaf-soil is all that it requires. The Chinese Primula (P. sinensis) does best, as a rule, when raised from seed annually, and grown on to the flowering size; but P. obconica, which also comes from China, needs no such treatment. The old plant, with a little attention in the way of re-potting and occasionally dividing it, will reward the grower with a profusion of rosy lilac, almost white flowers, all the year round. Being almost hardy, a comparatively low temperature in winter will suffice—say, 40° to 45° at night, with a rise during the day. This is not necessary, however, unless it is wanted to flower, as it will keep perfectly healthy when frost is merely kept out.

Rhubarb Forcing.

Some prefer this in an unblanched condition, and if so, all that is necessary is to dig up a few roots and introduce them to the greenhouse. In order to preserve an air of tidiness, the roots may be placed in a box, and be covered with soil to prevent their being unduly dried up. Should blanched Rhubarb be preferable, this may easily be done by procuring a deep box, and after putting the roots in the bottom and covering them with soil, close the lid so as to exclude all light. In order to hasten growth, the box may be stood on the flue or over the hot-water pipes, as the case may be, and the soil kept moistened if necessary. By adopting this plan a quantity of crisp and useful stalks may be obtained without any additional expense, and will be much appreciated in the early part of the year.

DECEMBER FLORAL FASHIONS.

A great deal of the attention of our florists is given to the rich ornamentation of modern mantel-pieces and to corridors in house decoration. There is always one large effect in the latter, it sometimes being the hall fire-place, and again it is the settee where there is usually an oval mirror suspended above. Peter Bogart, who served a long apprenticeship with A. S. Burns, has distinguished himself by elegantly embellishing the Brokaw Mansion, where a daughter of the house was recently married. In the corridor, where there is a settee and a mirror above, an exquisite bit of floral business was done in the greenery. The settee was formed into a bank of Palms, the choicest specimens being used. The mirror was framed in a garlanding of Lygodium scandens. An elegant feature in the drawing-rooms was the designs of Passion Flowers in straw which were filled with Beauty Roses, and the foliage, covered with Asparagus, which were placed over the pier glasses. The mantels were festooned with pink Chrysanthemums, Roses and Lygodium scandens.

Fancy Chrysanthemums of late varieties are much used for large effects. Mrs. Wheeler and Mr. Moseman, the stayers in old gold and crimson, are arranged with Ivies in immense careless bunches over pictures, easels and on cabinets. Clusters of growing Vines, such as Tradescantia, are quite the vogue placed on mantel-shelves and left to trail down. Growing plants in drawing-rooms are considered necessary to their beauty. In the best houses here the parlours are light; the shades are lifted and there are growing plants, Vines on the mantels, Ferns here and there on tripods, and a few specimen Palms on a pedestal wherever there is room for one.

Many of these plants are hired for the season and taken care of by the owners. Mr. Siebrecht has specimens all over the city in mansions where he looks after them, and if they begin to show signs of weakening they are at once replaced and the invalids carried out to the plant hospital at his Rose Hill greenhouses.

Wedding bouquets are of immense size, and also those of bridesmaids. The bouquet-holder appears once more, and this time with a clasp to fasten it to the glove, I suppose for the reason that it is too heavy to carry. Eleven hundred white Violets were put in one bridal bunch this week. Miss Brady's wedding bouquet contained 600 sprays of Lily of the Valley, and her bridesmaids carried bouquets with 100 "Mermets" in each. Klunder makes a superb bridal bunch of white Orchids, with a fringing centre of Jasmine. It is about as lovely as anything can be, and his assistant, Wm. Irving Brown, can arrange the most æsthetic corsage bouquet or boutonniere of any floral artist in this city. He makes one of the former of Lily of the Valley, with the stems turned upward and protruding among white and purple Violets, with a bit of lacy Fern (Adiantum gracillimum) pushing out from every point.

Boutonnieres are a fashionable gift from ladies to gentlemen. They are made up with great care and finish. Roman Hyacinths with a centre of white Violets is among the choicest boutonnieres for full dress; they are quite large. For street wear a single Chrysanthemum is considered elegant. Violets are in great demand for corsage bunches to be worn in the street. They are pinned outside the wrap if the weather permits, and inside on the dress if there is danger of their being frost-bitten. Women will always take care of their Violets. They are the sweetest and choicest blossom a flower lover knows.—*F. A. Benson, New York, in The American Florist.*

INSECTICIDES.

I am afraid the advocacy of the use of paraffin in the garden has disturbed the equanimity of our old friend "Gishurst Compound," hence his note in your issue of the 29th ult., but if he has had a successful run of thirty years, he certainly ought not to be dissatisfied with the support that has been accorded to him by the gardening fraternity. He was always a mysterious being to me in the days of my youth, and since I commenced gardening I have mixed up many doses, as it has been my misfortune to have plenty of sponging. I have had hours together standing on the staves of a ladder—not very pleasant for the feet—cleaning climbers infested with bug in a lofty conservatory. In my next berth I still had plenty of sponging, so much so, that I styled myself to my bothy mates "first sponger to Lord——."

The next situation I went to I still found my sponging abilities requisite, and being a departmental journeyman I had many words with my chief concerning some large Gardenias, smothered with my old enemy mealy-bug. I scarcely knew what to be at to keep those plants clean and preserve harmony; but being then a reader of the *Gardeners' Chronicle*, I one day espied an article from Mr. Rust, of Eridge Castle, praising paraffin for the extermination of bug on Gardenias. "Well," thought I, "we burn that oil in our bothy lamp, so I will try its effect on the plants." I used it according to the directions given, which I think were, to use a wine-glassful of paraffin to a three-gallon can of water, so armed with the syringe and my can of mixture, I started on the Gardenias, and there was no mistake about the result, it finished every bug it touched, and the plants bore a bright glossy appearance. I was easier in my mind at once, and inwardly blessed Mr. Rust, for his advice saved me many angry words.

Since then I have been a believer in the properties of paraffin as an insecticide, and would recommend your kitchen gardening readers to occasionally sprinkle their young Celery plants with a solution to prevent their being attacked by the Celery fly.—*Pathfinder.*

HARDY ORCHIDS.

Goodyera repens is a pretty little native plant, but one that is rarely seen under cultivation, although it is easily enough managed and very interesting. For many years I got it to do well and flower very freely in decayed Pine pins and sand, about equally mixed, and in a hardy situation. It must be well guarded from slugs, for they are its worst enemies—indeed, I know of no hardy Orchid that sooner becomes a prey to these night marauders than the one in question. They nibble half through the flower-stem; nevertheless, the poor plant, for it has wonderful recuperative powers, bravely fights on, but all to no purpose, for another stealthy attack lays its head low—not only of the plant, but its owner too, for I have more than once felt heartily grieved and been low-headed (meditative) or finding my cherished specimens, just as they were about to flower, cut over in a single night. The only preventive is to put a couple of handfuls of gritty sand around each plant—this they detest.

Some other Goodyeras I have tried out of doors, and the experiments have been most successful, such as with G. pubescens and G. Menziesii, the latter a rare plant that a good friend sent me from North America. They all seem quite at home if treated as those described for our native species. But not only for the beauty of their flowers are the Goodyeras worth growing, but the nicely marked foliage rarely fails to attract attention. Let me say to anyone who has the chance to procure specimens of any of the Goodyeras, not to lose it, for they are easily grown, of great interest, and will well repay in beauty of foliage and flower, any trouble that may be expended on their culture.—*A. D. Webster.*

WHAT CONSTITUTES A GARDENER?*

(Concluded from p. 274.)

How to Recognise a Gardener.

I offer a few remarks on this point lest you should contract a mistaken notion that I have already set up an ideal standard by which a gardener should be judged. There is no such thing in nature as perfection, or an ideal standard to which all may work up. A continual change is going on around us, which may not always be one of progress; and he is the most successful, or typical, gardener who best serves his day and generation in whatever sphere he may be placed. The subjects previously mentioned are necessary for the development of the young and growing mind, and he may not be the best gardener who knows most of them, but rather he who makes the most use of them. A good all-round gardener, such as is necessary to properly conduct a large private establishment, must make himself familiar with almost every branch of gardening. It is equally necessary that managers of public parks and gardens, nursery managers, and departmental foremen should have a wide knowledge of all branches of gardening, and which should be acquired as early in life as possible, so that in after life they may preferentially confine themselves to any particular department. Such men I should still designate as gardeners, but they are specialists, and under that heading I should include all those who devote themselves specially to the growing of Carnations, Auriculas, Chrysanthemums, Orchids, fruit, or other classes of plants. With these special subjects they should be thoroughly conversant, and know how to treat them, whether in health or disease; and it is a good test of a gardener, should he be able to give the why and the wherefore—that is, his reasons for any particular treatment to which he subjects the plants under his care. This does not necessarily imply that a good gardener should be a talkative man; on the contrary, as a class, gardeners are studious, and given to thought and reasoning, how they may best be able to supply all demands made upon them in the way of garden produce; for this is the sole end and aim of gardening. All planning, laying out, building, planting, sowing, and propagation are only means to an end, and general education merely paves the way to a successful accomplishment of those means. A true gardener can plan, give reasons, and be able to surmount difficulties where a man who is practically no better than a labourer in his profession would fail. The old rule-of-thumb practice would certainly fail if put to the test in this way. It would fail where anything might be required for which it had no precedent; and were all gardeners to follow this plan we should go on for an unlimited number of generations without improving upon our ancestors, or lifting the sphere of gardening out of the groove of mere routine or drudgery. Let me here say with Pope:

"Were I as tall as reach the clouds,
Or grasp the ocean in my span,
I must be measured by my soul,
The mind is the test of man."

Faults and Deficiencies of Modern Gardeners.

I have no intention of being severe; but young men often seem to under-rate the importance of the occupation they have selected, or in which they have been placed in order to acquire a knowledge of its duties. Self-improvement is often neglected or ignored, evidently under the erroneous impression that gardening requires no further attention from them than can be accomplished during the hours of compulsory labour. Time misspent in this way has often been cause for serious regret in riper years. The young man often objects to do what he calls dirty work; but it is as necessary that he should learn to crock pots, wash pots or do stoking as it is later on to propagate plants. He desires also to evade digging, and makes it his highest aim to get into the houses; but let him remember that peeping through the glass at those performing the operations will never teach him how to dig, sow, plant, or prune. These things can only be thoroughly learnt by putting them into practice—by actually handling the tools themselves. Education will never enable a beginner to evade these things, nor was it ever meant that it should do so. It is a part of his education to put the teachings of science into practice, the latter being merely the handmaiden of the former.

Guard against counterfeit knowledge; it can lead to no good, and may trip you up. An employer who was somewhat of a botanist, wishing to ascertain whether his new gardener knew the names of his plants, asked some questions of him. The latter being perfectly ignorant of the same, manufactured a bogus one for each, which so tickled and interested his employer that he commended him for his cleverness, and ever afterwards proved a stauuch friend. But how many employers should we find like this? In ninety-nine cases out of a hundred an employer would be disgusted at such deliberate fraud.

Another fault of gardeners in a great many cases is the scanty knowledge they possess of landscape gardening, and their consequent unwillingness to alter any design in flower-bedding which has once been laid down by somebody else. It would be a great benefit to his employer, to himself and to those under his charge to possess some knowledge on this importaut subject of gardening. In many gardens the same old designs and ribbon borders are repeated year after year *ad nauseam*, much to the depreciation of flower gardening.

A man may degenerate from a former state of excellence as a gardener either by prosperity or adversity. A series of losses or failures in the cultivation of certain plants will often cause a gardener to neglect or abandon them, while another more successful with them will continue to advance. In private establishmeuts he is often handicapped by unjust treatment from an employer who may be prejudiced against him; or some other subordinate or subordinates, who are favourites with the employer but prejudiced against the gardener, may (as often occurs) succeed in getting him ejected from his situation, or so bind him down that he has no freedom of action in his own affairs, making progress impossible, while retrogression is almost equally certain. He may also lose his former status as a cultivator of plants by neglect of his duty in many ways which I need not enumerate. His employer may pay him a good salary, and be lenient in his demands from him, or live at a distance, so that the gardener is not directly under his supervision, when the latter may, and often does, become uncnergetic and neglectful. Want of energy, or an unprogressive state of mind, is often seen iu diseased, moss-covered, or unproductive fruit trees, whether in garden or orchard, being allowed to remain in this wretched condition, while the same amount of labour is wasted in pruning them year after year, without ascertaining what might improve them. Growing for profit, for exhibition purposes, wholesome emulation in trying to excel his neighbours, meeting together as we are at present for the reading of papers and the diffusion of kuowledge, and the holding of fruit conferences, are antidotes against this state of matters, and incentives to progress and improvement.—*J. Fraser.*

GARDENING MISCELLANY.

Asparagus Chicory.

In a short note upon this new vegetable, which was recently certificated by the Fruit Committee of the Royal Horticultural Society, the *Bulletin d'Arboriculture, de Floriculture, &c.*, says that it appears to have been derived from Chicory of Brunswick, a kind with very deeply toothed leaves. During the first year of its growth it produces a tufted rosette of leaves, but beyond that, nothing particularly strange or striking about it is noticed. During the spring of the second year, when growth recommences, it presents a striking anomaly. From the crown of the roots, instead of a simple, central and elongated floral stem, quite a numerous group of thick, short and sturdy shoots grows up, which are followed by another set if the first be cut for use. These shoots, when blanched, should have some analogy to Asparagus. It is also reputed to possess medicinal properties, but such is the case with other kinds of Chicory. As exhibited at the Drill Hall, Westminster, in December last, it must have been entirely out of season if spring is the best time to use it, as the young shoots then resemble Asparagus.

The Mentone of England.

This is the description now given of Parkstone, Dorset, which but a few years ago was a village situated between Poole and Bournemouth, and is now extending at such a rate that it is anticipated it will, ere many years, join up to the latter popular winter resort. Those who live in the north or north-west of England would hardly credit the number of tender or half-hardy plants which flourish in the open air at Parkstone. One of the most remarkable things that attracted my attention is a tree of the Blue Gum (Eucalyptus globulus) between 20 ft. and 30 ft. high, and growing splendidly. The stem is at least 18 ins. in circumference. The tree must have been planted before the hard winter of 1879-80, and it may be seen on the Sloop Hill facing the shallow water leading up to Poole Quay. A bush of Cytisus racemosus, about 4 ft. high, and planted about seven years ago, is full of flowers; and in a sheltered nook I found a plant of Dracæna australis in wonderfully vigorous health, and showing, by its size and appearance, that it must have been planted some years. Another plant I never before saw growing in the open air is Choisya ternata, which is represented by a good bush in a cottager's garden, and in the best of health. The Arbutus, the Laurestinus, and the Euonymus seem to be thoroughly at home, the latter especially, the colour of which is magnificent. There are about the place scores of plants of the golden variety up to 12 ft. in height.—*Edward Warden.*

Anthracite.

While the merits of Anthracite are being discussed in your columns, I should like to add my testimony to its superiority over other fuel for horticultural purposes. We have used Anthracite here for four years, and it had been in use for some time previous to my advent. We have three of Appleby's plain saddle boilers in as many stokeholes, and two of the three are not, by any means, in the best positions for ensuring a good draught to the furnaces. Two fires are constantly kept going the whole year round. Under these circumstances, our loss in fire-bars has been one bar in the four years, and I have reason to think this had done service for many years. Our fires can always be banked up for the night by nine o'clock, if not previously neglected, and good ones will be found at six or seven o'clock in the morning. This is no slight advantage to the attendant, who is thus able to get a good night's rest, and be ready for work in the morning. Like your correspondent, Mr. Alfred Gaut (p. 273), I have known what it was to lose many a night's rest through stoking when an under-gardener years ago. To the best of my recollection, it has never been found necessary to relight a fire in the moruing during the four years that Anthracite has been in use. Added to this, we find that the fires do not require so much attention during the day as when coke is used, and in our opinion it is much cheaper. Most of the market growers around Chelmsford—who produce Grapes, Melons, Cucumbers, Tomatos, &c., in large quantities for the London and other markets—burn nothing but Anthracite now, a sure test of its cheapness and superiority when growing for profit.—*Samuel Pragnell, West Cottage, Broomfield Lodge, Chelmsford.*

Senecio grandifolius.

When plants can be utilised for decorative purposes both summer and winter they possess a much greater value than those that require to be grown on for several months, perhaps for a whole year, before they are fit to be introduced to the conservatory or show house. Such a plant must, of course, be evergreen, and such is the case with the one in question, and which is better known under the name of S. Ghiesbreghtii. The leaves are oblong, 12 ins. or more in length, and correspondingly broad. It is, therefore, useful as a foliage plant, more especially in the summer time, when it can be planted out in the sub-tropical garden, as is frequently the case in the principal parks in and around London. In autumn, the old plants, if lifted with ordinary care, may be potted up and kept in a close moist atmosphere for a short time, till the roots commence to work afresh. After this they may be transferred to the greenhouse where a sufficiently high temperature is maintained to keep up a display of flowers in winter, and the Ragwort under notice will produce great corymbs of yellow flowers lasting for many weeks. Plants 6 ft. and 7 ft. high in full bloom may be seen in the greenhouse at Kew.

Elæodendron orientale (Aralia Chabrieri).

The juvenile states of many trees are grown in gardens for the beauty of their foliage, including some Aralias, Conifers and other subjects When Aralia Veitchii, A. elegantissima and A. reticulata attain a large size they become extremely coarse, losing all beauty, notwithstanding their gracefulness in the young state. So far the plants of Elæodendron orientale in this country show no tendency to pass into the adult state. Two plants we have recently seen, from 3 ft. to 4 ft. in height, are as graceful now as when the plant was first introduced. That it does change, however, there

can be no question, and trees in the flowering and fruiting state bear shorter and broader leaves of various shapes, but altogether devoid of the beauty of the juvenile stage of the tree. The plants alluded to are furnished with short lateral branches down to the pot, bearing long, drooping, linear leaves of a dark shining green, with a crimson midrib. The branches were at first described as pinnate leaves giving off so many pairs of leaflets, but that idea must now be abandoned, just as in the case of Phyllanthus pallidifolius and several other species.

Greyia Sutherlandi.

In its native country, Natal, this plant flowers very profusely; but hitherto a difficulty has been experienced in flowering it regularly in this country. It is a member of the Soapwort family, but more nearly allied to Melianthus, often grown for the beauty of its foliage, than to the Maples with which we are most familiar. The leaves are roundly ovate, and shallowly lobed or coarsely toothed, and the flowers are produced in terminal racemes at the end of the shoots. Individually they are not large, but being crimson, with long projecting stamens, and styles of the same colour, they are rather conspicuous in the aggregate. It is a tree of some size in its native home, and delights in rocky mountainous places, and therefore requires a period of rest corresponding to the dry season, in order to flower it. A plant about 4 ft. in height is now flowering at Kew in the succulent house, where it is subjected to a dry warm atmosphere during the winter months.

Lachenalia pendula.

The flowers of this species are larger, perhaps, than any other of the genus, yet there are several others which are more extensively cultivated—to wit, L. Nelsoni, a garden hybrid, and various forms of L. tricolor, including the type. The latter is most extensively cultivated of any; but there seems no reason why that under notice should not enjoy the same popularity. The flowers are borne on purple-spotted stems, rising clear above the foliage, and yellow tinted with scarlet, and deep purple at the mouth. It is, perhaps, less suitable for basket-work than L. tricolor, but for cultivation in pots it certainly makes an effective plant for conservatory decoration at this season of the year. The best time to re-pot the bulbs is in August, or before they commence to make fresh growth. They are very impatient of a close, stagnant atmosphere, and should be ventilated freely on all occasions when the weather is sufficiently mild, excluding frosts and cold winds, which injure the foliage, not only spoiling the appearance of the plants, but preventing the bulbs from attaining their proper development.—*J.*

Solomon's Seal.

Polygonatum multiflorum is useful as a forced plant in pots, and should be in every collection. It is pretty and graceful either grown from a single crown in small pots, or from several together in larger ones, according to taste, or to the uses required of them. For large vases a good bunch of these in large pots, well grown, has a very pretty effect, but for grouping in masses with other plants the single stems are the best. For early forced plants the crowns will require to be well covered with ashes or coco-nut fibre until they have well started, or they may be difficult to start at all.—*Alfred Gaut.*

Datura suaveolens.

The value of this plant is greatly enhanced from the fact that it may be had in flower almost at any time, summer or winter, according to treatment. If grown in pots it need only be hard-pruned back and re-started. The roots should be kept rather dry until growth has recommenced, and at this time re-potting should be done if considered necessary. Being rather gross in growth, they soon exhaust the soil, and to secure the best results with regard to the number and size of the blooms, they must have liberal treatment. The individual flowers are pendent, trumpet-shaped, and not unfrequently 1 ft. in length, pure white, and sweet scented, as the specific name implies. It is, perhaps, better known in this country under the names of Brugmansia arborea and B. alba, as they belong to this section of the genus. From the true Daturas they are distinguished by the ovary being two- (not four) celled, by the fruit being smooth (not spiny as seen in D. Stramonium), and by the shrubby habit. The characters of the fruit remind us of the differences between Æsculus and Pavia amongst trees.

Lilium giganteum Seed.

An experiment here with the seed of Lilium giganteum seems worthy of publication. In July, a Lily blooming in a bed at Wisley had much richer-coloured flowers than I had ever before seen, so I cut the stem and took it up to the Royal Horticultural Society's Show on the 24th of that month. Some good authorities there were as much struck with the colour as I had been, so I regretted that all the flowers had been cut, and the chance of seed lost. I brought the stem home, and as a forlorn hope set it in a pickle-bottle full of water in our porch. The seed pods formed and swelled, and though not so large as usual, some of them were plump. When cold weather came and the pods seemed damping they were cut off, and the ripening process continued in my den. On the 24th of last month I had the pleasure of sowing a fair lot of what appeared to be good seed.—*George F. Wilson, Heatherbank, Weybridge Heath, December 28th*, 1888.

Lilium neilgherrense.

Not the least recommendable feature of this Lily is that it may be flowered at various times during the winter by varying the treatment, so as to forward or retard it. Another important property is its fragrance, resembling in this respect L. longiflorum and its more popular variety, L. l. eximium, best known in gardens under the name of L. Harrisii. They seem to be intimately allied, and to form geographical varieties of one type. On an average, however, L. neilgherrense is considerably taller than its congener, but the height of 6 ft. given by Mr. G. F. Wilson (p. 262) is very unusual, in fact, almost twice the usual stature. Five flowers on a stem is also much above the usual average. As a rule (on newly imported bulbs especially) one or two flowers are produced on a stem. The tube is much longer and more slender than that of L. longiflorum, say about 4 ins. or 5 ins., and pale greenish yellow, while the limb is almost as white as in the other Lilies mentioned.—*J.*

Sericographis Ghiesbreghtiana.

It is a great pity this plant is not more generally grown. It is a beautiful winter-flowering subject, with deep rich scarlet blossoms, and useful either as a decorative plant or for cut flowers. Cuttings should be struck in spring, and they root very freely in good bottom heat, either one in a pot or several in a 48, according to taste, and potted on to 48's as they require it. They should be grown in a stove temperature until about July or the beginning of August, when they should be ripened off in cool pits, and placed again in a temperature not lower that 50° about the middle or end of September, according to the weather. Under such treatment they flower pretty freely in mid-winter. Small plants are best, and, therefore, should be struck every year; old plants in pots get very shabby if grown on after the first year. They will do very well if planted out in an intermediate house. The soil required is an admixture of loam, peat and leaf-soil, with a little well decomposed cow manure and silver sand. They also like a little manure water as the pots get filled with roots.—*Alfred Gaut.*

Jasminum gracillimum.

Whoever possesses a few plants of this lovely stove subject will not be short of a few clusters of beautiful white, sweet-scented flowers for several weeks to come. It is one of the best winter-flowering plants that any one can possess, provided that it can be given a temperature of not less than 60°. Several plants under my charge are at present flowering profusely, and we find them exceedingly useful for cutting from, as white flowers are not at all too plentiful at this season of the year. The plants are very free-growing, and if treated liberally and given an occasional watering with liquid manure will produce flowers freely and continuously from all the young growths for a length of time. The plant can be grown as a bush or climber—either way will suit it; but if tied loosely to string or wires up the roof, and the young wood allowed to hang down, it will add greatly to its effectiveness. Cuttings of young side shoots strike quickly if given a little bottom heat, or a better plan is to take up any of the suckers (plenty of which are generally to be found around the stem of the plant) with a few roots attached, and which, if potted carefully and grown on briskly, will not fail to give a good quantity of flowers the following winter and spring.—*S. C., L.*

The Gardeners' Calendar.

THE STOVE.

Gardenias.—Should there be any lack of flowers at this period—an occurrence which is very likely after the demands for decorative purposes at this festive season—a few of the more forward plants in stock should be put into strong bottom-heat in order to hasten them into bloom. Their near ally, Tabernæmontana coronaria flore pleno, may also be treated in the same way. Not only are white flowers held in high estimation, but the fragrance of the above-mentioned flowers is a quality that is unhappily absent in many otherwise valuable and most popular subjects, such as Eucharis, Camellias, Azaleas, and Richardias.

Euphorbias.—The plants of Euphorbia (Poinsettia) pulcherrima which have had their tops removed may be placed on a shelf, or as many of the best of them as may be required for stock, in order to ripen their wood. Gradually withhold water till they shed their leaves, and when this has happened watering may be discontinued altogether till the buds commence to move again. After the leaves fall, remove the plants to a lower temperature—say, 55°—which will be more congenial to their welfare than a cooler house. E. fulgens (Jacquiniæflora), after having their tops removed for cut-flower purposes, need not be dispensed with, as they are capable, under generous treatment, of producing a second supply of blooms by throwing out smaller side-shoots that will be found useful. Place them near the light, and water very sparingly till growth recommences; and the less foliage they have at present, the less moisture will they require. They will furnish small but useful sprays till April.

THE GREENHOUSE.

Camellias.—In the matter of watering these must not be overlooked during any period of the year, but particularly so during the flowering period, otherwise the buds will drop, causing disappointment. Manure and occasionally soot-water will be of great benefit to them. Plants in pots or tubs will require more careful attention than those that are placed out.

Richardias.—It is usual to keep these entirely in a greenhouse temperature, in which moreover they do well enough, but they are much later in coming into bloom. Growth is, however, more rapid, and a much greater quantity of flowers is produced if kept in a temperature of 60° to 65°. For cut-flower purposes a supply can thus be kept up throughout the winter, and plants may also be introduced to the show house or conservatory as required.

THE FORCING HOUSES.

Melons.—The earliest sowing of Melons may now be made, giving preference to some well-tried kind upon which reliance can be placed. Sow the seeds singly in small pots so as to avoid potting during the dull and sunless weather we may yet experience, and while vegetative vigour is at a low ebb. Plunge the pots in a brisk bottom heat so that the seedlings may be induced to germinate freely.

Strawberries.—If ripe fruit is required by the beginning of April, a batch of plants may be prepared and placed in a vinery or Peach house that has just been started, and where the temperature is about 40° or 45°. Examine the pots to see that the drainage is perfect, and that they contain no worms. Then the surface soil may be picked off, and a top-dressing of horse-droppings that have been kept for some time applied in its stead.

THE KITCHEN GARDEN.

Rubbish Heaps.—Whenever a dry or a frosty day occurs, so that the material is somewhat dry, have a pile got ready and set fire to, adding fresh fuel as the fire kindles up Then all the prunings, hedge-clippings and old fruit trees that have been rooted up should be collected together and reduced to ashes. If there are large roots, or the material is wet, the fire may smoulder for a day or two; but the smoke given off the first day only will cause any inconvenience. The residue will prove a most valuable manure, and may be spread on the surface of newly trenched ground, or slightly forked in before sowing or planting. All the nodular pieces of charcoal should be kept for potting purposes, and will be found useful.

Peas and Beans.—Sowings of these should be made on warm, dry borders to succeed those sown in pots or boxes indoors. William I., Little Gem, Chelsea Gem, and American Wonder are suitable kinds. An early sowing of Beans should also be made. A covering of wood-ashes is sometimes given to Peas, and would be beneficial if the soil is wet, and also from a manurial point of view.

ORCHID NOTES AND GLEANINGS.

THE ORCHID GROWERS' CALENDAR.

No time should now be lost in getting the potting material ready for an early commencement to pot up all cool Orchids requiring it. In large establishments, and even in some small private ones, the work is already in an advanced state; but there is no practical necessity for its being done before the early days of January. Cool Orchids make most roots in winter and the early days of spring, and the object should therefore be to have the potting done before the young roots are so far advanced that there is danger of breaking them in the operation. Good fibrous peat in which there is a considerable quantity of bracken roots is the best, as it is more durable and not so liable to decay, nor to become solid, sodden and pasty. Fresh or live sphagnum moss is also most essential, and should be picked over before use to remove roots of grass or other undesirable material in it. A supply of clean pots, baskets and crocks is also essential, so that the work may go on uninterruptedly when once a start has been made. Undue haste is, however, to be avoided, as a fair amount of work well done is always more satisfactory in the end than a great amount badly, or even indifferently done. More than this, mistakes cannot so readily be rectified in the case of Orchids as with other stove or greenhouse plants, except during the period when growth is recommencing.

The Masdevallias may be potted first, then the Odontoglossums, to be followed by Oncidiums, Maxillarias and what other cool Orchids may be in the establishment. Before turning them out of their pots or baskets see that the ball is thoroughly moist, otherwise give them a watering, and allow them to stand till the whole becomes damp and the superfluous moisture has drained away. The fresh potting material should also be in the same condition, so that when afterwards watered the whole may take in equally what moisture is applied to it. Old material in a sour condition had better be removed, doing so with a blunt-pointed stick.

THE TEMPERATURES FOR JANUARY should be:—East Indian house, 60° at night, and 65° to 70° during the day; for the Cattleya house, 55° at night, and 60° to 65° during the day; for the Odontoglossum or cool house, 45° at night, and from 50° to 55° during the day.

CYPRIPEDIUM INSIGNE HORSMANIANUM.

THE foliage of this beautiful new Cypripedium, which flowered for the first time recently with Messrs. F. Horsman & Co., seems intermediate between that of C. insigne and C. Spicerianum, but is shorter than either, and gives the plant a very dwarf habit. The flower-stalk also corresponds to it, inasmuch as it measures only about 6 ins., and is covered with dark purple hairs. The dorsal sepal or standard is amber-coloured in the centre, and covered with dark crimson spots as in C. i. Wallacei; the upper portion is pure white, with an extension of this along both margins to the base, where small purple spots are numerous. The lower sepal is creamy white, with four lines of dark spots, extending over it for the greater part of its length. The petals are almost covered with chocolate-brown lines on an amber ground, while their edges are white shaded with purple. The pouch is rather distinct in shape, pale yellow at the base, and of a glossy shade of brown, as seen in C. Harrisonianum when well coloured. In short, the whole flower presents a picture of great neatness and beauty.

CYPRIPEDIUM CALLOSUM.

IN your issue for December 22nd, p. 265, your correspondent, Mr. Dumper, writes of the above-named fine slipper Orchid as a hybrid; but I have been under the impression that it was introduced from the East by Mr. Bull, of Chelsea, and should be glad to know if I am mistaken. Mr. Dumper also states that it surpasses C. Lawrenceanum in freedom of growth. I cannot agree with him on that point, for although it is certainly a very free grower, I think it would be difficult to surpass the last named in that respect, for it is surprising what a fine plant it makes after a few years liberal treatment.—*S. C., L.* [C. callosum was recently introduced from Cochin China, and is assumed to be a species resembling a strong C. barbatum, with the dorsal sepal like that of C. Lawrencianum; but it may be a natural hybrid all the same.—ED.]

CATASETUM FIMBRIATUM FISSUM.

THE typical form of this curious Orchid was introduced from Brazil in 1848. Like many other species of Catasetum it is extremely variable with regard to colour; but in that respect is inconstant even in the more typical form and in those which have been honoured with a varietal name. The sepals and petals in the form under notice are richly barred or blotched transversely with crimson on a greenish yellow ground. All these organs are rather narrow, and the petals are sub-erect and closely applied to the upper sepal. The lip is, however, the most remarkable part of the flower, and differs from the typical form in the teeth surrounding the margin being greatly elongated into fringes. The limb varies in colour between green and yellow, with an orange patch surrounding the mouth of the short conical spur. There is a coloured figure in the *Revue de l'Horticulture Belge for December*, 1888.

ORCHIDS IN FLOWER ON NEW YEAR'S DAY.

As showing the value of Orchids as decorative plants in mid-winter, when other flowers are comparatively scarce, we note the fact that on New Year's Day one hundred and eleven species and varieties, representing twenty-six genera, were in flower in Mr. William Bull's collection.

ONCIDIUM JONESIANUM.

THERE are several species of Oncidium with terete or rush-formed leaves, but the flowers are all much smaller, less showy and yellow, and more or less spotted or barred with brown. The pendent leaves of this species are very characteristic, and in their best form the ground colour of the sepals is mostly white, and banded transversely with purple. They are frequently, however, suffused with green. The lip is pure white, and more or less spotted at the base. The species was first discovered by Mr. Louis de St. Léger, in Paraguay, and sent to Messrs. Horsman & Co., Colchester, and was first described in 1883. There is a figure of it in the *Revue de L'Horticulture Belge* for January, 1889.

DISA RACEMOSA.

IT is highly desirable that more of these beautiful terrestrial Orchids should find their way into gardens in this country, for they have certainly many attractions. It is probable also that their cultivation would not be difficult, provided cultivators studied their habits and treated them accordingly. The flower stemsr ise to the height of 12 ins. or 18 ins., and bear a raceme of rosy purple flowers. The sepals, as usual in this genus, are most conspicuous, and the upper one is helmet-shaped, with a short blunt spur on the back. The lip is small, as well as the petals, which are very dark in colour. It is a native of the Cape.—*Orchid Album*, pl. 356.

BARKERIA LINDLEYANA.

THE Barkerias are now classified amongst the Epidendrums, but for garden purposes may be regarded as distinct. They are, however, truly epiphytic in their nature, and are grown to perfection in baskets or on a piece of Tree Fern stem, or even the branch of a tree if it will assist in retaining moisture while fresh growth is being made. The stems are generally about 8 ins. or 12 ins. in length, and more resemble those having stems like a Dendrobium than many of the more widely cultivated species of true Epidendrums. The flowers of the species under notice are rosy purple, and produced in long racemes from the sides of the stems. They are of large size, and the lip, the most conspicuous part, is deep purple at the tip, with a large white blotch in the centre, and is nearly square in outline. It is very successfully grown by Mr. William Bull, at Chelsea.

LÆLIA ALBIDA SULPHUREA.

A MAGNIFICENT spike of this beautiful variety has come to hand from Mr. Robert Twiss, Bird Hill House, Limerick, Ireland. It carried eight flowers much above the average size for L. albida; but this peculiarity seems characteristic of the variety under notice, which was first described by Professor Reichenbach about five years ago. The flowers measure 3 ins. across the lateral sepals, and fully 2½ ins. from the tip of the dorsal sepal to that of the lip. The oblong lanceolate sepals are of a clear sulphur-yellow, while the ovate petals and the ground colour of the lip are paler. The greater part of the terminal lobe of the latter organ is rosy mauve, while the sides of the lateral segments are reticulated with purple. The face of the column is also coloured with deep purple lines, and the lower part of the three-ridged crest is of the same colour, while the upper portion is yellow. It is certainly a choice and rare variety, and has been flowering with Mr. Twiss since the end of November. It reached us in fine condition, and was strongly fragrant.

CATTLEYA GASKELLIANA ALBA.

THE flowers of this beautiful summer-flowering Cattleya are pure white with the exception of a large pale yellow blotch in the throat, and in this respect Orchid growers will have no difficulty in distinguishing it from C. Eldorado alba, or any other of the white forms of the Cattleyas now classed as varieties of C. labiata. The flowers are produced on the young growths immediately after the latter become matured in summer, and after flowering growth recommences. It therefore requires no resting period, and the plants should be placed near the glass in winter, in order to get all the light possible while making fresh pseudo-bulbs and leaves.—*Orchid Album*, pl. 353.

Obituary.

VISCOUNT EVERSLEY, the noble owner of that charming garden, Heckfield Place, passed away from life on the 28th ult., literally dying with the old year, almost a centenarian. Few men are privileged to live so long as Lord Eversley did. He was a fine type of an old English gentleman, tall, erect, manly, and good. Just a few weeks more, and he would have completed his ninety-fifth year. Unlike too many of his class, Lord Eversley was a devoted lover of his garden, and even the most trivial matters connected with it provoked in him a complete interest. Born at Heckfield in 1794, he died there the other day. What a change he must have seen wrought in his home during that long period! What a revolution, indeed, has been made in horticulture! It was fitting that with an owner who loved his garden so thoroughly, and with a gardener whose enthusiastic nature found such ample scope and encouragement as Mr. Wildsmith, Heckfield should take a high place amongst the private gardens of England—a reputation of no fugitive order, but one which clung closely and steadfastly, and still remains. To young men who have—as too many young men do—given but little attention to history, it is news to learn that the Speaker of the House of Commons from 1839 to 1857, a period of eighteen years, has but just passed away in the person of Viscount Eversley. His earlier public career also takes us back to the days of Her Majesty's accession; indeed, the deceased peer was a member of the House of Commons seven years before Queen Victoria ascended the throne. Heckfield has lost a kind-hearted and noble-minded owner, Mr. Wildsmith a genuine friend, and horticulture a warm patron. The Royal Horticultural Society also loses one of its oldest and most generous of Fellows. The old Place, with all its beautiful surroundings, passes into the possession of Lord Eversley's daughter, Miss Shaw-Lefevre, and we believe that no change will be made in the gardening staff, a matter for hearty congratulation.

WE have also to record the demise of a very worthy man in the person of Mr. CHARLES HOWE, gardener to Sir Richard Sutton, Benham Park, Newbury. Owing to his robust healthy appearance, it was not generally known among his friends that Mr. Howe suffered a good deal during the last two years with disease in the kidneys. He was in town at the last meeting of the fruit committee, and remarked when going home with his old friends, Mr. Ross and Mr. G. T. Miles, that he had not felt so well for a long time. About the 19th of December, however, he had to take to his bed, and passed peacefully away on Christmas Day. Mr. Howe, who was 43 years of age, commenced his gardening career at Henham Hall, Suffolk, and before going to Mr. Blair, at Shrubland Park, as foreman, was for a time in Messrs. Veitch's nursery, and with Mr. Allan, at Gunton Park. He stayed with Mr. Blair about three and a half years, and theu went to Benham, fourteen years ago last October. Here he proved himself to be an able practitioner, and many were his successes at both metropolitan and provincial exhibitions. He also raised at Benham two good Melons in their day, William I. and Benham Park Perfection, both of which gained the Fruit Commitee's favour. Of this body he was last year a member, and on the establishment of the Gardeners' Orphan Fund, he gave it his warm support, and at the date of his death was local secretary for the Newbury district. An unassuming, amiable man, Mr. Howe was much respected, especially by his brother gardeners, several of whom, including Mr. C. Ross, Welford Park; Mr. Brown, Sandleford Priory (now in his eighty-third year); Mr. Pope, Highclere Castle; Mr. Parr, Chilton Lodge; Mr. Marsh, Crookham House; Mr. Lye, Sydmonton Court; Mr. Redington, Littlecote Hall; with the Mayor of Newbury, and Mr. Jones, of Reding, were present at his interment on Saturday last. Mr. Howe leaves a widow, and one son about eleven years old. Since her husband's death, Mrs. Howe has received a great number of letters of sympathy from all parts of the country, to the writers of which—being quite unable to reply to all—she desires us to express her grateful thanks.

QUESTIONS AND ANSWERS.

CRYSTAL OIL.—*H. Elms*: This is merely a shop name for paraffin.

DENDROBIUM BUDS DROPPING.—*Exmore*: If the temperature you mention, namely, 60° to 65°, is that given at night, the buds cannot be injuriously influenced in that respect. In fact, a temperature of 60° at night is quite sufficient for the months of December and January. Something else must be at fault; and we should suspect that you allow them to get too dry at the roots, or, on the contrary, that the soil is wet, sour, and destruc-

tive to the roots. In either of these cases the pseudo-bulbs would be unable to develop the flower spikes properly. The latter are so large, and are so quickly developed from the bud to the flowering stage, that it causes a great strain on the pseudo-bulbs. We should, therefore, advise you to examine the state of the roots, and also to see what the conditions are as to atmospheric moisture.

EMIGRATION.—*T. B. O.*: Apply to the Emigrants' Information Office, 31, Broadway, Westminster, S.W. Separate handbooks for each Colony can be obtained at the same address for 1*d.* each, post free.

NAMES OF PLANTS.—*G. M.*: 1, Angræcum sesquipedale; 2, Epidendrum ciliare. *H. A.*: 1, Davallia Tyermanii; 2, not recognised, no spores on the frond; 3, Asplenium Belangeri; 4, Pteris longifolia; 5, Pteris quadriaurita; 6, Polypodium subauriculatum.

PETROLEUM: LILY OF THE VALLEY, AND CABBAGE.—*Omega*: Water from a petroleum cask will not injure plants if the cask is rinsed out before using it as a receptacle for water. The best time to transplant Lilies of the Valley is immediately after they have done flowering, when the roots commence to make their seasou's growth. Green Cabbage is certainly as nutritious as White for cattle feeding.

TREE FERNS DROPPING THEIR FRONDS.—What is the cause of a Tree Fern (Dicksonia Antarctica) continually dropping its fronds? How can the defect be remedied?—*J. Curtis.* [Do you not systematically keep the roots and stems too dry? In the absence of any particulars as to your mode of treatment we can suggest no other cause.—ED.]

THERMOMETERS IN THE GARDEN.—*D. M. L.* asks whether a gardening establishment can be properly managed, where glass houses have to be cared for, without indicators of temperature. To this we reply that it can be done, and is done in some places, but it requires great experience before it can be done with any degree of satisfaction or security. Where young men do the stoking and tend the houses, thermometers are necessary as guides by which they may get experienced. In houses where the frost is merely kept out and the temperature is likely to fall considerably during the night, it is much safer to have a thermometer hung up in the coldest part of the house, so as to furnish some reliable indication whether it may be safely left for the night without further firing.

COMMUNICATIONS RECEIVED.—W. B.—F. R. S.—A. J. H.—O. & M.—Chlorophyll.—L. C.—G. G.—C. A G.—W. A. A.—W. R.—S. P.—Caledonian.—W. H.

TRADE CATALOGUES RECEIVED.

CHARLES SHARPE & Co., Sleaford, Lincolnshire.—Garden and Farm Seeds.

IRELAND & THOMSON, 81, Princes Street, Edinburgh.—Vegetable and Flower Seeds, French Hybrid Gladioli, &c.

THOMAS METHVEN & SONS, 15, Princes Street, Edinburgh.—Garden Seeds, Implements, &c.

OAKSHOTT & MILLARD, Reading.—Spring Catalogue of Vegetable and Flower Seeds.

DICKSON, BROWN, & TAIT, 43 & 45, Corporation Street, Manchester.—Vegetable and Flower Seeds.

THE WEATHER.

AT the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending Dec. 29th was 29·51 in.; the lowest reading was 29·27 in. at the beginning of the week, and the highest was 29·31 in. at the end of the week. The mean temperature of the air was 42·5°, and 3·4° above the average in the corresponding weeks of the twenty years ending 1868. The mean exceeded the average on each of the first six days of the week, but was slightly below the average on Saturday. The general direction of the wind was S.W., and the horizontal movement of the air averaged 14·0 miles per hour, which was 1·4 mile above the average in the corresponding weeks of sixteen years. Rain fell on five days of the week, to the aggregate amount of 0·66 of an inch. The duration of registered bright sunshine in the week was 4·6 hours, against 3·4 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

January 1st.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a little change in the Clover Seed trade. American Red Clover is firm, with rather more inquiry. Alsike and Trefoil are unchanged. Blue Peas dull. There is no alteration in Bird Seeds.

COVENT GARDEN MARKET.

January 2nd.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 6	Pine-apples, St. Michaels.....each	2 0	7 0
Cobs .. per 100 lbs.	100 0		Pine-apples, Eng., lb.	1 0	1 6
Grapes .....per lb.	0 10	3 0			

Canadian and Nova Scotia Apples, per barrel, 7*s.* to 14*s.*

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	5 0	9 0	Paper White Narciss, 12 sprays	0 9	1 0
Azaleas ....12 sprays	0 8	1 0	— — — French, doz. bunches	3 0	6 0
Bonvardias, per bun.	0 6	1 0	Poinsettia, doz. blms.	4 0	6 0
Camellias, 12 blooms	2 0	4 0	Primroses..doz.buns.	1 0	2 0
Carnations, 12 blooms	1 0	2 0	Primula, double, bun.	0 9	1 0
Chrysanthemums, 12 blooms	1 0	4 0	Roman Hyacinths, 12 sprays	1 0	1 6
— 12 bunches	4 0	12 0	— — (French), 12 bun.	2 0	4 0
Cornflower, 12 bunch.			Roses, Tea, per dozen	1 0	3 0
Cyclamen..12 blooms	0 6	1 0	— Red .....per doz.	1 0	2 0
Eucharis ..per dozen	4 0	6 0	— Saffrano ..per doz.	1 6	3 0
Gardenias, 12 blooms.	10 0	15 0	Tuberoses, per dozen.	1 0	2 0
Heliotropes, 12 sprays	0 6	1 0	Tulips ....12 blooms	0 8	1 6
Lapageria, 12 blooms	2 0	4 0	Violets ..12 bunches	1 0	1 6
Lilium longiflorum, 12 blooms	5 0	9 0	— Parme, French, 12 bunches	5 0	7 6
Lily of the Valley, 12 sprays	0 9	1 3	— dark French, bun.	1 6	3 0
Maidenhair Fern, 12 bns	4 0	9 0	Wallflowers, 12 bnchs,	4 0	8 0
Marguerites, 12 bun.	3 0	6 0	White Lilac, French, per bun.	5 0	7 6
Mignonette, 12 bun.	2 0	4 0			
Pelargoniums, 12 spys.	1 0	1 6			
— scarlet ..12 sprays	6 0	9 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ..per dozen	1 6	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 3
Cabbages .... per doz.	1 6		Onions....per bnshel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	2 0	3 0	Radishes ..per dozen	1 6	
Celery ....per bundle	2 0		Small salading, punnet	0 4	
Cucumbers ....each	0 6	0 9	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos ....per lb.	1 3	1 9
Herbs ....per bnnch	0 2	0 4	Turnips ....per bun.	0	

POTATOS.- Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys. 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	6 0	18 0	Foliage Plants, various .....each	2 0	10 0
Arum Lilies..per doz.	9 0	18 0	Hyacinths ..per doz.	8 0	12 0
Azalea.....per doz.	24 0	42 0	Lilies of the Valley, per doz.	18 0	30 0
Chrysanthemums, per dozen	6 0	12 0	Marguerites per doz.	6 0	12 0
— large plants ..each	2 0	5 0	Palms in variety, each	2 6	21 0
Coleus .....per doz.			Pelargoniums, scarlet, per dozen	6 0	9 0
Cyclamen ..per doz,	9 0	18 0	Poinsettia ..per doz.	9 0	12 0
Cyperus, ..per dozen	4 0	12 0	Primula sinensis, doz.	4 0	6 0
Dracæna term., doz.	30 0	60 0	Roman Hyacinths, per doz.	9 0	12 0
— viridis, per dozen	12 0	24 0	Solanums....per doz.	9 0	15 0
Evergreens, in var., per dozen	6 0	24 0	Tulips ..... per doz.	8 0	10 0
Ferns, in var., per doz.	4 0	18 0			
Ficus elastica ..each	1 6	7 0			

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Next Week's Engagements.

Monday, Jan. 14th.—National Chrysanthemum Society: Meeting of General Committee.

Tuesday, Jan. 15th.—Royal Horticultural Society: Meeting of Fruit and Floral Committees at 11 a.m. Sale of Plants by Sample at Protheroe & Morris's Rooms.

Wednesday, Jan 16th.—Gardeners' Royal Benevolent Institution: Annual Meeting at 3 p.m. Dinner at 6 p.m. at "Simpson's." Sale of Plants, Bulbs, &c., at Protheroe & Morris's Rooms.

Friday, Jan. 18th.—Sale of Imported Orchids at Protheroe & Morris's Rooms.

Saturday, Jan. 19th.—Sale of Plants, Bulbs, &c. at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, JANUARY 12, 1889.

CURRENT TOPICS.

The Old and the New.—The traditional Christmas still exists, and is not after all so largely a product of imagination. The only difference between the traditional and the real is found in an interval of twelve days. The new Christmas is often as not—perhaps far more largely often—a time of soft balmy weather, or, as was the last Christmas, one of autumnal downpour of rain. It is, as a rule, the antithesis of tradition, and more generally reminds us of October or April. But the fault does not lie with the weather after all. Humanity, for reasons of its own, more than a century since brought Christmas fully twelve days forward, and twelve days in the early part of the winter signifies much.

Our old Christmas day, the twelfth day of the new style, was—minus the snow, and plus the fog—all that the most traditional of artists could desire. There was a low temperature, sharp frost, ample skating and sliding, the trees and shrubs beautifully silvered with dense hoar; and whilst the well-to-do, wrapped up, rejoiced in the coldness, the poor shivered and shook under its influence. Clearly a great mistake was made in putting Christmas so much forward. Winter does not really begin now, as a rule, until the new year opens, and yet we talk of Christmas as being in mid-winter. Perhaps it may be so astronomically, but it is evident that meteorology and astronomy do not in the matter of seasons run well together. As a result we ought to finish up winter by the end of March, but instead thereof, it ends several weeks later. Thus, because Christmas has been hurried forward, the winter seems to be unduly prolonged. There seems to be much that is absurd in thus shifting the anniversary of what is held to be the greatest Christian festival in this reckless fashion. To gardeners, however, the matter is objectionable, because it seems to have turned the winter season topsy turvy.

Horticultural Literature.—Our contemporary, *The Gardeners' Chronicle*, has done good service to all inquirers after gardening books of every kind in publishing a list of about 100 standard works, more or less costly, but eminently representative, and covering fully every topic capable of being written upon that is horticultural, or strictly allied thereto. Even farther, this useful list gives the names of the publishers, with addresses, thus facilitating inquiry on the part of purchasers, and it would have been even more helpful had the publishing prices been added, though well we know the difficulty of getting such information as this. Of course there are many more gardening books than are included in this list—some good and some worthless—and we note some on the list which are now out of print and not readily obtainable, still the cream has been well skimmed by the compilers.

It is interesting also to notice that there are no less than nine weeklies devoted to horticulture, all being published in London, some two or three monthlies, and several annuals; also a really goodly company of serial literature, and all devoted to the advocacy of our profession. No other purely practical vocation can show such a wonderful array of literary organs, to say nothing of the general newspapers, which either have on their staffs gardening contributors, or publish gardening matter extracted from the professional publications. These, indeed, are legion, and found not only in the metropolis, but in all parts of the United Kingdom. Outside of Great Britain, France, the United States, Belgium and Germany follow in their order, as having the next chief numbers of gardening publications. It is just possible that Belgium, having regard to its limited area and population, may after all be the most horticultural of nations, but Great Britain has little reason to fear comparison with any other country.

Fuel for Heating.—It is not a matter for surprise that fuel for heating furnaces should just now form a prominent subject for discussion. The weather, having at last assumed a winterly aspect, though the frost has not been intense, has yet pressed upon our notice the fact that we are in the midst of winter, and provision for severe weather must be made; but more than that, the forcing season is close at hand. In many gardens not a great deal that is important is done during January, but February and the following months are fully utilised for forcing, and furnaces as well as boilers are tested to their utmost capacity. To provide for them the most desirable form of fuel is, therefore, of the first importance. To have desirable fuel signifies the possession of a kind which is very easily obtained, is fairly cheap, and eventually does its required work well. The very cheapest may not be always the best, for the real test of value is found in heat-giving and sustaining capacity, so that dearer fuels may, paradoxically, prove to be the cheaper in the end.

Horticulturists all over the world seem to favour coke as furnace fuel, but although opinions differ appreciably, anthracite could find many champions. It seems odd that in a matter which all can soon submit to practical test, there should be difference of opinion, but form of boiler, nature of draught and method of stoking may largely account for divergencies. Coke is a cheap and cleanly fuel, it is also a reliable fuel, for any well-made fire of coke will endure for a long period, and so far may be fully trusted. Coal, on the other hand, possesses greater heat-giving powers, but is in effect less enduring than coke, and stoking must be very active But whilst some boilers seem to favour one form of fuel to another, so also is one form often more readily obtainable in one district than in another, and so on. Probably as many persons find one fuel to be as good as another, much may depend upon the nature of the warmth required from the fuel.

The Scientific Committee.—This section of the Royal Horticultural Society's labours has recently come in for sharp criticism in an unexpected quarter, some of which seems to be well merited. The committee does concern itself largely with trivialities, but it may be pleaded that the scientific associations of horticulture are generally trifles. Botany is pure science, but horticulture is applied science, or science in practice, and it is very difficult to define what portion of it merits the appellation of science theoretically. Thus many matters seem to be gravely discussed by the sages of the scientific committee, which a little of the sound knowledge of the practical man would soon satisfactorily determine. This is especially the case in that part of science found in vegetable physiology, or the science of plant life, with respect to which our unlearned men, or let us say non-scientific men, often blunder into great truths or facts, which the pure scientists would fail to discern. Still, the Scientific Committee, whatever its labours, means well, and is only anxious to be useful.

So far, perhaps with a desire to exhibit its activity to the world, it has published reports of its proceedings, and in doing so has very often done that which has not tended to create for its deliberations great respect. All the same, courtesy to all renders it difficult to refuse consideration even to trifles. We wish to see this committee, whilst willing to retain its scientifically consultative form, yet displaying more anxiety to make its scientific, and in some cases practical knowledge at once more practical and more useful to horticulture. The effort made to discover how much of scientific truth there is in the Jensenian theory of earthing Potatos for the prevention of the Potato disease, is an admirable illustration of what a really horticulturally scientific and experimental body might do; and must have been a welcome change to the members after so much wasting of precious time over weeds "gone wrong" and similar trivialities. If the committee will look around in a practical spirit, they may find many similar subjects which need scientific elucidation.

Gardeners' Royal Benevolent Institution.—We may remind our readers again that the annual general meeting of the subscribers of this institution, and the election of nine pensioners, will take place at "Simpson's," at 3 p.m. on Wednesday next, at 6 o'clock sharp. The Very Rev. S. Reynolds Hole, Dean of Rochester, will take the chair at the annual friendly dinner, and we are requested to state that no tickets will be issued after this day, Saturday, so that those who intend to be present should apply to Mr. Cutler at once. This being the fiftieth, or jubilee year, a very pleasant gathering of friends and supporters of the institution is anticipated. An entertainment, consisting of vocal and instrumental music, was given in the Town Hall, Downham, on Thursday, in aid of the funds of the institution, the moving spirit in the matter being, we believe, Mr. James Bird.

A New Use for the Dahlia.—The French are always amongst the foremost to use and recommend some new vegetable or other as an article of human food. Now they advise epicures who are tired of Potatos to abandon the latter and replace them with the tubercules of the Dahlia. When prepared in the same way they constitute an excellent dish. We should rather say they should receive the same culinary preparation as the tubers of the Jerusalem Artichoke, with which they have some natural affinity. We are afraid, however, that the tubers of the Dahlia in this country will always prove too costly an article to come into general use as human food. The new vegetable (Stachys tuberifera), which has recently been rescued from obscurity, has tubers with qualities similar to the Jerusalem Artichoke; but it never seems to have occurred to anyone to utilise the underground fleshy rhizomes of our native Stachys palustris in the same way.

Nottinghamshire Horticultural and Botanical Society.—At the monthly meeting to be held at the Arboretum Rooms, Nottingham, on Wednesday next, at 7·30 p.m., Mr. J. H. Walker, the Gardens, Hardwick House, Nottingham, will read a paper on the Rose, its history, its culture, and its habits. The annual dinner of the society will be held on Wednesday, January 30th, at six o'clock.

Tricks of Trade.—A correspondent sends the following cutting from a local paper:—"It has been a mystery to many people how it is that the London hawkers have a perennial supply of plants at such cheap prices. It appears that evergreen shrubs are manufactured for the barrow trade in an ingenious manner. Some large plants are stolen and cut up, and the stems of the divided portions are thrust into Cabbage stumps with roots attached. Two ingenious manufacturers were prosecuted at Wandsworth a few days ago for selling evergreen shrubs grafted on Cabbage roots."

Shropshire Horticultural Society.—We learn from the annual report of the committee of this remarkably successful provincial society, which was read at the annual meeting on the 31st ult., that the receipts during the year showed an improvement on all sources of income, and that the actual profit on the year's working was no less than £870. In addition to the regular expenses connected with the exhibitions the society gave during the year, donations of £50 to the Local Angling Society, and £300 to the Shrewsbury Public Bath Fund; and it was unanimously resolved at the meeting that in consideration of the valued services rendered to the society since its establishment in 1875 by the four honorary secretaries and treasurers, the sum of £200 be presented to them, to be applied in such manner as they might individually select, to record the society's appreciation of their services.

The Smoke Plant in Winter.—Those who have observed the bushes of Rhus cotinus (often called the Smoke Plant) during the recent foggy and frosty weather, cannot but have observed their feathery and graceful appearance, hung as they were by the minute particles of snow. With the exception of the leaves, the bushes had assumed much of their summer aspect, but were rather whiter. The fine particles of snow deposited on the partly decayed pedicels of the inflorescence made good the loss of the short, glandular, bristling hairs, which gives the plant such a characteristic appearance in summer. For this reason the pruning away of the old inflorescence should be deferred till spring.

Heliotrope, White Lady.—"Oh, what a beautiful scent! Cherry Pie, is it not?" exclaimed a lady on entering our greenhouse the other day, and certainly the perfume was delightful, though there were only a few plants of this Heliotrope in the house. White Lady is well adapted for winter work, and cuttings struck in spring and grown on with, and treated the same as Zonal Pelargoniums for winter flowering have been found to give good results.—*B. L.*

CLERODENDRONS.

Apart from the climbing section of this genus, a few species exist that may be worthy of good cultivation, partly on account of the delightful perfume of some, and in others of the rich and brilliant coloured flowers. C. fragrans flore pleno is a highly scented kind bearing close compact heads of flowers, and may be had in bloom on plants with one stem a few inches high to plants with a dozen stems or more if necessary. The one stem system answers as well as the bush style, for by good cultivation the single head may be made much stronger than on the plant that has to support such a number of stems.

Another advantage is that plants in the smaller state may be arranged with better effect amongst others; this remark may at the same time apply to C. fallax and C. Kæmpferi, both dwarf-habited species, producing large heads of brilliant scarlet flowers, giving a splendid effect to a mixed collection of stove plants. A rich loam suits their wants, and a moist atmosphere, in which they can be pushed along sharp after being potted on from the cutting.—*W. G.*

THE GINKGO TREE.

Much interest is attached to this beautiful tree for various reasons. It is popularly known as the Maidenhair Tree, from Salisburia adiantifolia, a title given to it by Smith—the generic name in honour of R. A. Salisbury, a distinguished botanist, and the specific name because the leaves bear a strong resemblance to the pinnules of Adiantum. The accepted botanical name is Gingko biloba, the generic one being the original Japanese name.

Whether we regard the tree as of Chinese or Japanese origin, this much is certain—that it is not now to be found in a truly wild state, as all the known trees of it have been planted by man, to whom it has probably owed its existence for a great many years. It was introduced to this country from northern China in 1754, and the wonder is that so comparatively few trees are to be found in English gardens at the present day, notwithstanding the fact that it is perfectly hardy, in the southern counties at least, and thrives remarkably well in the neighbourhood of London, attaining a height of 40 ft. or 50 ft. in as many years. In China it reaches from 60 ft. to 80 ft. in height.

One of the finest trees of it about London is that at Kew, which reaches a height of 60 ft., measured by Kay's Dendrometer. At 4 ft. from the ground its girth is 8 ft. 9 ins., and about 1 ft. above this it divides into two main limbs, while at 20 ft. from the ground it runs up with five perfectly straight leaders. It is a most characteristic tree at all times, and not the least so in winter, when its curiously spurred branches are naked. In this respect it reminds us of the Larch, which also belongs to the Conifer family. There is another good specimen at Chiswick House, Chiswick, 57 ft. in height. About three years ago it lost 5 ft. of its leader and is just recovering the loss, otherwise it would have been much taller. At 4 ft. from the ground it girths 6½ ft., with a spread of branches of 42 ft. A third tree at Highgate, in the nursery of Messrs. Cutbush & Son, judging by eyesight is about 65 ft. high. It is a beautiful, narrowly pyramidal tree, with a single stem, straight as an arrow, and furnished with short branches to within 6 ft. of the ground. It is believed to be very old, and has probably been pruned in at the sides to prevent it from overshading the shrubs beneath. There is also an old tree in the Chelsea Botanic Garden, battling with the smoke in that thickly populated locality.

No seeds apparently have yet been ripened in this country, although such happened in France many years ago. Propagation is effected by imported seeds, by layers, and by cuttings of one-year old wood taken off early in spring before growth has commenced. These slips or twigs should be firmly inserted in a shady border to which a quantity of leaf-soil or peat is added.

Besides the fan-shaped leaves with the veins all straight and radiating from the base of the blade, and which are singular characteristics for a Conifer, the tree, or its primeval representatives, date back to a hoary geological antiquity. Leaves are found in the Devonian and Carboniferous strata of North America, and named Nœggerathia, and believed to be closely allied to the Gingko Tree of China. A great number of species belonging to the genus Gingko have been found in the Mesozoic strata of North America, Temperate Europe, Greenland, and Siberia; so that although the Gingko is now believed to exist only as a planted tree, in geological ages it inhabited almost the whole of the northern hemisphere from America in the west to Japan in the east. In the much more recent strata of the tertiary period leaves in great abundance and excellent preservation have been found embedded in white clay at Ardtun, in the Island of Mull. These facts should give additional enthusiasm to tree lovers, and induce them to extend the cultivation of a beautiful and most remarkable tree in those counties where it succeeds.—*F.*

THE JAPANESE HOP.

Whoever has tried the Japanese Hop (Humulus japonicus) for the purpose of covering an arbour or trellis-work, must have noted the rapidity with which it covered any given space. This feature is one of its most valuable characters, and will gain for it admission into many a garden throughout the British Islands when it comes to be sufficiently well known. As its specific name implies, it is a native of Japan, but is only of annual duration, whereas our own native species, which is often grown for decorative purposes, is a perennial. It is of the same climbing or rather twining habit, but apparently has more rambling

Humulus japonicus.

propensities, and a greater inclination to branch. The leaves are in many respects similar to those of the wild Hop, but are more deeply cut, with narrow lobes, and have a more refined appearance. The best way to treat it is as a half-hardy annual, sowing seeds in heat, and transplanting them into boxes, or potting them off singly soon after they germinate. As soon as the weather becomes favourable they should be planted out where they may cover arbours, trellis-work, old tree stumps, unsightly objects, or as a hedge or screen. Seeds germinate as readily as Stocks or Asters. We are indebted to Messrs. J. Carter & Co., High Holborn, for an opportunity of illustrating it.

FRANCISCEAS.

A fine race of stove shrubs with fine bright evergreen foliage, compact in growth, and extremely useful as both decorative and exhibition plants under good cultivation. Some of the later introductions bear very fine and large mauve-coloured flowers that are extremely attractive. They require good treatment to bring them up into good specimen plants, and are very subject to the attacks of all insect pests that are usually found in the stove.

They root freely from cuttings, and should be potted along sharp to keep them continually on the move; they will require cutting down several times before the framework of a good plant can be obtained. Pot in a rich loam and peat, with sharp sand to keep the soil well open, and drain the pots well. Syringe freely during the growing season, and give a period of rest in the winter. The best sorts to grow are F. confertiflora, F. magnifica, and F. violacea superba.—*W. G.*

CLOVER AND GRASS SEED.

Messrs. Hurst & Son, 152, Houndsditch, in their annual Clover and Grass Seed circular, just issued, remark that as a result of the failure of the English crop, there will be a large demand during the coming season for foreign seed, and as the boldest and best foreign samples come into the markets early, they recommend buyers not to delay purchasing the better grades at the moderate rates now ruling.

"From careful inquiry and personal observation in the chief producing counties, we regret to report the smallest crop of English Red Clover and Cowgrass for many years, perhaps the smallest on record. Owing to the probable scarcity, farmers generally made their first crop into hay, and consequently very few fields in any district were left for maiden seed. Had the past season been favourable for seed saving, a much less acreage than usual was available, owing to the long drought of 1887, and consequent failure of many leys; still in some districts a considerable quantity of the second cut was left for seeding, with the result as stated above; the abnormally cold and wet July and August retarded the growth of the plant and prevented the development of seed in the autumn. Owing to the failure of our home crop of foreign Red Clover, a foreign supply of good seed is of the greatest importance, but unfortunately, with few exceptions, we hear of deficient harvests on the Continent. Germany is a heavy buyer for its own consumption. France will be able to export some fine bold seeds from her northern districts, and a good quantity of small-grained and particularly weedy parcels from the Central and Southern Provinces. The large-grained Normandy and Brittany seeds will, when machine-cleaned (and they should never be used without), approach more nearly than any others in appearance and character to our home-grown seeds. It is to the United States we shall have to look for our chief and best supply this season, and fortunately some of the States have already been able to send us some clean and well-ripened lots. Our latest reports, however, state that the later-saved seeds have been much damaged by rains, and that the early-saved and finer samples are being rapidly taken off their markets. Taking all our reports into consideration, we expect high prices will prevail, especially as compared with the past three or four seasons. The English crop of White Clover is a failure, and the German crop much under the average. As soon as the probable shortness of the harvest was foreseen, a rapid advance took place in the value of held-over seed, and from this country some large shipments were made to Germany. From the prices current last year (almost the lowest on record), this article has now exceeded the average, and should the usual demand take place these prices will doubtless be maintained.

"Alsike:—A shorter crop than for many years. We shall have to depend almost entirely upon yearling seed, and these parcels have commanded a great advance in value. Trefoil:—A very small crop of poor quality in England, and a small one on the Continent. This article will be dear throughout the season. Fine yearling parcels command higher prices than for many years. Lucerne:—A much under-average crop of medium quality. Sainfoin:—A large crop both in France and Germany, and a medium one in England. Italian Rye Grass:—The French crop is reported under average, and very few really fine parcels have been offered; these command full prices. The Irish crop is not large, and the cleanest samples sell readily. Perennial Rye Grasses:—The crop is a medium one of much inferior quality to last year's, the average natural weight per bushel being about 4 lbs. less, and the colour dark. Heavy weight seeds are scarce, and have consequently advanced in price. Natural Grasses as usual vary considerably. Timothy is very plentiful and of fair average quality. Cocksfoot is also very plentiful, of excellent quality and strong percentage of growth. Meadow Fescue is rather below the average yield, and Tall Fescue plentiful. True Sheep's Fescue, Poa trivialis and Poa nemoralis are also scarce, but there is a good crop of Poa pratensis."

NOTES ON FRUITS

HAWTHORNDEN APPLE.

I agree with "A. D." (p. 264) when he says that provincial-speaking people corrupt nomenclature more or less. Concerning the spelling of the above name, however, I am rather surprised that Hawthornden should not have been the accepted one, seeing that the variety takes its name from Hawthornden, a place near Edinburgh. Now, in the Lothians, the glens or valleys are nearly always called deans, which is simply another way, and presumably a local one, for the word den, which in other parts of Scotland is almost invariably applied to a narrow glen or valley between rising hills on either side. Then, as a matter of fact, we find Hawthorndean, White Hawthorndean, and Old Hawthorndean given as synonyms. There can be little doubt of its being a northern Apple, and a very old one, which did not find its way into the London nurseries till about 1790. The Devonshire Quarrenden, on the other hand, I have always believed to have originated in the south, but it is also grown successfully in Scotland, as I have specimens in my possession quite fresh yet, and which were grown in the neighbourhood of Edinburgh.—*F.*

THE QUARRENDEN.

Concerning this old Apple (at p. 290), "S." seems to think that I had no cause to be amused at its being called Quarantine. My reason for being so was that I believed it to be a corruption of the proper name, or a mispelling for which the greengrocer must be responsible. According to the same writer, on p. 240, Quarantine must be a much older name than is generally supposed. But although I find ten different names for this Apple in books, none of them are spelt Quarantine, much less English Quarantine. The first part of the latter name I also hold the greengrocer responsible for; but whether the name caused them to sell better I cannot say. This much is certain, that good specimens found a ready market at 6*d.* per lb., and very indifferent ones at 4*d.* per lb. Many inferior Apples as well as Pears are sold under popular names, long after the true variety is out of season.

Then concerning the names of fruits, the Devonshire Quarrenden included, what I find fault with is that the most popular name seems to be the accepted one in books in preference to the oldest one. This is contrary to the method employed by botanists with regard to the naming of plants, as they accept the oldest authorised name as the proper one. In gardening books and in works on pomology the name Devonshire Quarrenden is that to which prominence is given. Then follows a number of others which seem to be corruptions of the original, whatever that was. The following will give an idea of this—namely, Devonshire Quarrington, Quarrington, Red Quarrenden, Red Quarentine, Quarentine, and Red Quarringden. In none of these cases do I find the name spelt Quarantine, which seems rather remarkable if it is a name of such long standing as "S." states. In *The Apple and Pear as Vintage Fruits*, p. 156, Sack Apple is the accepted name, while Spice Apple and Fox's Kernel are given as synonyms. The book further states that "this Apple is one of the oldest historic varieties, and is more useful at the present day as a dessert or pot fruit than for cider."—*F.*

THE FOX WHELP APPLE.

I observe that Messrs. Richard Smith & Co., the well-known nurserymen at Worcester, are offering this old cider Apple. It is said to be the best cider Apple grown. I see that it was exhibited at the Chiswick Apple Congress in 1880, by Messrs. J. C. Wheeler & Son, of Gloucester, so one may suppose it is grown in that county, especially as they were the only exhibitors of it. I cannot find this variety in the *Fruit Manual* by Dr. Hogg, or in the *Orchardist* by Scott. But that it is a very old variety is shown by the fact that Evelyn wrote about it as far back as 1664, as follows: "Cider for strength and a long lasting drink is best made of the Fox Whelp." We are told that this reputation has ever been maintained, and although the genuine old Fox Whelp had, until the last year or two, become almost extinct, the character has never been more firmly established than at the present time. So highly has the pure Fox Whelp cider been prized by connoisseurs, that it has almost been impossible to buy any, and most people who have been fortunate to drink the old cider, would, it is said, gladly give a price that would astonish the public. As an instance of the appreciation there is for the Fox Whelp in Herefordshire, its natural home, it is mentioned that as soon as it was known, a year or two ago, that this old and choice variety was obtainable, there was a great run upon it, and trees were eagerly bought up. At the Chiswick Congress this Apple appeared under the name of Fox-whelps; but Evelyn, who may be taken as an authority, used it in the singular. Messrs. R. Smith & Co. describe the fruit as of a "beautiful red colour, rather small; but of such a disagreeable flavour that no boy would be likely to eat it." After this, no one will be anxious to cultivate it as a garden variety.—*R. D.*

A FEAST OF EUCHARIS.

THE chaste appearance, extreme beauty, and usefulness of the Eucharis grandiflora when in flower, at any period of the year, more especially when it blooms in great profusion in the autumn and winter season, cannot be over estimated, and those who can manage to get a good yield of flowers at Christmas, may be considered lucky, for then the blooms are extremely valuable, far surpassing many other kinds, both for lustre, size, and rich perfume.

A display of unusual merit has been seen during the last month in the stove at Edgend House, Burnley, the residence of Edward Ecroyd, Esq. The plants under notice are very healthy and vigorous, the foliage averaging 2 ft. 6 ins. in length, and of a very dark green, the picture of good cultivation. A tub and three pots, about 16 ins. in diameter, have thrown up about fourteen heads of flowers each, the heads averaging from four to five flowers. These and two smaller pots that have thrown up half a dozen heads each, make a total yield of sixty-eight heads of flowers, or about 300 single flowers—a very fine display for the Christmas season.

But this is not all that may be said in favour of these six pots of Eucharis, as during the latter part of September and the early part of October they gave even a greater yield than what they are doing at present. At that time the larger pots averaged sixteen heads of flowers, and were at that season stood out of the stove in a cool vinery to prolong their blooming period. Possibly this may have given the bulbs a slight rest, and induced them to flower again so rapidly after being placed back in the stove, where a good growing temperature can always be maintained. Mr. John Birch, the able gardener, is to be congratulated on the successful manner in which he is flowering these plants.

Growing in the same house may be seen Jasminum gracillimum, with its large heads of pure white, starry flowers; also J. hirsutum, with long sprays of pure white sweet-scented flowers, both fit companions to blend with Euphorbia Jacquiniæflora. In the conservatory a very fine plant of Daphne odora rubra is in flower with about 200 points, each point carrying an expanded truss of flowers.—*W. G.*

GARDENERS OF THE FUTURE.

COMPLAINTS continue to be made about young gardeners not receiving so much instruction from their chiefs as they ought to do, but the reason for this is not far to seek. The plain fact is that in many instances the head gardeners are not qualified to instruct those under them in the sciences, of which a knowledge is considered essential. During my career I have come in contact with a good many gardeners, both head and under, who knew no more about these sciences than myself, and it is almost impossible for anyone to know less of either than I do. After all, of what value is a smattering of technical phrases to a man if he does not thoroughly understand the subject? A partial knowledge of either will avail him little, and a man can be a very successful gardener without possessing a knowledge of botany or chemistry, though no doubt such an one would be more successful were he in possession of sound information on both subjects. Still, I would ask, is it absolutely necessary for anyone to have a knowledge of botany before he can grow a Chrysanthemum to such perfection as Mr. Tunnington and Mr. Molyneux; or could everyone who has a thorough knowledge of botany grow Chrysanthemums to the same perfection as either of these redoubtable growers?

I served several years under a very successful old gardener who knew nothing about botany. Such things as parenchyma, fibro-vascular bundles, protoplasm, and chlorophyll granules were unheard of by him. But in the production of excellent crops of Grapes, Peaches, Figs, &c., there were few who could beat him. I have held the basket while he cut bunches of Grapes that weighed 12 lbs. and 13 lbs. each, and better crops of Peaches, Figs, &c., than he grew no one need wish for. So remarkably well kept, too, was his kitchen garden that he offered a reward of sixpence for every weed that any outsider could find within its walls. Every bush and fruit tree had its label, and so particular was he with nomenclature that if anyone gave him a few seeds, cuttings, or young plants, without the name, they were not allowed to be put into the ground. I am positive that if anyone interested in botany had visited this veteran and touched on the subject under discussion, he would have found that his excellent crops of superior Grapes and Peaches were far more interesting to him than all the fibro-vascular bundles and chlorophyll granules in the world. If he was not a scientific man he could not be denied the honour of being a thoroughly practical one. —*John Peebles, Clock House Gardens, Ravensbourne.*

THE HOLLY.

THE Holly is botanically Ilex aquifolium. The generic name Ilex is said to be derived from the resemblance of the leaves to the Ilex or Virgil (Quercus Ilex). The specific name, aquifolium, means prickly-leaved. The Holly is a native of the woods and forests of Great Britain, and it has now numerous varieties, many of a highly ornamental character—gold and silver blotched, entire, notched, serrated, ciliated, bristly, broad, narrow, thick-leaved, &c.; some bearing red and others yellow berries, and their fruit is in great demand for embellishing our dwellings, &c., at the Christmas season. All the Hollies are white-flowered, with very rare exceptions. The common name, Holly, is on the eastern borders still called Hollen, which is, according to Dr. Prior, the old form of the word. The term Holly appears to have been the most readily adopted; but in Anglo-Saxon times the tree was known as Elebeam or Oil tree, from its branches having been used for Olive branches, and strewn before the image of Jesus, in certain solemnities of the Church that represented his entrance into Jerusalem. But the Holly is very abundantly diffused, being found in warm climates and in cold, in most countries of Europe, and in many of Asia and America.

The ceremony of decking houses and churches with evergreens at Christmas is one of great antiquity. The practice of decorating with Holly, its berries contrasting so effectively with the dark green of its spiny leaves, was observed in many countries hundreds of years ago, just as we still find a similar custom observed in the East at New Year, showing us that the origin of the observance is the same in each case. It was on account of the heathen practices being so general that the early councils of the Romish Church condemned the use of Holly, Ivy, and other evergreens and flowers for Christmas decoration, though the condemnation failed to abrogate its use permanently. But it is easy to understand that from the use made of its branches in decorating churches at Christmas time, the monks, by an easy corruption, bestowed upon the Holly the name of Holy Tree. The name of Christ's Thorn has also been given to it on account of the supposition that the crown of thorns which encircled the Saviour's head was made from it.

A thousand traditions, as might be expected, have clustered about the Holly. The disciples of Zoroaster, or fire worshippers, believe that the Holly tree casts no shadow, and both in Persia and India they employ an infusion of its leaves for several purposes connected with their religious observances. They also sprinkle the face of a new-born child with water impregnated with Holly bark. We are informed by Mr. Folkard that Pliny states that if the Holly or Hulon tree be planted about a house it will keep away all malign spells and enchantments, and defend the house from lightning. He also, among other marvels, relates that the flowers of the Holly would freeze water, and would repel poison; and that if a staff of its wood were thrown to any animal, even if it did not touch him, it would so influence the animal as to cause him to lie down beside it. It was formerly an article of belief that, unknown before, the Holly sprung up in perfection and beauty beneath the footsteps of Christ when he first trod the earth, and that—though man has forgotten its attributes—the beasts all reverence it, and are never known to injure it. Witches are said to abhor the Yew, while the Holly is equally obnoxious. It is suggested that the reason for this is that the Yew is generally found in churchyards, while the word Holly is but another form of "holy," so that the tree is regarded as sacred. In Cambridgeshire it is still believed by many that if the Holly, with which the house is decorated at Christmas, be removed before Candlemas Day, the prosperity of the tenant will vanish before the following year. It appears to have

been an old custom to take the Holly down on Candlemas Eve. Herricks, one of the old English poets, says:—

"Down with the Holly and Ivy all,
Wherewith ye deck the Christmas hall;
So that the superstitious find
Not one least branch there left behind;
For look, how many leaves there be
Neglected there—maids 'tend to me—
So many goblins ye shall see."

The Holly has been by many considered to be merely a shrub, but when left to its natural growth it attains to a height of at least 30 ft. For a fence there is no better tree than the Holly; it rarely, if ever, suffers from the severest winter; it is always green, strong, and impenetrable, and it is easily kept in order. Were it not that the Holly grows very slowly when young, it would make better hedge-rows than the Hawthorn. When allowed time and not destroyed by shortening the top shoot, the Holly grows up to a large tree. I have said it reaches to a height of 30 feet; some at the Holly Walk, near Frensham, in Surrey, are mentioned by Bradley as growing to a height of 60 ft.; and old Hollies of 30 ft. and 40 ft., with clean trunks, can, according to one authority, be met with in many parts of the country.

A well-developed hedge of Holly is always a pleasing object, though occasionally clipped into formal shapes. It bears the shears well, and forms a fence as tall, as wide, and as dense as can be wished for by the most exacting. It is of rather slow growth for the first year or two, but after that, if a moderate degree of attention be bestowed upon it, it advances more rapidly, and soon realises its character for combined beauty and utility. Evelyn had a magnificent Holly hedge in his gardens at Says Court, which he planted at the suggestion of Peter the Great, who resided in his house when he worked in the dockyards of Deptford. He thus rapturously writes of this fine fence:—"Is there under heaven a more glorious and refreshing object of this kind than an impregnable hedge of about 400 ft. in length, 9 ft. in height, and 5 ft. in diameter, which I can show in my new-raised garden at Says Court (thanks to the Czar of Muscovy) at any time of the year, glittering with its armed and varnished leaves, the taller standards, at orderly distances, blushing with their natural coral." There was, a few years ago—and it no doubt exists now—a wonderful Holly hedge at Keele Hall, Newcastle-under-Lyne, in which multitudes of sparrows used to roost at night.

The Holly has been described as "one of the evergreen glories of the English gardens. There its deep green glossy foliage, and bright coral berries, which hang on for a long time, are seen enlivening the pleasure grounds and shrubberies throughout the whole of that leafless and inactive period in vegetation—winter." A place in which Hollies abound is always well furnished during the barren period of the year.

Martin first discovered the differences of sex in the Holly, some being male, others female, and others hermaphrodite. It is a tree of great longevity, and will grow in any soil not very wet; but it thrives best in a dry deep loam. Of the green-leaved Hollies, the thick-leaved Crassifolia type are among the best. Hodginsi is one of the best large-leaved varieties grown; and the Hedgehog (I. ferox) is remarkable for its dense growth. Of the gold-margined varieties, Golden Queen and Waterer's Gold Striped; and of the silver margined, Handsworth, and the rough-leaved.—*R. D.*

NOTES FROM SCOTLAND.

Gardening and Forestry.

In proposing the toast of "Success to the Royal Horticultural Society of Aberdeen," at the annual dinner of the society, held on December 21st last, Mr. J. Murray-Garden, who presided, said:—Horticulture, which was the main object of that society's operations, was an increasing and improving enterprise. It was an art, and it was also a science. The art of horticulture made no real progress until science was brought to bear upon it, and the results of the application of science to the art of horticulture had at the present time been most marvellous. It was very difficult to obtain reliable statistics on the subject, but he was very much struck to observe that while during the past twenty years the population of this country had increased only 7 millions—from 30 to 37 millions—the imports of the products of the market garden from foreign countries had increased from two millions and a quarter to more than six millions of money every year. He did not think that that was a result to be applauded, because he fain would have seen that the demand for the products of the garden and orchard and forest had been made from our own soil. No doubt, the area in market garden cultivation had been doubled. Whereas there had been 36,000 acres twenty years ago, there were more than 62,000 acres under cultivation now; but still after all the supply fell far short of the demand. And it was not because the soil of this country was incapable of producing the food required for its inhabitants. The real reason was that the public of this country—the working classes in this country—had not given attention, had not directed their attention, to that industry as they ought to have done. He looked upon it as a very serious question for our country that the labour power was being congested in the large towns, and not spread abroad over the face of the country, for that would conduce to a healthy population, and would conduce to much that was good.

French Market Gardening.

If they looked to foreign countries they would be surprised at the results that were obtained from this industry. He could not take up time by giving them many of these results, but he should like to mention one, of which he recently read, and which showed to him what could be done by those who applied skill and industry to the work. In one of the market gardens adjoining Paris, extending to 2 7-10ths of an acre, there was a capital outlay of about £1,100 to provide glass and other appliances, including a steam-engine for watering. And what had been the result? From that little plot of ground there was now raised annually about 250,000 lbs. of vegetables. The gross income had been about £800, and the profit, after deducting £100 a year for rent and taxes, had been between £200 and £300. That showed what could be done. That little plot of ground had been worked by eight people and a horse. Now, let him take another example from our own country, and that was in reference to

The Cultivation of Mushrooms.

He took one single product out of hundreds. In one case where Mushrooms were cultivated the result had been as follows:—From one acre there had been grown, taking Mushrooms at an average price of 1*s.* per lb., £1,450 worth in one year. The working expenses were nearly £500, and the profit was over £950.

Let him give them one other instance of Mushroom cultivation. From one-sixteenth of an acre near Leeds upwards of 3,000 lbs. of Mushrooms were produced at the rate of £1,600 to the acre. It might be said it was all very well for him to quote these instances, because they were taken from France and from a warmer part of this country. But what did we require in order to rival such things as these? Soil? Climate? Well, those who knew practically what market gardening was, knew that soil was a thing that could be made, and that whatever was the primitive character of the soil, the skill and the art of man could make it grow to such an extent, that from that very little plot in Paris which raised all that enormous weight of stuff the owner was able to sell 250 cubic yards of loam per annum. Taking the case of climate, these market gardeners had made fools of the climate. They built walls to reflect the heat and light of the sun, planted hedges and trees, took care of the exposure, and did everything to concentrate the heat; and more than that, they had sent hot-air pipes through the soil itself, raising its temperature, and producing moisture by means of watering, thereby raising the productive power of the soil 100 times. They might say that that could not be done here, and certainly those who knew Aberdeen 200 years ago would have laughed at all those speculations.

Aberdeen in 1685.

One graphic description given in 1685 would bring up the picture to their minds. Old Parson Gordon, of Rothiemay, had written—"The fields next the gate of the city are fruitful of corns, such as Oats, Bere and Wheat, and abound with pastures; but anywhere after you pass a mile without the town the country is barren-like, the hills craigy, the plains full of marshes and mosses, the fields are covered with Heathes or peeble stones, the cornfields mixed with these but few." If they walked a mile in a westerly direction from the Netherkirkgate they would find the ground covered with houses to begin with. If they told him that the soil and climate had to do with it, he did not see how that could be, or if it had, how was it that a man like his friend Mr. Cocker could grow such Roses as he did? This industry was capable of indefinite expansion; and what prevented the success of it in such a place as this, in his opinion, lay much in the difficulty of getting a market, and especially in the difficulty of transport. So long as railway rates for such products were so high, and so long as there were so many difficulties in getting the products of their garden sent to where the markets were, so long would this industry not be so profitable as it might be; and it was one of the objects of that society to try to get over these disadvantages, to encourage the cultivation of market gardening, and so to make this industry as profitable here as it was in so many other places; for he did not for the life of him see why we should send six millions of money out of the country every year for things that we could grow ourselves if we had the industry, brains, and skill to grow them.

Arboriculture

Regarding arboriculture, he said this had not been such a profitable industry as market gardening, and consequently during the last twenty years the area in nurseries had scarcely increased at all, and at the present moment there were only about 12,000 acres in cultivation. The cultivation of trees was one of the most delightful occupations that they could possibly indulge in, and this was a question also that ought to occupy their attention as one of national importance. He had ventured to give a hint to Mr. Esslemont before he left that he would touch on this, because he looked to him and other influential legislators to help them in raising forestry to the rank in this country that it ought to have. In Germany they had 30 per cent. of the area of that great Empire in wood; they had a Forestry Department of the State; they had trees cultivated in rotation as if they were crops; they had a vast army of scientific men trained in efficient colleges devoted to that purpose alone. If they went to France, they would find the same thing on a smaller scale. He should have mentioned Austria, where 30 per cent. was under wood.

In this country we had not got four per cent. of the country under wood, and he was perfectly satisfied that if the Government were to take the question up—if instead of quarrying, as they always did, down to the foundations of the Constitution to see what like they were, if in place of constantly amending the legislative machine, they were to take the machine they had, and set to work to adorn and beautify the face of the earth, they would do a great deal more good than by constantly talking of more men and more votes. Scotland at one time was not so far back, and Parliament in former times did pay some attention to this question—to the forestry of the country. So long ago as 1457 the landowners were ordered to plant trees and to sow Broom. Sixty years later Parliament had to record, in 1503, that the wood of Scotland was entirely destroyed, and a fine of £5 was imposed on anyone who dared to cut a tree. Thirty years later apparently this deterrent or coercive measure had not the desired effect, and a more specific order was issued to landowners who possessed a certain size of estate, to plant no less than three acres yearly, while the penalty for the third offence for cutting a tree was death. In 1661 the last legislstion on the subject took place. A larger area was required to be planted by landowners, and as an inducement for them to do so, the land so planted was free from taxation for nineteen years. From that day to this there was not another Act of Parliament on the subject.

Our own colonies had got before us in this matter. The destruction of forests in Victoria and New Zealand had awakened the attention of the Colonial Legislatures, and Acts for the encouragement of planting were passed, bonuses being given; schools of forestry were established, the further cutting of timber had been stopped; and in place of cutting, planting went on. He did not see why our Legislature should not take up this subject again, and why they should not spend money in establishing schools of forestry, and in promoting the planting of waste lands. There were vast ranges of land that could be planted with the utmost benefit, and without injury to sport. The trees were always growing, and did not give any trouble, and the leases did not expire, and they did not require to make a new bargain with them, and they never asked for any abatement, and fifty or sixty years after they were planted there was a rich harvest to be reaped by those who were fortunate enough to be then the owner. But therein lay the difficulty, because one man sowed and another man reaped. Another aspect of this question was this, that if they could create a profitable industry they would provide healthy employment to an enormous number of working men going at that moment in the towns with their hands in their pockets. Our social system had come to this, that unless new outlets were found for the labour of the country, there would be serious danger to the Commonwealth.

FLORICULTURE.

The Incidence of the Weather.

We are going through rapid changes of weather, from bright sunshine to black fog; from a mild and even growing time to keen frost; and plants, as well as animals, feel the effects of such oscillations from a high to a low temperature. The moral for florists is, in all unheated structures, keep everything as dry as possible consistent with the maintenance of plant life. Auriculas, Polyanthus, Carnations, and Picotees, and other things of like character in pots, are best kept dry until the weather becomes a little more settled and mild. For three or four days past I have kept all these things closely covered up snug and close. This morning—the 8th—what a change is going on! Heat is rapidly unloosening what the frost locked up so tightly; and I have therefore taken off coverings, tilted lights, opened windows, and given occasion for the milder atmosphere to penetrate. How long the change may last no one knows; and as the alternations are frequent, water should be given cautiously, and not at all unless really required. Having some very promising pots of double Primroses, I have placed a layer of coco-nut fibre about the crowns of the plants, piling it up a little above the rims of the pots. This will be a protection against frost, and also serve to keep the soil moist while frost is about. No doubt a good deal of wintry weather is in store for us, and the florist will need to be on the alert so as to be ready to act decisively when it comes.—*R. D.*

Chrysanthemums at High Elms.

Nowhere in mid-winter can we expect to see Chrysanthemums in such fine order as during the month of November. In examining those at High Elms, Kent, under the charge of Mr. Taylor, we noticed a considerable number of varieties that are habitually early bloomers, but which were still flowering freely and freshly at the end of the year, and were expected to keep in good condition for some two or three weeks later on. Amongst the early varieties were large quantities of Elaine, with smaller numbers of Madame C. Audiguier, the rose-chamois coloured Margot, the crimson and yellow-coloured L'Ile des Plaisirs, and others whose usual flowering period has long since been over. Gloriosum, with its long, slender, pale yellow florets, produced the largest heads of any, and from what we have seen of it elsewhere, is admirably adapted for late work. The same might be said of the comparatively new Lord Macaulay, which in shape has been well compared to a curled Endive, owing to the cresting of the florets. The heads are much paler yellow than those produced in November, but unfortunately the buds got destroyed by the early and sudden frost in autumn, so that the heads now produced are not so large as they might otherwise have been. The maroon-flowered Edward Audiguier is also adapted for mid-winter work—indeed, seems to be naturally suited for it.

Good Forcing Azaleas.

I suppose that the old A. amœna is among the most useful of the winter-flowering or forcing Azaleas, for it rarely fails if properly treated, and is always covered with fine trusses of bloom. It is now an object of great beauty in one of the forcing houses at Gunnersbury Park. Mr. Roberts has some large specimens of it, and cuts a prodigious quantity of bloom from them every season. The old A. sinensis alba and A. narcissiflora are two good and useful whites; the growers for white flowers for market depend largely upon the former. As it has been in cultivation for a large number of years, quite big bushes can be met with about the country, and well managed give a prodigious quantity of bloom. The semi-double white, A. Borsig, is growing greatly into favour, and I remember when it was first exhibited it was predicted of this variety that it would make a very useful variety to force in mid-winter, and the prediction has come quite true. A very great favourite as a forcer with Mr. Roberts is the White Roi Leopold, it having all the fine quality of bloom of its coloured type, and is a capital grower, and forces well. It is strongly recommended for this purpose by Mr. Roberts, who means to grow it largely. Stella, like Roi Leopold, a bright coloured variety of the finest form, is also a good forcer, and very free. Among the rose-coloured varieties, Mr. Roberts has one under the name of Pauline Marden, of a beautiful soft shade of rose, and the flowers stand well, which is a characteristic of the double varieties generally. This is considered the very best early forcing Azalea found in the collection at Gunnersbury, and Mr. Roberts strongly recommends it for this purpose.—*R. D.*

A Few Good Camellias.

A list of thoroughly good varieties will be found in Romanensis, blush, with slight rose stripes; Fatima, bright rose; Alba plena, a fine smooth-edged white; Le Pace, reddish rose; Centifolia alba, white; Mathotiana, a fine deep crimson, and of the finest shape; Imbricata, red; and Princess Clotilde, white. I made a note of these in a fine stand of cut blooms shown at one of the meetings of the Royal Horticultural Society last spring, by Messrs. W. Paul & Son, Waltham Cross, who are noted growers of the Camellia. I selected the blooms for their fine form, having the shape and symmetry the florist contends for. By the way, Mr. J. Roberts has, at Gunnersbury Gardens, Acton, a very fine form of the double white Camellia, which he thinks represents a strain not usually grown. I do not know how this may be, but as Mr. Roberts has a good knowledge of the leading Camellias, I think his opinion is worth taking. The variety he has is of excellent habit, very free, the flowers of the finest quality, and very pure in colour.—*R. D.*

THE OLD ARBORETUM AT CHISWICK.

What originally constituted the arboretum of the Royal Horticultural Society at Chiswick now forms the pleasure grounds of Devonhurst. Although now only separated by a high brick wall, it is to be regretted that such a pleasing adjunct should have been lost to the old gardens. A thick belt of trees runs along the east side, separating the grounds from the avenue leading to Chiswick House. Inside of this is a varied assortment of deciduous trees, such as were popular some fifty to seventy years ago.

The collection of Elms is very varied, and judging from their size, must have been planted when the society was established at Chiswick, or some of them even before. Narrow-leaved varieties of Ulmus campestris run up to the height of 80 ft. and 87 ft., as measured by Kay's Dendrometer, and girthing 6 ft. 7 ins. and 9 ft. respectively. They are stately trees and do not spread much. Equally stately is Ulmus montana, running up to 85 ft. and girthing 8 ft. Several forms of the Wych Elm are notable for the enormous spread of their branches—namely, from 80 ft. to 93 ft., with a height of 73 ft. There are several spreading trees of the White Lime (Tilia alba), about 61 ft. in height, and which show the effects of grafting very plainly. One of them girths 6 ft. 9 ins. below the graft, and 8 ft. 6 ins. above it.

The Oaks are also very varied and interesting, and include broad spreading masses of the evergreen or Holly Oak, with its broad-leaved variety, the deep green of which has a warm appearance in winter. There are many varieties of the Turkey Oak, one of which measures 71 ft. in height, and girthing 7 ft. To these may be added Quercus aquatica, 64 ft.; Q. fulhamensis, 35 ft.; Q. f. latifolia, 34 ft.; and Q. Pseudo-Suber, about 50 ft. Amongst Ashes are several beautiful varieties of the common one, including a narrow-leaved, twiggy, and graceful form, about 48 ft. high. The Manna, or Flowering Ash (Fraxinus ornus) forms a round-headed tree 31 ft. high, with a spread of branches of 36 ft.

The Maples are numerous and interesting. Of the Sycamore (Acer pseudo-platanus) there are several beautiful forms, including different kinds of variegation, and a large tree of the yellow-leaved Corstorphine Plane. A magnificent specimen of Acer macrophyllum measures 60 ft. high, girthing 10 ft. 3 ins., with a spread of branches of 60 ft. About 6 ft. from the ground it breaks into two main erect trunks. Loudon mentions a tree in the Royal Horticultural Society's Gardens, which measured between 40 ft. and 50 ft. high after being thirteen years planted. It would be interesting to know whether this was the tree he meant. A. monspessulanum is also a beautiful specimen of its kind, 32 ft. high, with a spread of branches of 45 ft., and girthing 5 ft. 3 ins. In its native country A. tataricum forms a low tree 20 ft. to 30 ft. high, and the tree here measures 25 ft., with a girth of 8 ft. 9 ins. at 18 ins. above the ground, where it forks into three main limbs. It has a spread of 35 ft. Other Maples include A. campestre, A. eriocarpum (with its finely-cut silvery leaves), and A. Negundo aceroides (41 ft. high, with a spread of 66 ft.)

Conifers are not largely represented at Devonhurst, as they were not so popular then as now. Pinus austriaca stands 58 ft. high, girthing 9 ft., and has long horizontal branches, with a spread of 54 ft.; P. Laricio stands 50 ft. high, and girths 6 ft. 10 ins.; and P. L. Pallasiana forms a stately tree 75 ft. high, girthing 6 ft. 3 ins., and has a thick flaky bark.

In the immediate vicinity of the mansion itself are many beautiful and by no means common trees. In a wild state the Mahaleb Cherry Tree (Prunus Mahaleb) varies from 10 ft. to 20 ft. high; but the specimen here, which is probably the finest in the country, stands 31½ ft. high, and girths 8 ft. at 18 ins. from the ground. It breaks into five main trunks at 4 ft. from the ground, and has a spread of 51 ft. Here also Gleditschia triacanthos measures 49 ft. high; and the male tree of G. sinensis 33 ft., with a girth of 4 ft. 9 ins. and a spread of 45 ft. The pod-bearing tree is 30 ft. in height, with a spread of 32 ft. A fine specimen of the Purple Beech (Fagus sylvatica purpurea) measures 60½ ft. high, and girths 7 ft. 6 ins., with a spread of 54 ft., forming a most conspicuous object in summer. Near it is a tree of the cut-leaved Beech (Fagus sylvatica laciniata), 47 ft. high, girthing 8 ft. 3 ins. at 3 ft. from the ground, the branches having a spread of 54 ft. The horizontally-spreading twiggy branches are quite distinct in character from the ordinary Beech. Close by is the Tree of Heaven (Ailanthus glandulosa), 56 ft. high, which breaks into three trunks at 3 ft. from the ground; below the union of two of them it girths 8 ft. 3 ins., while the third branch is 5 ft. in circumference. There are also fine specimens of the red-flowered Horse Chestnut (Æsculus rubicunda), 39 ft. high, and the Hornbeam (Carpinus Betulus), 34 ft. high, girthing 4½ ft., and having a spread of 54 ft. It seems an unusually twiggy and pendent form, and produces fruit in great abundance. The True Service Tree (Pyrus domestica) is 50 ft. high, and girths 3½ ft. at 3 ft. from the ground. It produces fruits freely, but in Britain is a much-neglected subject.

ANTHURIUMS.

These are fine stove Aroids, some of which are noted for their handsome foliage, whilst a few are extensively grown for their richly coloured and singular-looking spathes. What is known as the Flamingo Plant (A. Scherzerianum) is yet one of the best of the species when good forms of it are selected for cultivation, for at present there is a good number of very fine varieties in existence, some possessing long and broad spathes, others wider and more oval in form, whilst some are beautifully spotted. There ought to be no excuse for growing an inferior form of this fine plant, as the good types certainly predominate now over the inferior ones. When the plant attains some age, having a number of good strong crowns, it will produce a mass of fine scarlet spathes that are always objects of beauty, and considering the long time that they keep fresh and maintain their rich scarlet colour, they ought to be more cultivated than they now are in general collections of stove plants.

They generally flower in the spring and early summer months, making their growth in the autumn, previous to which they should be re-potted or surface, dressed where that only is required. The compost best suited for them is three parts rough peat, one part rough silky loam, with lumps of charcoal and a sprinkling of sand added. Press the soil firm with the fingers, and the fleshy roots will soon cling to and penetrate the new compost. If soil of this nature is used it allows for copious supplies of water being given to the plants, which they delight in, when it can run freely away from them. Just before they commence to throw up their spathes in the spring a few doses of liquid manure will benefit them, adding strength to the plant generally. They usually like an abundance of heat, light, and moisture, but the light wants somewhat suppressing so that the full glare of the hot summer's sun does not shine directly upon them, which would have the effect of making their leaves become flabby, and ultimately lose that dark green lustre which is one of the characteristics of the plant when in full vigour.

Propagating by division of the crowns is the quickest way of obtaining stock, but where a gardener has a taste for novelty, he ought to raise some from seed—a much slower but tedious process certainly, but which possesses a charm for the grower, as he is on the alert for something new to turn up as soon as the seedlings obtain strength enough to throw up a good strong scape. Seedlings are very apt to keep making a lot of little crowns around the centre one; these should be pulled off, as they only rob the centre crown of the strength necessary to bring it to maturity quickly.

A. Andreanum has a very different habit to the above, being more straggling, but it produces large cordate spathes very much corrugated in character, while its colour is a rich glowing scarlet, which is very effective intermixed amongst other plants in the stove.—*W. G.*

NEW BOOKS.

Veitch's Manual of Orchidaceous Plants.* The fourth part of this useful work, which is now before us, is entirely devoted to the immensely popular genus Cypripedium, including Selenipedium, which, although kept up as a separate genus by the authors of the *Genera Plantarum*, is here reduced in rank with much propriety to a section of the former. The characters which separated the three-celled ovary of the South American Selenipedia from the more typical one-celled ovary of the Asiatic Cypripedia have been gradually broken down, and more completely so by the recent introduction of C. Sanderianum. Of the hot-house species constituting the section Coriaceæ, which alone are dealt with in this part, the native habitats of some thirty are indicated on a map as far as science has been able to determine. Unfortunately for science, the localities in which new Orchids are found are not always made known, and this is specially commented upon, in the case of C. Spicerianum, in the following extract from the *Botanical Magazine*:—"The interests of science are unfortunately sacrificed to the desire of the sole possessor of any useful information regarding the native country (of a new Orchid), that these should be withheld from the public;" but the same might be said of several others, and notably of C. Sanderianum, C. callosum and C. Elliottianum among more recent introductions, the habitat of the first and last-named not being indicated at all.

The species, varieties, and hybrids enumerated and described are given under three headings—namely, (I.) Eucypripedia, including the Asiatic species; (II.) Selenipedia, or the South American species; and (III.) Garden Hybrids of the preceding sections; and when we consider the enormous increase of varieties and hybrids that has taken place in the genus during comparatively recent years, we are surprised at so few being recorded and described in this work. In a short note on geographical distribution, the Asiatic species are described as growing on ledges or in crevices of limestone rocks, sometimes fully exposed to the sun, but more frequently in partial shade. Three species are however notable, from the fact that they grow on the stems of trees or in the forks of the branches. These are C. Lowii, C. Parishi, and C. villosum; but under cultivation they conform to similar treatment as the rest.

By a careful study of the map, it will be seen that C. concolor enjoys a wider range of distribution than any other species belonging to the section. C. Druryi is confined to the South of India, and is not only very isolated, but occupies the most western point of any in the group, while C. glanduliferum and C. Rothschildianum, in New Guinea, are the most eastern. C. Fairieanum is still one of the rarest, while its precise station is still a mystery. Noteworthy too among the mass of interesting facts recorded, is the reference to the highest price yet obtained for a Cypripedium, which occurred in the case of C. Stonei platytænium, of which we give an illustration; and the remarkable fact in connection with C. venustum and C. insigne, the first and second introductions belonging to the section, that no others were known in cultivation for twenty years after their appearance.

Ten species are described belonging to the section Selenipedia and their habitats are indicated on a second map. They are distributed over South America, from Bolivia on the west, and Rio de Janeiro on the east, to Chiriqui, (Central America) in the north; but most of them are, however, confined to the west and north. In connection with C. Schlimii, much interesting matter is given with reference to its habit of being habitually self-fertilising, and its tendency to produce seeds with a freedom leading to its own destruction by impairing or weakening its constitution. More important, however, to the horticulturist is the fact that, although in itself weak when used either as a seed or a pollen parent, the progeny is not so affected. In evidence of this, we have C. Sedeni and a group of allied hybrids exhibiting great robustness of constitution. C. Fairieanum is another instance of a weakly species; but C. vexillarium and C. Arthurianum, of which it was the pollen parent, are both vigorous growers.

On the subject of hybrids, of which we have already observed how few the authors have recorded, the Messrs. Veitch very properly remark that "muling" is now carried on to such an extent, both in Britain, on the Continent, and in the United States of America, that few collections are without a batch of seedlings, the result being that the number of hybrids in cultivation has become practically indefinite; and needless to say a considerable number find no place in their pages. That a severe weeding out of the more worthless or insufficiently distinct is required there can be no manner of doubt, and it is time that some check should be put upon the reckless practice of naming seedlings indiscriminately, simply because they are hybrids, that has been carried on during the last few years. How this is to be done, however, is at present not quite clear; indeed, it would seem to be well-nigh impossible of accomplishment after reading (at p. 84) that the name of C. Fraseri was given by Prof. Reichenbach to a hybrid between C. hirsutissimum and C. barbatum, or a closely-allied species, from a flower which was so withered before he saw it that no description could be taken! When a botanist of such world-wide repute as Professor Reichenbach gives names to Orchids in such a loose way as this, what can be expected from gardeners whose critical faculties are less keen, and whose means of comparison are of the most limited order?

Should a second edition be called for—and we sincerely hope that it may be, and soon—we would suggest that the work is worthy of a better index, that of Part IV. being practically useless to anyone not perfectly acquainted with the nomenclature of the genus.

Cypripedium Stonei (a), and C. Stonei platytænium, the Highest Priced Orchid yet Sold.

* A Manual of Orchidaceous Plants Cultivated Under Glass in Great Britain. Part IV., Cypripedium. James Veitch & Sons, 544, King's Road, Chelsea, S.W.

EUPHORBIAS.

These are plants of a very useful kind, and are worthy of the highest cultivation for the quantity of flowers they produce. E. jacquiniæflora is a well-known winter-flowering subject, and is generally grown in quantity for its fine crimson sprays, which are extremely useful and elegant in the winter months. E. splendens is a peculiar plant, and grows in a straggling loose manner, producing thick and very spiny stems. This variety is best trained to a trellis or else to a wall in a stove, where it seems to luxuriate, provided its roots have room to revel in some rough mixture of soil and stone that will not hold water for any great length of time. It may be properly described

as a perpetual-blooming plant, for on large specimens there may generally be found some trusses of its crimson flowers. It is a very serviceable plant, although its general appearance is somewhat repulsive, as it is not a pleasant plant to come in contact with personally, its spines being rather apt to leave a mark in remembrance if you should be disposed to make too free with it.—*W. G.*

THE AMATEURS' GARDEN.

Cleaning Window Plants.

In the summer time it is customary for growers of window plants to take the latter out of doors when they are dusty or dirty, and water them heavily overhead with a coarse-rosed watering pot. This must inevitably saturate the soil to an injurious extent if done in the winter months, and the practice of placing them outside during rainy weather is even more impracticable. There are, however, several window subjects especially valuable at this season on account of their foliage, and which may be cleared of dust or any other undesirable substances, which not only spoil their appearance for decorative purposes, but injure the plants themselves by choking up the breathing pores. Amongst them may be mentioned the Indiarubber plant, Aralias, Palms, Aspidistras, and others with similarly leathery foliage. As a rule, it will not be difficult to remove dirt from plants which have been grown in a window, and the above may be sponged with slightly tepid but clean water, or, if necessary, use a little soft-soap. In the case of Ferns, the operation will be more difficult on account of the fineness of the divisions, and in this instauce the plants may be laid on their sides and heavily syringed with a weak solution of Nicotine Soap.

Protecting Roses.

In the case of tender varieties, it is no longer safe to delay using what protection may be required. The autumn and early winter have been so mild that the covering up of tender Roses and various other subjects has been neglected. Before covering them up, however, it will be as well to mulch all newly-planted Roses if possible, and as many others as can conveniently be done. Pig manure is the best that can be given, or failing that, horse manure is very good; and, furthermore, the two may be mixed with excellent results. Then good-sized Spruce branches may be stuck into the ground amongst the bushes, so as to overtop the latter, and while a certain amount of ventilation is afforded by the branches being more or less open at the base, a great amount of frost is warded off by the closeness of the foliage of the Spruce branches. Roses trained against walls may be treated in the same way, by placing evergreen branches amongst those of the Roses, or even by thatching them over, as it were, and tying on the evergreens by means of tar twine. In the case of choice kinds mats may be used, and if the plants are in full leaf, the mats may be removed daily.

Hardy Plants in Season.

The frost with which we have been visited recently will tend greatly to check the flowering of outdoor plants for the time being; but if choice subjects yielding a large quantity of cut flowers be protected by evergreen branches being stuck amongst them, so as to protect the bloom, it will last in fresh condition for a much longer time. Christmas Roses may be protected with hand-lights where the latter are at command. Lenten Roses will soon throw up their flowers now, provided the weather be fairly open. The Winter Heliotrope (Petasites fragrans) has been flowering freely for some time in sheltered places. Plenty of room should be given it when planting out this Composite, as it is a vigorous and rambling grower. A somewhat sheltered and partly shaded situation will suit it, just such as may frequently be found where trees and shrubs are grown. In mild open weather a few of the Crocuses may be planted, such as C. Imperati, and Snowdrops, including Galanthus nivalis præcox, which in some seasons flowers as early as Christmas Day. To these may be added Violets, Primroses and Wallflowers.

The Greenhouse.

Unless it is desired to keep up a display of flowering plants in the greenhouse everything there should be kept as quiet as possible, by keeping them dry and the atmosphere cool. By this it must not be understood that the roots of such things as Ferns and evergreen plants generally should be subjected to a drying-off process, but merely kept moist and the atmosphere as dry as possible under the circumstances. Of course, succulent plants, such as Cacti, Aloes and Echeverias, may be kept almost dry for weeks at this time in a cool house. Ventilation must receive close attention when the weather is sufficiently mild. The matter of firing must also be done carefully during severe frost, remembering always that a temperature rather below the standard is much better than driving the heating apparatus in order to keep it up to the stated requirement. A heated and dry atmosphere is also productive of much trouble through the encouragement of insect pests, which are greatly increased thereby.

TIMBER PRICES.

In your issue of January 5th, Mr. A. D. Webster complains of the low prices of English-grown timber, and having had considerable experience in the building trade, with both English and foreign timber, I should like to make a few remarks on the subject. I do not think, when he says there is no sale for home-grown timber, at even the lowest figure, that he can fairly include Oak, Ash, Elm, and Beech, &c. He must, I think, refer only to the soft woods, viz, Larch and Spruce, and blames the architect and joiner for using foreign timber when we have plenty rotting or being literally given away at home. Now the home-grown Larch (which answers to the yellow or red deal imported from the Baltic and Russia) is not nearly so durable and does not grow sufficiently large to conveniently cut up into the same sized deals, planks, or battens as we get from northern countries. The wood itself, too, is much softer, with more sap, and large and rotten knots, and will not stand a strain equal to the other. Take for instance a roof; the timbers, if of home-grown wood, would have to be much stronger and heavier than in red deal. Again, it decays or perishes much sooner. I have frequently seen the healthiest Larch, when felled, perfectly rotten at the heart for several feet from the root. From twenty-five to thirty years is the average growth to be of any good, and then it is only fit for common or rough work for any building purposes.

On a nobleman's estate in the Midlands, the owner of which I may say is a model landlord, and grows a great deal of timber, they have almost entirely discarded English-grown timber for even farm buildings, finding that foreign deal answers their purpose much better, being cheaper in the end than converting their own timber on the estate. They cut up yearly many hundreds of Larch and Spruce solely for posts and rails, and rough boarding to supply the tenants with for common purposes.

If our large landowners and timber growers would turn their attention to growing Oak, which is more durable than any other, and commands the highest price of any in the market; Elm, for coffins; Ash, for wheels and coach-building; Beech, for furniture making, &c., they would find a ready sale for their timber, but as each of these trees takes many years to arrive at maturity, it is not possible that a gentleman planting Oak would ever live to reap the benefit of it himself, hence the planting of so much soft wood. There is the greatest difficulty in the trade in getting seasoned Oak, and there is practically an unlimited demand for that of eighty to hundred years' growth, this being about the best age for felling Oak.

With regard to firewood I would say that if the home-grown wood were cut into lengths, split to market sizes, and properly seasoned, like the wood that is to be seen in immense stacks at the docks and wharves on the Thames, there is no reason whatever why our English-grown timber should not be so used, and command as high prices as the ship-loads that daily arrive in London from the Baltic ports.—*J. Davison.*

FREESIA REFRACTA ALBA.

As this chaste winter-flowering subject again comes into bloom it testifies to its growing popularity. In gardens it is generally reckoned that there are two species, both natives of the Cape; but they so nearly approach each other in general appearance that they may be regarded as one and the same. In a batch of seedlings may be found considerable variety, several of which, from time to time, get distinctive names; but that named F. refracta alba is the best, and when obtained true is pure white or almost so. The type may almost be regarded as white, but it is just sufficiently tinted with yellow, and also marked with orange blotches in the throat, as to rob it of its purity. Several intermediate forms may be obtained in a batch of seedlings, but a stock of plants is so quickly had in this way that this means of propagation is not to be despised. The fragrance of the flowers is also so agreeable as to be one of their chief recommendations.

When ripe seeds are obtained, they should be sown immediately in light sandy loam in the pots in which they are to flower, as they do badly with disturbance at the root while making their growth. Under favourable conditions they will reach the flowering stage in the spring following. For Cape bulbs this is a remarkably short period, and although the flower-spikes can hardly be so good as those obtained from old bulbs, yet they well merit any little attention they require during the seedling stage. The seeds take a long time to germinate, as is the case with plants belonging to the Iris family generally; but they grow away rapidly afterwards. In order to flower them successfully in the seedling pots it is necessary to sow the seeds thinly, and afterwards to thin them out to five or six in a 5-in. pot, so as to avoid crowding and allow room for development. The grassy foliage, it is true, does not require much space, but like other seedlings of bulbous subjects, they take a long time to reach the flowering stage if permitted to starve one another by crowding.

In August or September they should be shaken out and re-potted in richer material, using fibrous loam, leaf-soil, well-decayed hot-bed manure, and a good porportion of sand to keep the whole porous and open. The latter condition is one that must not be neglected if good results are expected. The bulbs should be sorted into sizes, so as to ensure equality as far as possible when they come into flower. After potting, no watering will be required till growth commences. As in the case of most other Cape bulbs, a frame from which the frost is excluded will be warm enough, and, in fact, most suitable to their well-being. Of course, if an early batch is required, a quantity may be put into a warmer house to hasten them.

They delight in an abundant ventilation at all times when the weather is mild, and if kept in a close stuffy atmosphere will get drawn and weakly. Those who cannot command a heated frame may stand their pots on a shelf near the glass, and if close by the ventilators so much the better. In any case they must be placed in a favourable position near the glass. By difference in the treatment of various lots they may be had in flower from Christmas till well into spring, when their deliciously fragrant flowers are always appreciated.—*B. B.*

GARDENING MISCELLANY.

Primroses in Winter.

Those of your readers who are fond of Primroses might like to hear of a simple way to have them on the table all the winter. Where any quantity are grown there are always buds, and if those showing colour are picked, even in hard frost, and put in a deep plate, the bottom of which has been previously covered with tall green moss, they come out well; even when the stalks are very short, as they are when picked off a bunch, the moss supports them so as to keep the flowers out of the water. The moss we use is commonly called Fir-tree moss (being like a miniature tree). There is now on the table a china plate more than a foot across full of Primroses of all colours, the buds of some of which were picked after 14° of frost. The combination of green and bright colours is very pretty.—*George F. Wilson, Heatherbank, Weybridge Heath, Jan. 5th.*

Primula obconica.

This is the time to sow this charming Primula. I give it nearly the same treatment as the Chinese varieties, with this difference, that it delights in a cool bottom when growing in its flowering pots. Thoroughly decayed manure rubbed through a sieve and mixed with sand makes the best compost for raising this or any other Primula. Fill the pots three parts full, press the compost gently down, give a good watering, and allow the pots to drain before sowing the seed, covering it lightly with some of the finest of the above mixture. After sowing, cover the pots with a pane of glass, and shade from bright sunshine. Prick off the young plants into pans when large enough, and place them again in a warm temperature till they are ready to pot into 60's in some nice light soil, for they are not very particular. When the pots are fairly full of roots, pot into the flowering size, which should be 48's and 32's, using about equal parts of good loam, leaf-soil, or well-decayed manure, with a good sprinkling of sand and broken charcoal. Place them on ashes in a cold frame, attend to watering and syringing, and

shade from bright sunshine with a piece of tiffany, and your efforts will be rewarded by some nice plants, and plenty of bloom. I am aware that some growers succeed in dividing the old stools and growing them on, but I much prefer seedlings, as they give better results, with a minimum of trouble.—*Southdown.*

Zonal Pelargonium, Edith Little.

Those who grow Pelargoniums for winter blooming should certainly include this among their plants, on account of its remarkably free growth and floriferousness. Cuttings struck last March, potted again in June, and finally into 24's at the end of August, made plants which commenced to bloom the first week in October, have continued in flower until now, and promise to continue for some time to come. Two trusses measure each 11 ins. in circumference, and some of the pips are 2½ ins. in diameter.—*R. T. Humphries, Childe Okeford Rectory, Blandford, Dorset.*

Fertilising Moss.

My neighbour, Mr. John Roberts, of Gunnersbury Park, is a great believer in the virtue of Fertilising Moss, and uses it with many things of a succulent character. He uses it in the soil in which he grows Ixoras, and they appear to like it. He has one small plant of Ixora in a 24-sized pot, growing wholly in the moss, and on turning the plant out of the pot I observed that it had made a dense mass of roots, while the specimen was of a very vigorous growth. As a matter of course, it would prove much too expensive to grow the plants wholly in moss, but all soft-wooded things appear to do well with it mixed in the soil, and to use Mr. Roberts' expression, "they grow in it like weeds." He used it in the soil for Bouvardias, which make a fine growth, and bloom grandly. As there are, it is said, degrees of quality in Fertilising Moss, I may remark that Mr. Roberts gets his from Messrs. Wood & Son, of Wood Green, N.—*R. D.*

Francoa ramosa.

This easily grown herbaceous perennial makes a capital subject for greenhouse or conservatory decoration, and it is also very useful and ornamental for cutting. Its long branching spikes of bloom show up equally well in a vase or epergne, or as a pot plant intermingled with Ferns, Palms, or other foliage plants, and it likewise proves useful to exhibitors of groups. Plants that have started growing should now be shaken out and divided if it is desirable to increase the stock, for it is most useful when grown in small pots; or if preferred they may be turned out, some of the old soil shaken away, and given a liberal shift, using a good loamy soil, adding old Mushroom-bed manure and sand, to secure good drainage. After potting give them a watering, and stand them on an ash bottom in a pit where they can be accommodated with a little heat until established. During the growing period they should have a light airy position to keep them sturdy. I notice that Mr. B. S. Williams is advertising Francoa appendiculata, which produces pale rosy purple flowers, larger and more compact than those of F. ramosa, and closer set on the spike. This is a welcome addition, as the variety under notice produces white flowers. They are of easy cultivation, and well worth growing. —*Geo. Potts, Junr., Northiam.*

Begonia insignis.

This is a charming mid-winter flowering variety, and one of the best for blooming at Christmas. The flowers are delicate pink, freely produced, and the plant has a good habit of growth. It can be seen in one of the stoves at Gunnersbury Park.—*R.D.*

Freesia refracta alba.

A large batch of well-grown plants of this useful Iridaceous subject is now in perfection in the greenhouse at Kew. All have been grown from the same bulbs which flowered last year. The smaller-sized pots contain about half-a-dozen bulbs with as many or more flower spikes; but special interest centres in the large pots, which carry about twenty flower spikes each. Last winter the pots contained only half-a-dozen bulbs, and the pots containing them were kept in a warm pit and kept moist all the summer, even when the leaves were down. The bulbs were potted on into a larger size without being shaken out of the soil, and the result is a large clump of bulbs carrying good foliage and twenty flower spikes as above mentioned. The flowers individually are about as large again as those of the bulbs that were planted singly in smaller pots, while eight or ten of them are produced on a spike. The fragrance emitted by the group is very powerful and pleasing.—*Visitor.*

Peristrophe speciosa.

Formerly this was grown under the name of Justicia speciosa, and many cultivators still know it under the latter name. The generic name above given refers to the turning or twisting round of the tube of the corolla, whereby the flower becomes upside down. This can easily be detected on examination by an ordinary observer. The plant is, however, important from its habit of flowering in winter, and its consequent utility for the decoration of the conservatory at that dull season. The flowers are of a bright purple, with a cluster of black spots on the base of what should be the lower lip of the corolla, and are produced in clusters of three at the ends of the short side branches. It is easily grown, and is best when propagated annually by means of cuttings. The plant is sometimes met with in gardens under the name of P. elegans.

Humea elegans.

The advantages of a few well-grown specimens of this plant become apparent in the conservatory during the dull winter months, not only on account of their own exquisite elegance, but for the variety they afford, and the contrast to other and more massive kinds of vegetation. Four species are known, natives of Australia, but that under notice is the only one whose cultivation is frequently attempted in this country. It well merits the specific title, elegans, as the long terminal panicle with gracefully drooping branches is certainly elegant. To bring the plant to this stage requires very careful treatment in the matter of watering and potting. In fact, rather than re-pot the plant after it gets some size, the better plan is to place the pot inside a larger one, and pack the intermediate space with coco-nut fibre.

Schaneria calycotricha.

There are many different kinds of Acanthads still erroneously grown under the name of Justicia, and this is one of them. The particular species under notice is also confused with S. flavicoma, and besides being called Justicia calycotricha, is also spelled J. calytricha. From a horticultural point of view it is valuable, because it flowers in winter, and serves to give variety in the way of colour to the numerous other Acanthads now in flower. The foliage is of a beautiful deep shining green, while individually the leaves are ovate and more or less undulated at the margin. The flowers are of a clear bright yellow, and are greatly assisted by the long, bristle-like segments of the calyx and the bracts, which are also yellow. The whole are arranged in dense head-like spikes, which are both curious and beautiful. Some plants may be seen in the T range at Kew under the name of Justicia calycotricha.

Libonia floribunda variegata.

Independently of any variegation, this free-flowering plant certainly merits a place in every establishment where flowers are required in winter. The scarlet and yellow-tipped blooms are very abundantly produced, and remain fresh for a long time during the winter months. The form under notice differs from the type in having the leaves more or less distinctly variegated with creamy white on a dark green ground. A peculiarity of this plant, however, or rather the species itself, is that the leaves are liable to drop badly when kept in too cold a greenhouse. The best position for it is a well-lighted structure, enjoying an intermediate temperature.

Stephanotis.

Before the commencement of fresh growth a thorough examination should be given the plants, so that stray bugs may be thoroughly eradicated. If seen to now it will save a great deal of trouble later on, when more favourable circumstances favour the increase of the pest. Use a wine-glassful of paraffin to two gallons of water, and keep thoroughly stirred all the time the mixture is being applied to the plants through the syringe. Tie up any stray shoots that may require it.—*J.*

Foreign Parcel Post Compensation. — An official notice on Tuesday states that in future the Postmaster-General will give compensation for the loss and damage of parcels sent by parcel post between the United Kingdom and foreign countries; but the compensation is limited to 12*s.* for parcels to most countries in Europe, except Belgium, the Netherlands, and Norway, for which countries, as well as for the Congo Free State, Costa Rica, Egypt, &c., 20*s.* compensation will be paid.

NATIONAL CHRYSANTHEMUM SOCIETY.

Resignation of the President.

At the meeting of the general committee, held on Monday evening last, over which Mr. E. C. Jukes presided, a letter was read from Mr. Sanderson, expressing his regret at not being able to be present, and announcing his intention to resign the presidentship on the ground of his advanced age (seventy-one), which prevented him from giving that attention to the duties of his office which he had always endeavoured to do. The committee received the announcement with great regret, and recognising the long and valued services which their president had rendered to the society and the cause of floriculture generally, unanimously passed a resolution asking him to reconsider his decision before Monday next, when the committee will meet again to receive his reply.

It was decided, in deference to the wishes of many of the members and secretaries of affiliated societies, that the November show should be held earlier in the week, if possible, to hold the exhibition this year on November 12th and 13th. It was thought by some, unwise to clash with the Kingston exhibition; but as it was shown that according to recent experience it would not affect the regular exhibitors at that exhibition, no harm could result to either society.

Some discussion took place as to the provincial show proposed to be held this year, and a sub-committee, consisting of Messrs. Gordon, Bevan, Castle, and Dean, were elected to prepare a scheme and report to the general committee.

A long list of new members were elected, bringing the total roll up to 641.

The Mid-winter Show.

The mid-winter exhibition, which took place at the Royal Aquarium, Westminster, on Wednesday and Thursday, was, considering the severity of the weather for some time previously, as good an one as could be expected, the change which set in on Tuesday enabling many exhibitors to bring up plants who would not otherwise have put in an appearance at all. Although smaller than that of last year, the exhibition may virtually be considered a success, there being some beautiful and fresh exhibits of Chrysanthemums. Amongst the miscellaneous exhibits the Primulas and Cyclamens were superb, especially the first named. The clear sky also enabled the brilliant and effective colours to be seen to the best advantage. It will be remembered that on the occasion of last year's show of the same date, the fog was so dense that the flowers could with great difficulty be examined at all. We may say here that the frost on October 3rd did more damage to the Chrysanthemums which should have been on the exhibition table at this time, than frost or fog has since then, because at that time the wood was tender, unripened, and very susceptible of injury from frost.

The first honours for the collection of cut Chrysanthemums were taken by Mr. J. Brown, gardener to Mrs. Waterlow, Great Doods, Reigate. He had twenty-four different kinds in trusses, which were as beautiful and fresh as in autumn, although the individual heads were much smaller. Yellow and white varieties were most predominant. The second prize was awarded to Mr. F. Taylor, gardener to Sir John Lubbock, Bart, M.P., High Elms, Farnboro', Kent. His collection was several times as large, but the arrangement was different, and the flowers smaller. The first prize for twenty-four blooms, of any varieties, was won by Mr. J. Kipling, The Gardens, Knebworth, Stevenage. The heads were small, but neat and fresh. Mr. R. Falconer Jameson, Hessle, Hull, was second, and Mr. M. Sullivan, gardener to D. B. Chapman, Esq., Downshire House, Roehampton, was third. Mr. J. Kipling also took the first prize in the class for twenty-four Japanese blooms, of fair size and beautifully fresh. Mr. M. Sullivan was second with a good stand. Mr. J. Kipling again took the first prize for twelve Japanese blooms. Mr. R. Phillips, The Deodars, Meopham, Kent, was second, and Messrs. H. Cannell & Sons, Swanley, were third.

In the class for a collection of Primulas, Messrs. H. Cannell & Sons were deservedly first with a magnificent display covering a large extent of table-space and exhibiting a great variety of colour. Mr. J. May, Gordon Nursery, Twickenham, took the first prize for the collection of Cyclamens, which were splendidly flowered. Mr. John Odell, Gould's Green, Hillingdon, came in second with a good collection also. Mr. D. Phillips, Langley Broom, Slough, had

the best twelve Cyclamens in pots; Mr. David White, Redlees Gardens, Isleworth, was second. Mr. A. Carter, gardener to Alderman Evans, Ewell Grove, Ewell, took the first prizes both for twelve single and double Primulas; Mr. Newel, gardener to Sir Edwin Sannders, Wimbledon Common, was second for single varieties. Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, took an extra prize for a table of foliage plants, which included hardy and indoor subjects. In the miscellaneous class he also exhibited foliage plants. A group of Cyclamens was shown by Mr. R. Clarke, Twickenham. Some plants of a new semi-double Primula were shown by Mr. J. Knight, Epsom. Mr. J. James, Farnham Royal, showed some Primula and Cineraria blooms. A group of foliage plants came from Messrs. John Laing & Sons, Forest Hill, who were awarded an extra prize. Garden sundries were shown by Mr. Benjamin Field, 75a, Queen Victoria Street, E.C.

The Conference.

Owing to our being obliged to go to press while the Conference is proceeding, we are unable in this issue to do more than give the following paper, which was read by Mr. E. Molyneux, Swanmore Park Gardens, Bishops Waltham, on

Manures for Chrysanthemums.

This is a subject of a very complex nature, as it is difficult, if not impossible, to lay down any fixed rules that will be equally applicable for all districts. The best manures to apply, in order to produce the highest results in Chrysanthemum culture, can only be ascertained by a wide series of experiments conducted by growers in various parts of the country, using the same kinds of manures each in the same manner, noting their effects at different stages of the growth of the plants, and reporting the actual results at the conclusion of the season. It would then be seen how far each kind of manure was suitable for the soil in the different localities, as much necessarily depends on the natural soil in determining how best to increase its fertility by adding those constituents which it lacks. At the outset I may say that I do not mean to treat the subject of manures in a scientific manner, but to detail facts as they have come under my notice in my own experience, with the addition of the opinions of some of our leading growers as founded on their practice.

Fortunately for Chrysanthemum growers, prepared manures are numerous and easily applied, while many are inexpensive. In conversation with different cultivators of the autumn queen in various parts of the country I have noted an almost entire absence of reserve in discussing this matter. The days of supposed "secrets" are over, and I am pleased to say that I have found men generally willing to assist each other by giving their opinions freely of the merits or demerits of any particular kind of manures that have been tried. Mr. Garnett makes a suggestion that might prove of much service to growers:—"That the National Chrysanthemum Society procure samples of wood from plants which have prodnced the best blooms in all the sections, in, say a dozen localities widely spread. By special analysis of each sample of the growth we should get at some basis as to the best manure to apply to the soil to produce the best results in culture. Chrysanthemums, for whatever purpose they are cultivated, have such a short season of growth that they must have all the support that can be usefully appropriated by them; and before the roots have exhausted the nutriment contained in the soil stimulants must be afforded, or a check will be received by the plants. What best to give and how best to apply it is what we all desire to know, and to that end we are searching for information."

Manures and Soils.

Manure for mixing with the soil is the first consideration, as this is commencing at the foundation, so to speak; the superstructure or full development of the plant to its utmost capacity is an after consideration, and perhaps the more important. Ammoniacal manures promote quick growth, but their excessive use must be avoided, in a wet season especially. The chief of these are sulphate of ammonia and nitrate of soda. Phosphatic manures (bones in different forms) contribute to firmness. Natural soil varies so much that a knowledge of its constitution is necessary to enable the cultivator to know what ingredient to add that the Chrysanthemum requires for its full development. Loam, as it is called, composed of the top spit of pasture, is considered to be the best medium for the roots. The constitution of this is the all-important point to study. For instance, to soil that is of a light or sandy nature, additions should be made which will not be needed in soil of a heavier nature, and consequently containing less sand or other lightening matter. Crushed oyster shells are considered by some beneficial to a light sandy soil, containing as they do carbonate of lime, this assisting in the maturation of the wood. Ground bones are beneficial to the plants when used with the soil in potting, especially in light soils, but in the case of soil of a close retentive nature they should not be used so freely, as they have a tendency to clog the soil and create pale sickly-looking foliage, which is not the kind desired. This is especially noticeable in wet seasons. Soil which is of a heavy nature, in which the fibrous parts quickly decay, does not require so much manure mixed with it; first, because it is not needed in the early stages, and, later, is apt to bind the parts more closely together. Soil of this nature is much worse to deal with than that lighter in character, as stimulants cannot be given nearly so freely as where the soil is more porous. Soil that is liable to "run together" when the fibre decays should have more lightening materials added, such as charcoal, wood ashes, and old mortar; the two former are especially good for this purpose.

Natural Manures.

Natural manures are no doubt of great service when used in a proper manner. The best for mixing with soil of any kind is horse-droppings, as they contain ammonia. They should be prepared as if for a Mushroom bed; in this manner the manure is sweetened while much of the ammonia is retained. At the final potting, horse-manure should be used in the proportion of two parts to four of light soil, and one part to three of heavy loam. Cow-manure is not good for mixing with the soil on account of its pasty nature when fresh, and when decayed its good qualities have departed. Some use it fresh mixed with soil for top-dressing the plants, but where the loam is stiff I think cow-manure too heavy also, and liable to keep the soil cold. Soot is a valuable manure in the growth of Chrysanthemums, either for mixing with the soil or for using in a liquid state. When used with the soil in potting it should be done in a cautious manner, as too much is liable to injure the roots. A 6-in. potful to four bushels of soil is a safe quantity to mix with any kind of soil.

Artificial Manures.

Artificial manures are now largely used by Chrysanthemum growers, owing to the easy manner in which they can be applied; the convenient way in which they can be obtained by those persons who have not the opportunities to obtain animal manures; and lastly, for the reason that they are so efficacious. *Thomson's Vine and Plant Manure* is one deserving of notice, possessing qualities well suited to the growth of these plants. In potting, to a peck of soil we add one 4½-in. potful of manure; for top-dressing the plants during August this manure is excellent, encouraging free root-action on the surface of the soil. For stimulating during the summer, especially in wet weather when it is not possible to give liquid manure, this manure is good—one teaspoonful to a 10-in. pot, say once a fortnight. Mr. McKenzie, Linton Park, and Mr. Doughty speak very highly of it. *Becson's* is another of the artificial manures largely employed in the growth of Chrysanthemums; it creates good firm growth without being too gross, preserving a healthy tone to the foliage. Surface roots are freely made when the plants are top-dressed with it in the proportion of a 5½-in. potful to one peck of soil. For mixing with the soil at potting we use 2 lbs. of manure to one bushel of soil. In the north of England this manure is largely used and highly spoken of by Mr. T. B. Morton, Darlington, who is a successful grower. *Standen's Manure* is highly valued; some of the best blooms we have had were grown by the aid of this manure, used at the rate of 1 lb. to one bushel of soil, also used afterwards at the rate of one teaspoonful to a 9-in. pot once in ten days. Mr. Mease, who has cause to be satisfied with his successes, speaks highly of Standen's. *Ichthemic Guano* is much favoured by many growers, and with good cause, as their productions testify. Where this manure is used the plants retain a healthy colour without the growth being too gross, a sure sign the manure agrees with them. For potting, to five bushels of soil add ¼-peck of guano; for use in a liquid state give a 5½-in. potful to 36 gallons of water. *Jensen's Guano* is very highly approved by some growers, used at the rate of a 10-in. potful to 15 bushels of soil, also applying the guano in a liquid state once a week at the rate of one teaspoonful to a gallon of water. *Clay's Fertiliser* is another manure used with good results, as Mr. J. Doughty can testify by the blooms staged by him at the recent show in the Aquarium, which were some of the best seen during the season; he sprinkles it on the surface occasionally, to be watered in, commencing in August.

Manures Requiring Extra Care.

There are other kinds of manure which need further trial for completing experiments before I can speak with accuracy as to their merits. *Nitrate of soda* is the quickest in action of any manure that I have tried. It is usefnl to give once or twice in a season should the plants not appear to be making free growth after their final potting; in that manner nitrate of soda excites and prepares the plants for other food, which will tend to solidify the growth thus made. Should the season promise to be a wet one, nitrate of soda must not be used, as there would be a greater difficulty in ripening the growth. Half a teaspoonful to a 10-in. pot, crushing the soda finely, spreading it on the surface, and watering it in once or twice at the most, according to the season, will be beneficial, but on no acconnt must it be used if the plants are not well supplied with active roots. *Sulphate of ammonia*, in careful hands, is an excellent manure—perhaps unequalled as a stimulant, but it must not be used unwisely. My experience of it is that it imparts colour to the leaves of the plants and richness to the blooms, which is not excelled by any other manure. The cultivator should be guided by the state of the weather at the time of application, and also by the state of the roots of the plants; indeed, this is the all-important point to consider.

Sulphate of ammonia should not be given to the plants until they are well furnished with roots. Used in safe quantities in a liquid form is the correct way to apply it. Some growers say that sulphate of ammonia tends to make the blooms damp, and I think they are right when it is used injudiciously; for instance, too strong doses often kill the roots, not only on the surface, but half way down the soil in the pots; especially is this the case when the sulphate is put on the soil in a dry state and watered in. From experiments made during the past season I am able to say that plants of all the sections in our collection were supplied with water which contained sulphate of ammonia every time the plants required water, from the time the buds were swelling freely until the blooms were developed, with the result that there was less damping of the blooms, inclnding those of Empress of India, a notoriously bad "damper," than upon other plants treated differently. Of course, the plants were in good condition for receiving so much sulphate of ammonia; the pots and surface were full of roots, while the growth was not sappy. This was an experiment purely to test the effect of this stimulant on the damping of the blooms, but I cannot say that the blooms were of the best quality, the flowers in the incurved section showing a tendency to coarseness and hollowness in the centre. The best way to apply sulphate of ammonia is by dissolving ¼ oz. in 1 gallon of weak liquid mannre from the farmyard tank, commencing as soon as the flower buds are swelling freely, increasing the strength gradually until ½ oz. is reached to each gallon of water: to be given once a week. Dissolved bones are perhaps better in some soils than ground bones, as they act quicker. Especially are they preferable for heavy soils. Mixed with turfy loam, two parts to one of the bone-meal, applied as a top-dressing early in August, the roots quickly find their way into it, while the continued waterings wash the virtues down among the roots.

Natural Liquid Manures.

Animal manures used for making liquid food for the plants are much appreciated when they can be obtained. Sheep manure forms a capital liquid by placing it fresh from the fields into a bag to prevent it from dissolving and mixing with the water, which would render it too thick. By placing the bag in a tub or tank of water, allowing it to soak for twelve hours, the liqnid will be ready for use. Cow manure used in the same way is good. Drainings from manure heaps are also good. They should all be applied weak and often rather than strong and seldom, in the latter form the roots being more liable to be injured than in the other method of application.

How and When to Use Stimulants.

Having named the manures which have come under my notice, I will now state the time when I think they ought to be commenced and how applied. It is not intended that one person should use all those named. Experience only will teach accurately those best suited to each locality. Some people consider the plants ought to be supplied with stimulants when they are in small pots previously to being finally potted,

but my experience does not lead me to adopt this plan. I think the proper time to commence the use of stimulants is when the roots have taken full possession of the soil, after the last potting. Some say that feeding should not commence until the flower buds are formed. This I think a mistake, because in some cases they do not form until the middle of September. From this time until the plants are in bloom is too short a space to allow them a chance of deriving much benefit from applied stimulants. The plants ought to be fed before they form their buds, so that they will be strong at the critical period. During the time the buds are forming the plants should not be excited by giving them stimulants, these being better reserved until after the buds are set and commencing to swell. The applications may be increased in strength as the buds swell satisfactorily.

The character of the season must be considered as to the amount of stimulants the plants shall receive, and the nature of the soil, be it heavy or light. In a wet season the manure given should be on a small scale compared to that needed in a dry one, as wet summers are inimical to the maturation of the growth, and an excess of stimulants would aggravate this evil, and the plants fail in producing flowers of the finest quality.

We commence with soot-water first. One bushel of soot in a bag will be ample in a tank holding 100 gallons of water. We give this every time the plants require water, for a week, and then withhold it for three weeks, when it is again used, this time with liquid from the farmyard tanks, or from that made from sheep manure. After the first course of soot-water we give clear water for a day or two, then an application of liquid made from cow or sheep manure about the colour of brown brandy, varying the sort every second or third day, when clear water is given say once, returning then to the liquids. After the buds are formed and swelling freely, stimulants should be given regularly, varying them constantly, as a change of food is desirable. Whatever sort is used it should not be continued beyond three or four days at a time. The weakest growing plants should not have it so strong as those of a more vigorous habit. During a spell of wet weather it is not advisable to use liquid made from animal manures; a small portion of any of the artificials should then be sprinkled on the surface of the soil. By this means the plants receive nourishment, whereas if liquid manure were entirely depended upon the plants would not be in a state to receive intervening waterings. Any of the artificial manures named make a good change of food for the plants if sprinkled on the soil, and watered in according to the instructions given.

The Gardeners' Calendar.

THE GREENHOUSE.

Autumn and Winter-flowering Plants.—It is now time to make preparations for propagating a stock of plants for next autumn and winter decorative purposes. Those that flowered early will by this time have been cut or past their best. A number of plants of each should be selected, according to the quantity of cuttings required, and well cut back, placing them in a stove or propagating pit. If plunged in coco-nut fibre with bottom-heat, they will start all the more strongly and freely. Little water, if any, will be necessary till the buds have again pushed and commence to make vigorous growth. The cuttings should be taken off when 2 ins. or 3 ins. long, and getting somewhat firm at the base. Amongst those that should receive attention at present are Bouvardias, Sericographis Ghiesbreghtii, Libonia floribunda and L. Penrhosiensis, Reinwardtia (Linum) trigyna, and R. tetragyna. Where well grown, Centropogon also affords a large quantity of cut flowers, and should receive due attention in providing a stock of it at this time. Several Begonias of the winter-flowering class, such as B. insignis, B. odorata, B. semperflorens, and its fine rose-coloured varieties, should also be looked after.

Abutilons.—For winter decorative purposes great variety is afforded by the numerous fine inprovements amongst this class of flowers. The white Boule de Neige is, perhaps, one of the oldest of the improved kinds in cultivation, and it is still one of the most popular. Other varieties are Rosæflora, rose; Miss Laura Powell, yellow and dwarf in habit; Couronne d'Or, bright yellow and most distinct, owing to the unusual length of the stamens; Silver bell, white with red veins; and Purpurea, deep purple, shaded magenta. For training against a rafter, the old A. venosum, which has been much used in obtaining the improvements, is still worthy of a place. To assist in the development of flowers, weak liquid manure should be administered to the plants at every alternate watering at least.

Salvias.—Such of these as have not yet exhausted themselves, should be encouraged with liquid manure. Late batches of S. involucrata Bethelli, together with S. lantanifolia, S. rutilans, S. gesneræflora, S. leucantha, S. elegans, and S. Grahami will continue to furnish flowers for some time to come. They should be favourably situated with regard to light, and freely ventilated on all favourable occasions.

THE FORCING HOUSES.

Peach house.—As the buds swell and approach the flowering stage in the early house, which was closed say about the middle or end of November, increased attention will have to be given to heating and ventilation. Should the weather prove severe at this stage, it is better to maintain a low temperature at night in preference to a high one, as under these conditions the bloom will be stronger, healthier, and more likely to produce a good set than where much firing has to be done in order to maintain the night temperature at the required figure—namely, 50°. During the prevalence of frost it may be allowed to sink to 45°, which will have a beneficial rather than an injurious effect. A rise of 10° may be permitted during the day, or more if the weather be open.

Melons.—Those with a choice of houses at command, would do well to select a lean-to, with a southern exposure for the first crop. The fruits ripen earlier in a house of this kind than in a span-roofed one, whether it runs east and west or north and south. Less firing will be required, as the shelter afforded by the wall from cold, cutting north winds, and the beneficial effects of the sun are harvested to the fullest extent. The heating apparatus should also be able to maintain an efficient bottom and top heat without having recourse to hard firing.

Tomatos.—If not already done, sow a batch for early work. By using small pots, and putting two or three seeds in each, the superfluous seedlings may be pulled out after it is seen which are going to be the best. This will save the check given to seedlings when shaken out of the soil to be potted singly at this unfavourable season.

THE KITCHEN GARDEN.

Seed Sowing.—Take advantage of open weather to make a successional sowing of Peas and Beans out of doors on warm dry borders. If there is little prospect of being able to do this at an early date, a sowing should be made indoors. Should the autumn-sown Cauliflowers be keeping badly, a sowing should be made in boxes under glass, to be dibbled into a frame later on till the weather permits of their being safely planted out.

Potatos.—Make up fresh beds from time to time, and when the heat has risen sufficiently, put on the frames and then the soil. If the Potatos to be used have been previously sprouted in a warm place, much time will have been saved.

ORCHID NOTES AND GLEANINGS.

Dr. Davis's Phalænopsids.

Escaping from the fog in London last Wednesday week, I ran down to Maidstone, and calling upon Dr. Davis, at Barming Heath, was delighted to see his display of Phalænopsis Schilleriana, P. amabilis, and P. Stuartiana in bloom. Some of the spikes of P. Schilleriana had from thirty to forty flowers on each, fine in shape and colour. A houseful of Odontoglossum crispum and a nice lot of Cattleyas were also doing well under the fostering care of the worthy Doctor. They are, indeed, as well handled as any I have seen. —*F. C.*

The Smallest Cattleya.

One frequently finds Cattleya luteola grown in gardens under the name of C. Holfordi, but it has also a host of other names, amongst which is that of Epidendrum luteolum, of Reichenbach. The flower-scape is somewhat shorter than the leaf, and bears from two to five blooms of a pale yellow, but slightly variable in individual specimens, so that cultivators sometimes distinguish them by special varietal names. The whole flower is from 1½ in. to 2 ins. in diameter, and is usually of a lemon-yellow, with a whitish margin to the middle lobe, the side lobes being more or less streaked internally with purple. It flowers during the winter months.

Trichopilia fragrans.

The white flowers of this Orchid are not at any time particularly conspicuous, but are valued on account of the Gardenia-like smell with which they pervade the house in which they are grown. A variety with much larger flowers, and named T. nobilis, belongs to a section of the type. Both T. fragrans and its variety, T. f. nobilis, belong to a section of the genus, which is better known under the name of Pilumna. Like a number of the typical Trichopilias, the flowers are borne singly upon the peduncle.

Dendrobium Ainsworthii.

Amongst the various hybrid Dendrobiums that have been artificially raised and comparatively recently put into commerce, none are more popular or useful than is the subject of this note. This arises both from the individual beauty of the flowers, their exquisite fragrance, and the freedom with which they are produced. They combine in themselves the good properties of D. aureum crossed with D. nobile, which are the two parents. From now onwards will D. Ainsworthii keep up a display of flowers.

Odontoglossum cirrhosum Hrubyanum.

A long raceme or panicle of flowers of the typical form is a beautiful object. Equally so would a raceme of the variety under notice be, as the flowers are pure white, or have their purity marred only by a few small blotches. The long tail-like segments of the species are very curious, and from the fact of their being slender, or more or less twisted, has the specific name been given. The white-flowered or Baron Hruby's variety has been flowering for some time past in Mr William Bull's collection at Chelsea.

Lycaste lanipes.

The first thing that strikes the observer when looking at the plant is the great size of the pseudo-bulbs, which are oblong, thick, somewhat ribbed, green, and from 3 ins. to 6 ins. in length. The flowers are large and borne singly on short peduncles nestling amongst the leaves, which are lance-shaped, plaited, evergreen, and of great length. They are of great substance, and have ovate-oblong, creamy white sepals, smaller pure white petals, and a three-lobed also white lip. The tongue is prominent, as in L. Skinneri, and creamy yellow, while the sides of the terminal lobe are beautifully fringed. It is a native of Guayaquil, in South America, and flowering specimens may be seen now in many collections.

Masdevallia polysticta.

One of the prettiest of the small-flowered species is that under notice. The specific name, literally translated, means many-dotted, and refers to the numerous crimson spots which stud the white ground colour of the perianth tube. The three outer segments further run out into long, bright yellow tails, which point in different directions; and as the flower-scapes each carry six to eight flowers, a pleasing effect is the result of the whole combined. A large plant well furnished with foliage and flower-scapes is a pleasing object indeed in any cool Orchid house, and those who have seen it in good condition can hardly fail to appreciate its beauty. Although in full flower now, it will again make a show of bloom late in spring, or, indeed, at various times of the year.

QUESTIONS AND ANSWERS.

Ferns Injured.—*W. Hunter:* Your plants are simply affected with thrips, and if you examine the underside of the fronds exhibiting the discoloured patches you will be able to detect the cause of the mischief, in the shape of small elongated black or yellow creatures, which are the larval or immature condition of the perfect insect, which is winged. You have no doubt been keeping your house dry to tide it over the winter months, bringing about the conditions which are most favourable to the insects. If your house is kept at a low temperature, a dry atmosphere can hardly be avoided; but you can get rid of the pest by fumigating with tobacco in some form or other; or better still, if the fronds are sufficiently hard to admit of it, sponge them with soft-soap and water, or dust them with insect powder. In the first two cases syringe immediately with clean water, and where insect powder is used syringe the plants well with water after twelve hours have elapsed.

Foliage Plants for Wild Garden.—*C. H. R.:* With some variety of aspects, and the presence of a stream or pond, there are many subjects that would be suitable for the purpose you mention. In deep rich soil plant large clumps of Gunnera scabra, G. manicata, Rheum palmatum or its variety R. p. tingitanum, Polygonum sachalinense, P. cuspidatum, Helianthus oryzalis, and the taller forms of H. decapetalus, as well as H. annuus, if you have no objections to raising it fresh annually from seeds. The species of Polygonum, if planted in a sunny or open position, will flower profusely (especially P. cuspidatum) towards the end of the summer. The species of Gunnera will produce the largest and finest leaves if planted near water, or kept well manured and watered. Plant Saxifraga peltata, Rodgersia podophylla, Petasites vulgaris and the Royal Fern (Osmunda regalis), by water. Inula Helenium, Funkia Sieboldi and Heracleum giganteum are also well worthy of attention.

NAMES OF PLANTS.—*H. A.:* 1, Selaginella caulescens; 2, Doodia aspera; 3, Nephrolepis exaltata; 4, Nephrodium decompositum glabellum, generally known in gardens as Lastrea glabella; 5 and 6, different forms, or rather stages of Polypodium Billardierii. *Thos. Campbell:* 1, Odontoglossnm crispum Andersonianum sub.-var. (it comes under Andersonianum but does not appear to be a named form); 2, Odontoglossnm Insleayi; 3, Odontoglossum cordatum; 4, Odontoglossnm constrictum Sanderianum (differs somewhat in colour from the type).

ORIGIN OF THE MANETTI ROSE.—*A. Benge:* There is some doubt as to the real origin of this useful stock for Roses. One record is that it was raised from seeds of a Bourbon variety by M. Bertin in 1832. Some years elapsed before it flowered, hut as it appeared much stronger than any others from the same sonrce, it was propagated for stocks. It flowered at length, and proved to be a single variety. The name Manetti was applied to it hy MM. Bnrdin, of Chamhèrg. The other record concerning it states that it is a vigorons variety of the Hyhrid China Rose, introdnced to this country from Italy about forty years ago by Mr. Rivers. At all events there seems little douht that it is of garden origin, and that its valne as a stock was recognised ahout the dates mentioned.

COMMUNICATIONS RECEIVED.—B. & R.—H. S.—Rev. W. W.—A. G.—Caledonian.—R. D.—G. W.—W. A. A.—Hector.—J.B.—J. C.—F.C.—W.G.

TRADE CATALOGUES RECEIVED.

WM. CUTBUSH & SON, Highgate, N.—Flower, Vegetable and Farm Seeds, &c.

J. CHEAL & SONS, Lowfield Nurseries, Crawley.—Vegetable and Flower Seeds.

BARR & SONS, 12, King Street, Covent Garden, W.C.—Flower and Vegetable Seeds, &c.

BENJAMIN SODDY, 243, Walworth Road, London, S.E.—Vegetable and Flower Seeds.

DOBBIE & Co., Rothesay, N.B.—Seed Catalogue and Competitors' Gnide.

T. B. THOMSON, 20, High Street, Birmingham.– Vegetable and Flower Seeds, &c.

W. DRUMMOND & SONS, Stirling, N.B.—Vegetable and Flwero Seeds, Gladioli, &c.

ALEX. LISTER, 14, East Princes Street, Rothesay, N.P.—Vegetable and Flower Seeds, Florists' Flowers, &c.

LITTLE & BALLANTYNE, Carlisle.—Garden and Farm Seeds, &c.

J. & R. THYNE, 83, St. Vincent Street, Glasgow.—Vegetable and Flower Seeds.

TOOGOOD & FINLAYSON, 58, Above Bar, Southampton.—Catalogue of Garden Seeds, and Amateurs Guide.

WILLIAM BULL, 536, Kings Road, Chelsea, S.W.—Selcct Flower and Vegetable Seeds, &c.

THE WEATHER.

AT the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending Jan. 5th was 30·20 in.; the lowest reading was 29·81 in. at the beginning of the week, and the highest was 30·54 in. on Thursday evening. The mean temperature of the air was 31·8°, and 6·2° below the average in the corresponding weeks of the twenty years ending 1868. The mean was considerably below the average on each day of the week, the coldest day being on Saturday. The general direction of the wind was N.E., and the horizontal movement of the air averaged 5·4 miles per hour, which was 7·6 miles below the average in the corresponding weeks of sixteen years. No rain was measured during the week. The duration of registered bright sunshine in the week was 3·2 hours, against 13·5 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

January 7th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a steady trade for all varieties of Clover Seeds; supplies of fine yearling English Red and Cow Grass are almost exhausted. Finest Trefoil is dearer. Foreign Red, White, and Alsike unchanged.

COVENT GARDEN MARKET.

January 9th.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.
Arum Lilies, 12 blms.	5 0	9 0
Azaleas ....12 sprays	0 8	1 0
Bouvardias, per bun.	0 6	1 0
Camellias, 12 hlooms	2 0	4 0
Carnations, 12 blooms	1 0	2 0
Chrysanthemums, 12 blooms	1 0	4 0
— 12 bunches	4 0	12 0
Cornflower, 12 bunch.		
Cyclamen..12 blooms	0 6	1 0
Eucharis ..per dozen	4 0	6 0
Gardenias, 12 hlooms.	10 0	18 0
Heliotropes, 12 sprays	0 6	1 0
Lapageria, 12 blooms	2 0	4 0
Lilium longiflorum, 12 hlooms	5 0	9 0
Lily of the Valley, 12 sprays	0 9	1 3
MaidenhairFern, 12bns	4 0	9 0
Marguerites, 12 hun.	3 0	6 0
Mignonette, 12 bun.	2 0	4 0
Pelargoniums, 12spys.	1 0	1 6
— scarlet ..12 sprays	6 0	9 0
Paper White Narciss, 12 sprays	0 9	1 0
— — — French, doz. bunches	3 0	6 0
Poinsettia, doz. blms.	4 0	6 0
Primroses..doz.buns.	1 0	2 0
Primula, donhle, bun.	0 9	1 0
Roman Hyacinths, 12 sprays	1 0	1 6
— — (French), 12 bun.	3 0	9 0
Roses, Tea, per dozen	1 0	3 0
— Red .....per doz.	1 0	2 0
— Saffrano ..per doz.	1 6	3 0
Tuberoses, per dozen.	1 0	2 0
Tulips ....12 blooms	0 8	1 6
Violets ..12 bunches	1 0	1 6
— Parme, French, 12 hunches	5 0	7 6
— dark French, bun.	1 6	3 0
Wallflowers, 12 hnchs,	4 0	8 0
White Lilac, French, per bun.	5 0	7 6

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0
Beans, French, per lb.	1 6	
Beet .....per dozen	2 0	3 0
Cahbages .... per doz.	1 6	
Carrots ....per bunch	0 6	
Cauliflowers, English, per dozen	2 0	3 0
Celery ....per bundle	2 0	
Cucumhers ....each	0 6	0 9
Endive, French, doz.	2 6	3 6
Herbs ....per bunch	0 2	0 4
Horse Radish, bundle	3 0	5 0
Lettuces ..per dozen	1 6	2 0
Mushrooms, p. basket	1 0	1 3
Onions....per bnshel	7 0	9 0
Parsley....per bunch	0 6	
Radishes ..per dozen	1 6	
Small salading, punnet	0 4	
Spinach, per strike ..	2 0	
Tomatos ....per lb.	1 3	1 9
Turnips ....per bun.	0	

POTATOS.– Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys. 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.
Apples .....½-sieve	1 6	3 0
Cohs .. per 100 lbs.	100 0	
Grapes .....per lb.	0 9	2 6
Pine-apples, St. Michaels.....each	2 0	7 0
Pine-apples, Eng., lb.	1 0	1 6

Canadian and Nova Scotia Apples, per barrel, 7*s.* to 14*s.*

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.
Aralia Sieboldi ..doz.	6 0	18 0
Arum Lilies..per doz.	9 0	18 0
Azalea.....per doz.	24 0	42 0
Chrysanthemums, per dozen	6 0	12 0
— large plants ..each	2 0	5 0
Coleus .....per doz.		
Cyclamen ..per doz,	9 0	18 0
Cyperus, ..per dozen	4 0	12 0
Dracæna term., doz.	30 0	60 0
— viridis, per dozen	12 0	24 0
Evergreens, in var., per dozen	6 0	24 0
Ferns, in var., per doz.	4 0	18 0
Ficus elastica ..each	1 6	7 0
Foliage Plants, various .....each	2 0	10 0
Hyacinths ..per doz.	8 0	12 0
Lilies of the Valley, per doz.	18 0	30 0
Marguerites per doz.	6 0	12 0
Palms in variety, each	2 6	21 0
Pelargoniums, scarlet, per dozen	6 0	9 0
Poinsettia ..per doz.	9 0	12 0
Primula sinensis, doz.	4 0	6 0
Roman Hyacinths, per doz.	9 0	12 0
Solanums....per doz.	9 0	15 0
Tulips ..... per doz.	8 0	10 0

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Small Advertisements, solid type, 6*d.* per line of about nine words. Displayed Advertisements, per inch, 6*s.*; per column (12 ins. long), £3 5*s.*; per half-page, £5; per page, £9. Special quotations given for a series. Gardeners and others Wanting Situations, thirty words for 1*s.* 6*d.*, prepaid.

*** *Advertisements for the current week, and also "Stop Orders," must reach the office not later than the first post on Wednesday Morning.*

Postal and Money Orders to be made payable to B. WYNNE, at the Drury Lane Post Office, W.C.

17, CATHERINE ST., COVENT GARDEN, LONDON, W.C.

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ROBERT NEAL,

The Nurseries,

Trinity Road, WANDSWORTH,

Begs to offer in extra quality the following:—

SEA KALE for forcing .....8*s.* per 100; 75*s.* per 1000.
,, for planting .....5*s.* ,, ; 40*s.* ,,
RHUBARB for forcing.....50*s.* ,,
RASPBERRIES (Fastolf).....6*s.* ,, ; 50*s.* ,,
VICTORIA PLUMS, standards.....75*s.* ,,
PEACHES, dwarf-trained.....18*s.* to 24*s.* per dozen.
DAMSONS (Farleigh), standards .....75*s.* per 100.
GOLDEN ELDERS, 2 ft. to 4 ft., extra fine..20*s.* to 30*s.* ,,
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ROSES—20 ACRES,

Well-rooted, many-shooted, truly named, of matured vigorous growth, and of the best kinds. Bushes, R. S. & Co.'s selection, 8*s.* per dozeu; 60*s.* per 100. Packing and carriage free for cash with order.

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SUPERB AND CHOICE

STRAINS

OF

CYCLAMEN

BEGONIAS

GLOXINIAS

CALCEOLARIAS

PRIMULAS

CINERARIAS

ARE THE BEST.

For further particulars see ILLUSTRATED SEED CATALOGUE for 1889, which will be forwarded gratis and post free on application.

B. S. WILLIAMS,

Victoria & Paradise Nurseries,

Upper Holloway, London, N.

CANNELL'S BEGONIAS.

Not only is our Catalogue the best, most complete, and wonderfully illustrated and descriptive, but our whole strain of Begonias is totally different and far nearer perfection than any others in the world. The exact treatment is given therein of how we grew the nine plants which took the First Prize at Regent's Park, on which occasion there were seven entries. Those who have not hitherto grown or seen our varieties will be astonished at their dwarfness, new colours, and brilliancy. We are now sowing our seed that will give plants a foot through, with a profusion of blooms similar to the undermentioned, from July to November.

One of our greatest critics and connoisseurs writes to us thus :—

W. E. GUMBLETON, Esq., Belgrove, Queenstown.

"I am extremely sorry to see, in the last number of *L'Illustration Horticole*, that, through some mistake on the part of their artist, the drawing they intended to have made for a reproduction of their beautifully illustrated work of the blooms of some of your lovely seedling Double Begonias was not made before the flowers withered. The beauty of these flowers seems to have quite astonished the Belgians, as they say they are hardly recognisable as Begonias at all as they know them, but more like Roses and Camellias; and this I can quite understand, as the variety named Beauty of Belgrove is more like a good bloom of La France Rose than a Begonia."

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MAGENTA.	ORANGE-SCARLET.
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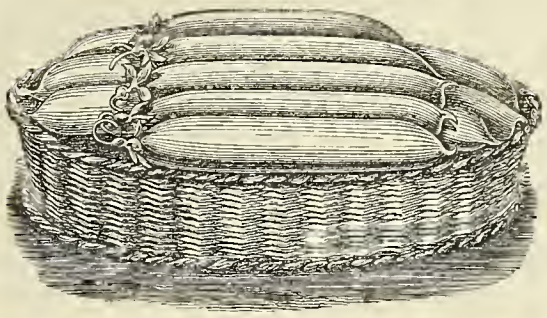

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FERNS { A fine stock, in 5-in. pots, 12s. per dozen. / A fine stock, in small pots, 4s. per dozen.

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JENSEN'S GUANOS are the most perfect Fertilisers. Promote and sustain all growths. Do not exhaust, but enrich the soil. Analyses guaranteed. Six Prize Medals awarded in 1888.—J. JENSEN & Co. (Lmtd). 109, Fenchurch Street, London.

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Next Week's Engagements.

Monday, Jan. 21st.—Sale of Lilies at Protheroe & Morris's Rooms.

Tuesday, Jan. 22nd.—Sale of Orchids in Flower at Protheroe & Morris's Rooms.

Wednesday, Jan. 23rd.—Sale of Plants, Bulbs, &c., at Protheroe & Morris's Rooms.

Thursday Jan. 24th.—Sale of the remaining portion of the collection of Orchids formed by C. Hamerton, Esq., at Stevens' Rooms.

For Index to Contents & Advertisements, see p. 330.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, JANUARY 19, 1889.

The National Chrysanthemum Society.—The retirement of the venerable and esteemed president of this society, which will shortly have to be recorded as an accomplished fact, presents a most favourable opportunity for making an effort to obtain for the society a wider and more truly national reputation. Mr. Sanderson has done remarkably good work for the society in assisting to elevate it from the position of a mere local organisation to that of a national one, at least, so far in name. He has now, because of advancing years and the ills which flesh is heir to, as he himself puts it, every right to retire on his laurels; and he will assuredly carry with him into his retirement the esteem and respect of all Chrysanthemum fanciers.

But the National Chrysanthemum Society is now very much more than a Borough of Hackney Society. It aspires to be regarded as a truly national society, a position to which it may eventually reach if well and capably led. It has already the cordial good-will and support of most Chrysanthemum growers, and of a very large section of the practical gardeners of the country, who mustered so strongly at its great annual exhibitions in November; and who generally consider that, with the adoption of a bold progressive policy, there is a grand future

before it. For the present we are concerned with the question of the presidency, and the present opportunity should not be lost for securing for that office some nobleman or gentleman of position and high reputation, who shall merit the confidence of the provincial as well as of the metropolitan members. The executive so far has been, for the society's designation, rather too much metropolitan. We want to see it made more representative and national. The opportunity now offered is so good an one that every personal consideration should be sunk by all ambitious of honours, for the purpose of obtaining as president henceforth one who is worthy of the post, as also of esteem and confidence.

It is also well worthy of consideration whether the office of vice-president should not be offered to several gentlemen, both metropolitan and provincial residents—indeed, if a number of these honorary officials were elected so much the better. The appointment of a chairman and vice-chairman for the general committee would materially enhance the society's reputation and usefulness, whilst offering fitting honours annually to meritorious members.

The Chrysanthemum Conference.—Whilst the committee of the National Chrysanthemum Society have every reason to be satisfied with the success which attended on their first conference, which was held in association with the mid-winter show last week, they cannot, with any degree of respect, consent to hold a second one under such very adverse conditions. The place of meeting—an open gallery—was distressingly bad for hearing; the seating accommodation was far too limited, so that many members of the society had to stand the whole two hours; whilst the rattle and noise in the main building served to distract attention, and to deaden the voices of the readers of papers. These happily were excellent, and in being published will materially benefit not only those members who were present, yet unable to hear, but also the growers of the kingdom generally.

As is almost inevitable in the case of papers of a severely practical nature, very little discussion was evoked—a matter for regret; but some present complained that being unable to hear they were also unable to criticise. In making a selection of topics, which seems to have been done in this case, some regard should be paid to the need for discussion, and therefore it is wise to start, if possible, contentious topics, which are not too dry. The opportunity to discuss the nature of the proposed centenary celebrations was an excellent one, and would have evoked ample consideration. We hope the executive do not selfishly propose to reserve that matter absolutely to themselves, but will also permit the members to share in the discussion. With respect to future conferences it is very evident that more generous and fitting accommodation than the Royal Aquarium offers must be found.

The Chrysanthemum Show. — There were some persons at the Royal Aquarium last week, who professed to feel disappointed at the comparatively sparse number of exhibits of cut flowers; but there is rather too much tendency to forget that the show was held two months later than was the November display, and these two months in the dead of the winter present conditions and difficulties, with regard to the preservation of Chrysanthemum flowers, which are almost insurmountable. We ought rather to be gratified that with such an adverse season it was thus admirably shown how much some growers can accomplish. A close study of Mr. Kipling's admirable paper may help some other growers to do as he has so well done; but it is doubtful whether the production of late winter blooms can be made coincident with particular attention to the production of autumn show flowers. On that point, however, we shall be pleased to be enlightened. For home decorative uses, however, late blooming Chrysanthemums are invaluable.

Spring Exhibitions.—The Richmond Horticultural Society proposes to make up for the abandonment of its November show a couple of years since, by promoting a spring show early in the present year. We are glad of this, for spring shows are just now as rare relatively as autumn shows are plentiful, and whilst one less November show in that district is no great loss, a really good spring show would be a great gain. Richmond has in the fine rooms of the "Old Castle Hotel" admirable space for the holding of such an exhibition, and the contiguity of this favourite and fashionable metropolitan suburb to London, with the nurseries on the one hand, and the wealth of the district on the other, should suffice to make the spring venture a real success. We rather regret that a desire to secure some of the stale leavings of the first Botanic Show should have induced the committee of the Richmond Society to hold the exhibition in March; and, if not too late, would seriously advise that both in regard to weather and exhibits, the middle of April should be selected in preference.

Metropolitan Markets.—The election of the London County Council will have taken place ere this number of The Gardening World reaches our country readers; but metropolitan ones may not too late perchance be reminded that the question, of the provision of markets all over London, should presently form one of the most important duties of the new Council; hence we urge upon electors that whilst it is yet time, candidates should be favourably regarded who have pledged themselves to break up the present market monopolies, and will give to the people ample market accommodation. London is, perhaps, worse supplied with markets, and especially with markets for all kinds of garden produce, than is any other considerable town in the kingdom. Few markets means enhanced prices to the consumer without the producer getting any of the profit, that goes to the middleman. We want to see markets in every part of the metropolis, in which the producer and the consumer may find free contact.

Gardening Engagements.—Mr. James Riddell, for the last six years gardener to the Earl of Faversham, Duncombe Park, Yorkshire, as gardener to the Earl of Carlisle, Castle Howard, Yorkshire. Mr. John Brunton, gardener at Hallyburton House, Forfarshire, N.B., succeeds Mr. Riddell at Duncombe Park, and Mr. T. H. Crasp, late gardener to the Earl Sydney, succeeds Mr. Brunton at Hallyburton.

Mr. W. J. Murphy.—Our esteemed correspondent, Mr. W. J. Murphy, having retired into private life after nearly twenty-five years' faithful service as head teacher at the Clonmel Union, and manager of the workhouse farm, has received the following flattering testimonial from the Board:—"In accepting Mr. Murphy's resignation, which they do with much regret, the Guardians desire to place on record an expression of the highest esteem he has earned for himself by the ability, zeal, and superior intelligence he has brought to bear upon the discharge of his trying and arduous duties for a period now close upon twenty-five years. This board has also availed of Mr. Murphy's practical knowledge as an agriculturist in the management of the workhouse farm, in which department he has likewise given the greatest satisfaction. They again express for themselves, collectively and individually, their very great regret at losing so valuable an officer."

The Lorillard Tomato.—The *American Garden* states that this variety is creating quite a furor among gardeners. While being an excellent outdoor cropper, it is claimed to be the very best variety for forcing under glass. John Gardner, the originator, reports a crop of 7,500 lbs. grown in 300 10-in. pots last winter, an average of 25 lbs. of fine marketable fruit from each plant.

Death of Mr. J. Southgate.—We have heard with regret of the death, on Sunday last, from the effects of an accident, of Mr. John Southgate, of Selborne, Leigham Court Road, Streatham, aged 71. Mr. Southgate, who practised for many years as a solicitor in Watling Street, was a great lover of Orchids, and it is only a few months since that his fine collection was dispersed by auction.

National Chrysanthemum Society.—At the meeting of the general committee, held on Monday evening last, Mr. E. C. Jukes presiding, the honorary secretary, Mr. Holmes, announced that he had communicated the resolution passed at the previous meeting to Mr. Sanderson, and had received his reply, which he deeply regretted to say was of a negative character. A formal resolution was then passed appointing a small sub-committee to consider the question of the election of a new president, and some other matters incidental thereto, and report to the general committee. Seven new members were elected, raising the roll total to 648 members; and the Lewes and District Chrysanthemum Society, and the Devon and Exeter Horticultural and Natural History Society were admitted as affiliated societies. Judges were then nominated for the November show, and it was decided that the following gentlemen should be invited to undertake the duties of censors, viz., Messrs. Donald, Prickett, Douglas, Gordon, Molyneux, Beckett, Castle, Head, Miles, and Roberts, the names of Messrs. R. Dean, Langdon, Kendall, Jameson, and Bunyard being suggested as reserves. The committee adopted the report of the sub-committee appointed at the previous meeting to consider the question of the next provincial show, which recommended that the society should go to Hull, if terms can be arranged.

The English Apple and Fruit Growing Company.—The statutory first general meeting of this company was held on Friday, the 11th inst., at Anderton's Hotel, Fleet Street, in accordance with the requirements of the Acts governing societies of this character. The main object of the meeting was for the election of directors. The then directors—Messrs. Heald, Cheal and Roberts—retired from office, but being eligible, offered themselves for re-election. Amongst those present besides the directors were Messrs. Ollard (the company's solicitor), Willard, and R. Dean (the secretary). The notice convening the meeting having been read by the secretary, Mr. Heald, who occupied the chair, explained that about 4,000 shares had been taken up since issuing their prospectus some three months ago, by ninety-four shareholders, of whom forty-four were horticulturists or directly concerned in some way or other with horticulture, which was in itself so far encouraging, and he had no doubt, when once the company had acquired some land and set to work, that the number of shareholders would, without fail, be largely augmented. They could not, under the present circumstances, follow out the original programme with regard to Speedgate Farm; but it was their intention to obtain a lease of a smaller farm suitable for fruit and vegetable growing. The Board were in treaty with persons who had land to sell or let, and they had already inspected some sites near London that appeared to be well adapted for the purpose. Though the number of shares taken up had not come up to their expectations, the Board were as sanguine as ever as to their main purpose being a sound one, and it was their intention to hire 100 or so of acres of good fruit-land upon lease, with option of purchase, and commence planting at the earliest possible moment. They also intend erecting glass houses for the purpose of growing fruit and flowers, and to do this at the earliest opportunity so as to commence operations. The board were sanguine that their intentions were of a nature to result in a remunerative business, that would prove satisfactory to the shareholders; and the directors would not take a penny in the way of fees until a dividend had been paid. Upon some of the shareholders making inquiries about the erection of glass houses, the chairman, as well as Messrs. Roberts and Cheal, the other directors, stated that it was their intention to erect glass houses as soon as possible for the purpose of growing Vines, Tomatos, flowers, and other marketable products, so as to get a quick return on the shareholders' capital until the hardy fruit trees should come into bearing. It was proposed, seconded, and carried unanimously that Messrs. Heald, Cheal, and Roberts be elected as directors of the company, and the proceedings closed with a vote of thanks to the directors and also to the chairman.

MID-WINTER CHRYSANTHEMUMS.*

So much has been said and written on the general cultivation of the Chrysanthemum by eminent writers and growers that it is not necessary for me to refer to it. There is, however, one phase of the culture of the flower that has received but little attention, and is consequently the least understood by the majority of growers. I allude to what is now usually known as the cultivation of mid-winter Chrysanthemums, which expression I have adopted as the title of this paper.

A quickened and increasing interest is being taken in this branch of the culture of Chrysanthemums, and rightly so, considering that it enables us to have their flowers in perfection for at least two months longer than formerly, and at a time when there is a great paucity of other flowers. By establishing the Mid-winter Exhibition, and the very liberal prizes offered, the National Chrysanthemum Society has done much, no doubt, to bring about and foster this new interest in late cultivation with the view to prolonging the season and decorative usefulness of this increasingly popular flower.

Growers who essay the cultivation of mid-winter Chrysanthemums will, by selecting the naturally late-flowering kinds, by late propagation, and by suitable treatment of the plants, find it a comparatively easy matter to prolong the blooming season to a much later date than at one time was considered possible. They will no longer be satisfied to see, as in the past, the greater part of their Chrysanthemum blooms pass away with the dying year. No; they will find it is possible to prolong the season, and to have blooms in quantity up to the end of February, into March, or even into April. Indeed, the production of mid and late winter blooms is only in its infancy. We have, so to speak, only just crossed the threshold of knowledge as to what can be accomplished in the direction indicated.

Having been fairly successful in the cultivation of mid-winter Chrysanthemums, I will, without troubling to give the minor details, describe as briefly and as lucidly as I can the procedure by which I have been enabled to span the year with Chrysanthemum blooms. Referring first to the cuttings, I would state that they are taken mostly from plants that have bloomed in November and December. After they have flowered, the stems are cut down, all weakly shoots removed, and the stools placed in a cold pit to keep them back. The cuttings are struck at three different times—namely, February, March, and April, in the last week of each month. Those struck in February are put under hand-lights in a cold pit, and those struck in March and April have the assistance of a slight hot-bed. The cuttings selected are the latest sucker or root growths, preference being given to those that are stout and short-jointed.

As soon as the cuttings are struck they are carefully hardened and placed in a frame with a north aspect. When sufficiently advanced, the cuttings are potted and returned to the frame, kept close till the roots begin to run freely, and then gradually exposed. As soon as the weather will allow, the plants are stood out of doors on a bed of ashes; before they become root-bound they are shifted into 6-in. pots and returned to the ash-bed, where they are placed in a north aspect, with a view to keeping them back. By the middle and end of July respectively, most of the plants are ready to be transferred to their flowering pots. Those intended for the supply of cut flowers are shifted into 9 in., 10-in., or 12-in. pots., three plants in each; and those intended for decorative purposes are shifted into 7-in. or 8-in. pots. When all have been potted they are ready to be placed in their summer quarters, to the proper selection of which I attach much importance, for on it will depend in no small degree the success in procuring very late blooms. It will be seen that our practice differs somewhat from the generally accepted "full exposure to the sun" course of procedure.

In growing Chrysanthemums for late flowering it is necessary to defer to the latest date possible the formation of the crown-bud. This can be done in two ways—first, by the constant pinching back of the shoots or cutting down the plants at a certain date, so as to produce late growths, and thus delay the production of the crown-bud, which practice I find weakens the plant too much, and the blooms produced by it are poor. The second method is to place the plants in such a position through the summer that the ripening of the wood is delayed, and the pinching back of the shoots reduced.

It is well known that Chrysanthemums which are placed where exposed to the sun's rays throughout the day have the maturing process of the wood begun and finished early, and as a consequence of this the early formation of the crown bud takes place; it follows then that if plants are placed in such a position as to have less direct sunlight on them through the day the ripening process will not begin so early, and will proceed more slowly. As a result the production of the crown bud is greatly retarded; indeed, it shows itself at a much later date, which is exactly the result desired in growing them for late blooming. My plants occupy a position on the north-east side of a Laurel hedge, but are not overshadowed by it. They have the benefit of the morning sun up to 10 o'clock, when, through the intervening of some trees, it does not shine on them again till 3 o'clock in the afternoon. In this position they grow slowly, the wood ripens late, but sufficiently to ensure us a good crop of flowers. I may here state that a partly shaded position might not be suitable in very late or northerly localities; nor is it possible by this practice to have huge, or even very large blooms. But very large blooms are not wanted at the season of the year to which I am referring; smaller blooms, or trusses of blooms, are more serviceable for the various purposes of decoration, and also for personal adornment. They are certainly more appreciated by a majority of those who love the Chrysanthemum. In my case cut blooms are the principal requirement, and consequently but little attention is paid to the training of the plants, my object being to have good strong bushes with stout shoots, from nine to twelve to a plant, and containing plenty of stored-up reserve force. Shoots of this description will give a second crop of side flowers after the first or leading blooms have been cut.

The plants which are grown principally to cut from are stopped only once—namely, at the second potting, and those intended for pot or specimen plants are stopped three times, the final topping taking place in the last week in July.

The plants are carefully attended to as regards watering, tying, &c., but very little liquid manure is given them. If satisfactory progress be made, the crown buds will begin to show at the end of September, but principally through October. These buds I retain on one-half of the plants, while on the other half they are rubbed out, and the terminal bud selected later on instead, for the purpose of keeping up a succession of bloom. The plants are left outside to as late a date as is considered safe. They are then taken in and arranged in an unheated Peach house, from which the frost is excluded by two paraffin stoves. In this house they continue their growth and swell their buds very slowly, the terminal buds appearing at the end of November and through December. About the end of November we begin to draft the plants as required to a very light and airy vinery, where, with the assistance of a little artificial heat and supplies of liquid manure, the flowers gradually expand.

As fast as the blooms are cut from each set, the flower-stems are slightly shortened, and the plants are encouraged to make side breaks or shoots, which some varieties do very freely, especially those with not over-ripened wood. These side growths give us a good supply of small flowers through March and April. It was from the side and basal shoots of cut-back plants that I obtained a box of flowers, and sent them to my friend Mr. Holmes on the 20th of April last. My notes show that the last blooms were cut on the 29th of May, and at that date we had blooming in pots under glass the early Pompons, St. Mary, La Petite Marie, and Nanum, of which varieties we usually pot a good stock in the early autumn to propagate from for summer display. These Pompons carried on the blooming period, and shook hands, as it were, with similar kinds which bloomed with us outdoors on June 20th. Such was the manner in which I was enabled to wreath the year with Chrysanthemum blooms.

With reference to the varieties which are best for growing for late blooming, I would say that there are sorts which are naturally late to bloom, and are invaluable for the purpose. But there are a few of the mid-season varieties, which, as I have proved, cannot be excelled by any especially for giving second crop flowers. They all, or mostly all, belong to the Japanese section. I have found very few of the incurved kinds worth the time and labour spent on them for giving late blooms. They are not free enough, the blooms opening indifferently, and do not keep well; at least, such is my experience of them. Of the Japanese varieties I have found the following to be the best:—Belle Paule, Kæmpfer, Etoile du Midi, Ethel, Mrs. C. Carey, Cérès, Mdlle. Cabrol, Gloriosum, Cry Kang, Comtesse de Beauregard, Meg Merrilies and its sports Ralph Brocklebank and Countess of Lytton, the last-named sport having originated with myself. Mr. D. B. Chapman and W. G. Drover are also proving very late, but not over free in blooming. For pot specimens I find the best to be Père Délaux, Virginale, Miss Margaret, Snowdrop, Golden Gem, and Boule de Neige. The two last-named cannot be surpassed by any that I know for late pot work. There may be others quite as good for late blooming, and if there are I hope those who have grown them will give us their names.

*Read by Mr. J. Kipling, Knebworth House, at the Chrysanthemum Conference, Royal Aquarium, January 9th.

Dahlia, Paragon.

SINGLE DAHLIA, PARAGON.

It is remarkable that this popular single Dahlia should have been preserved in some way for so many years, and then come to the fore again. It appeared in Dahlia lists as late as 1833-34, and then, I imagine, the taste for double forms caused it to be disregarded, and it perhaps found its way into some botanical or old-fashioned garden, where it was nursed and kept alive through so many years, to appear again in these later days, and to do so much in the way of popularising the single Dahlia. Who re-introduced it, and where was it found? It cannot have been a seedling, because it is doubtful if any living florist remembers it in cultivation so long since. I have seen statements to the effect that it is a bad grower, and spare of bloom. My experience of it last summer proves just the contrary; it had a very free and good habit, and gave me an abundance of bloom. What should be noted concerning it is that the early flowers are not always true to character, taking the self form mainly, but they soon come right. If I had to select a special half-dozen of single Dahlias to grow for cutting from, I should certainly include Paragon among them.—*R. D.*

GLENBERVIE HOUSE, KINCARDINESHIRE.

The recorded history of this ancient family residence dates back to 730 A.D., and on the site of the present antiquated mansion stood a castle of unknown antiquity. The round towers, with their narrow slit-like windows, were built in less peaceful times than the present judging from the enormous thickness of their stone walls. On the lawn in front are two aged trees of the European Larch, reputed to be the first introduced to Scotland. One of them, with great spreading limbs, has suffered much damage from gales of wind. Close by are fine umbrageous trees of the Purple Beech, Tilia grandiflora, Norway Maple, and the Turkey Oak. A fine tree of Araucaria imbricata is feathered to the ground, and seems to enjoy its position.

The Hothouses.

With the exception of the conservatory, which is attached to the mansion itself, the rest of the houses are located in the kitchen garden, away behind some banks of closely planted and for the most part tall old trees—the Horse Chestnuts being especially fine, with long umbrageous arms that form a very effectual screen in summer. We had the pleasure of inspecting the place at the end of September last, and notwithstanding the cold and backward nature of the past summer, a mild and dry autumn had done much to wipe out the ill effects—at least, as far as flowers in the open air were concerned.

The conservatory was also gay with a variety of subjects, including tuberous Begonias, Begonia Weltoniensis, Alonsoa Warscewiczii, and early-flowering Chrysanthemums, amongst which Mons. G. Wermig or the Golden Madame Desgranges was flowering very effectively. The pyramidally-branched flower-stems of Campanula pyramidalis alba were very floriferous, and reached a height of 9 ft. or 10 ft. Phormium tenax variegata, or the variegated New Zealand Flax, was in fruit, with a flower-stem close upon 10 ft. high.

The greenhouse and Peach houses, from which the fruit had been gathered, contained a great variety of subjects, many of which were in full flower, including fine plants of Fuchsia fulgens, F. microphylla and the old-fashioned and first white variety in cultivation—namely, Venus Victrix. Passiflora cœrulea, Lapageria rosea, Habrothamnus elegans, Cobæa scandens, and Tacsouia Van Volxemii adorned the roof. The Silver Wattle (Acacia dealbata) is much appreciated, as it well might be, for its beautiful foliage and profusion of bloom in spring. Clematis Jackmanii in a pot was flowering freely, while another one named Lucy Lemoine is also highly esteemed. It succeeds C. indivisa lobata in spring, when it has fully double white flowers, succeeded later on by semi-double ones. The scarlet and yellow flowers of Lobelia lanceolata are interesting, although not very showy; but the double white flowers of Datura Kuighti, 1 ft. in length, showed a marked contrast. The great blue flowers of Lasiandra macrantha floribunda are also extremely beautiful, but rather fugacious. Camellias were healthy and well set with buds, while the American Myrtle (Eugenia Ugni) was well set with its palatable berries. Interspersed amongst the above were large plants of Rhopalostylis Baueri (Areca Baueri) and Ptychosperma Cunninghamiana (Seaforthia elegans), supplemented by Ferns, amongst which was the beautiful Athyrium Filix-fœmina Victoriæ.

The stove also contained its share of the more popular and useful flowering subjects. A neat and interesting rockery of white quartz had been constructed over the tank, concealing it with the exception of a small opening from which the water is dipped. Provision is made for plant growing upon it in the shape of small pockets, in which Begonias of the B. Rex type are planted, together with the trailing Saxifraga sarmentosa and Ficus repens. The roof was draped with Stephanotis, Clerodendron, and Allamanda Schottii. Other useful subjects were Ixora coccinea, Eucharis, and Hippeastrum reticulatum. The latter is frequently met with in gardens, but seldom flowers so freely as it did here. A moderate-sized piece of it developed eight scapes, with six or eight flowers on each. It was introduced from Brazil in 1677, and its evergreen leaves, with an ivory-white stripe down the middle, is familiar to most gardeners. The flowers are pink and white, beautifully reticulated with darker veins.

The vineries were well furnished with fruit, the varieties grown being Raisin de Calabre, Black Hamburgh, Foster's Seedling, Gros Colmar, Lady Downes, and Muscat of Alexandria, the best white Grape cultivated, and grown here under the name of Charlesworth Tokay.

Outdoor Gardening.

The kitchen garden, the borders of which are occupied with fruit trees and flowers, is situated in a sunny position facing south on a rather steep slope. The lower portion is somewhat shaded with trees, and in winter the sun sets rather early behind a round-topped hill of some considerable elevation; but otherwise the situation is sheltered and favourable to the production of fruit, flowers, and vegetables. As an instance of the lateness of the season, it may be stated that the Raspberries were still in full bearing on September 27th, while Green Peas and Cauliflowers were obtained up till December.

Pentstemons are here reckoned amongst autumn flowers, and very gay they were, together with single seedling Dahlias, Alonsoa elegans (used for bedding purposes), Chrysanthemum carinatum in many beautiful colours, and a long line of Lobelia splendens Victoriæ, with its bronzy blackish red foliage. Two hedges of Sweet Peas, in mixed colours and 9 ft. high, were both luxuriant and floriferous. Dianthus hybridus Napoleon III., forming a line about 250 ft. in length, was a glowing mass of brilliant crimson-red.

The season had been very unfavourable for subtropical gardening; but with the subjects in hand, and a more propitious summer, the results would prove far more satisfactory. Amongst the Abutilons utilised for this purpose were Yellow Perfection, Boule de Neige, Eclipse (crimson-red), Rosæflora, and the variegated A. Thompsoni. Other strong-growing subjects were Ricinus, Eucalyptus globulus, Datura quercifolia, Fatsia japonica, Yuccas, and the spiny Chamæpeuce diacantha with its beautiful milk-white variegation. These, if carpeted with some of the many suitable subjects that succeed in this northern latitude, are capable of producing a good effect, even in wet seasons, which act so prejudicially on ordinary bedding.

THE ROSE, THISTLE, AND SHAMROCK.

The Rose.

We are informed on reliable authority that the association of the Rose with our own country dates back to a very early period. The Roman writer, Pliny, doubted whether the name Albion referred to the white cliffs of our island, or the white Roses which grew there in abundance. Mr. R. Folkard informs us that in the reign of Edward III. a gold coin was struck called the Rose Noble, which bore the figure of a Rose on one of its faces. History records how this flower became celebrated from its association with the rival houses of York and Lancaster, and the Wars of the Roses, which lasted for a period of thirty years, during which time it is said that eighty princes of the blood, a large number of noblemen, and 100,000 common soldiers were slain. The House of Lancaster wore as its badge the Red Rose, or the Rose Gule, whilst that of York wore the White Rose, or Rose Argent. It was cause for great thankfulness when the war at last ceased, through the union of the two houses, by the marriage of Henry VII., of the Lancastrian line, to Elizabeth, heiress of York, and eldest daughter of Edward IV. There is a tradition that at the time when Henry's marriage united the contending houses, a Rose with white and red flowers first bloomed, intimating the fact that the two opposing forces were now blended, and this Rose was in consequence called the York and Lancaster. There was, says the tradition, then growing in the garden of a certain monastery in Wiltshire one particular Rose bush, which during the troubles of the land had, to the amazement of the beholders, borne at once Roses red and Roses white. About the time of the marriage all its flowers blossomed forth with petals of red and white mixed in stripes. People came, as one would expect, from all the country round to see the wonder, and hailed it as a joyful omen of future peace and harmony. Probably it was at this juncture that the Rose became more particularly the national emblem of England.

The Thistle.

Respecting the origin of the Scotch badge of the Thistle, tradition supplies us with an interesting narrative to account for its adoption. It is said that the Danes thought the habit of making attacks upon the enemy at night unwarrior-like, but that on one occasion they deviated from their rule, and as it turned out, the breach of principle proved a costly thing. They were creeping noiselessly and unobserved towards the Scottish camp, when suddenly one of the soldiers set his bare-foot upon a Thistle. The sharp prickles entered his unprotected flesh, and drew forth from him a sharp cry of pain. This was the signal for an alarm, the Scotch were aroused, fell upon the attacking Danes, and defeated them with terrible slaughter. Ever since that day it is said the Scotch have taken the Thistle as their insignia.

Another tradition of quite a different nature is sometimes given, and it relates that time was when a company of weird men, with high-crowned hats and doublets, met in solemn consultation within the walls of the old council-house at Edinburgh, and the subject of their deliberation was, so the legend tells, the desirability of placing the Thistle on their banner, instead of the figure of St. Giles, which had borne many a Highland storm for ages past, and had floated proudly over many a battle-field. This memorable council was convened about the middle of the fifteenth century, and hence the melancholy Thistle shortly afterwards became conspicuous on every banner throughout Scotland. It had previously been deemed the badge of the House of Stuart, where princes were wont to wear the Cluarall, as the Thistle was called in Gaelic.

But what is the Scotch Thistle? The Milk Thistle (Silybum Marianum), distinguishable by the milky venation of its leaves, which is supposed to have derived this characteristic from the milk of the Virgin Mary having fallen upon them, is asserted to be the Thistle of Scotland. The true Thistle is believed to be Onopordum acanthum (the Cotton Thistle), which grows by the highways, and as Mr. Folkard remarks, the flower cup and bristling leaves accord well with the motto, "*Nemo me impune lacessit*," which rendered in homely Scotch, means, "Who daur meddle wi' me?" The Cnicus acaulis, or Stemless Thistle, is by some regarded as the true Scotch Thistle, as it is said to accord best with the legend of the defeated Norsemen, and is, besides, the Thistle seen in the gold bonnet-piece of James V. Carduus acanthoides and C. nutans are by others supposed to be the "Proud Thistle emblem dear to Scotland's sons."

Sir H. Nicholas traces the badge of the Thistle to James III., for in an inventory of his travels Thistles are mentioned as part of the ornaments. Dunbar's poems are said to contain the first authenticated mention of this flower as the Scotch emblem. That writer lived from 1460 to 1520, and his poem, entitled "The Thrissel and the Rois"—in which, by the way, he gives the Rose the highest honour—was written in 1503, on the occasion of the marriage of James IV. to Margaret Tudor.

The Shamrock.

Ireland, in her turn, is represented by the Shamrock, which is said by some to have been selected by St. Patrick to prove to the Irish the doctrine of the Trinity. To understand the reference, it is simply necessary to state that the Shamrock is usually regarded as a kind of Trefoil or three-leaved plant. "It is certainly curious," says one writer, "that the Trefoil in Arabic is called 'Shamrakh,' and was held sacred in Iran as emblematic of the Persian Triads." In heraldry the Shamrock or Trefoil is the badge of the kingdom of Ireland, and St. Patrick, the patron saint of that isle, is represented in the habit of a bishop, holding a Trefoil—St. Patrick's Cross, as it is called by Irishmen. It is alleged, in reference to St. Patrick, that when on an evangelising mission in Ireland, he made the doctrine of the Trinity one day the subject of his discourse. Finding his hearers unable to understand it, he plucked a leaf of Shamrock, and used it as an illustration. So easy and simple was the application that their difficulties were removed, and they accepted Christianity. The great festival day of St. Patrick is held on the 17th of March, and whithersoever the Celtic propensity for emigration may have drawn him, he never forgets the renown of his patron saint, or the immortal Shamrock, which is the emblem of the Emerald Isle. On this account the Shamrock is sought after on the festival, and is worn by both peer and peasant.

As regards the Shamrock, Spinder, in his *View of the State of Ireland*, tells us that the Irish—"if they found a plot of Water-cresses, or Shamrocks, there they flocked as to a feast for a time." This was the Oxalis acetosella, or Wood Sorrel. *Gerard's Herbal*, published in 1633, under "Meadow Trefoile," says it is called in Ireland Shamrock; and another author lately says:—"Trifolium repens—Shamrock: This is the plant, we are told on good authority, still worn as Shamrock on St. Patrick's Day; although Medicago lupulina, the common Black Medick, or Lucerne, is also sold as Shamrock." In 1699, Edward Lloyd, the celebrated antiquary, writing to Tancred Robinson, says, "Their Shamrug is our common Clover." Thulkeld, the earliest writer on the wild plants of Ireland, gives "Scainer oge"—young Trefoil—as the Gaelic name for

white Clover, and says expressly this is the plant worn by the people in their hats on St. Patrick's Day; while the Gaelic name for Oxalis, by Thulkeld, is "Scalgan."

What is generally worn in county Cork, &c., is the Trifolium filiforme, the common Suckling Clover. It grows in thick clusters on the tops of walls and ditches, and is found in abundance in old limestone quarries in the south and west of Ireland. Since the days of St. Patrick, the Shamrock is supposed to contain some inherent charm, and may be considered as the early ecclesiastical insignia of the "Island of Saints." The leaves are also said to be typical of faith, hope, and charity. "And yet," as an Irish newspaper has observed, "notwithstanding all the virtues associated with the modest plants, the wearing of it is too often made the pretext for bacchanalian orgies."

The plant which is figured upon our coins, both English and Irish, is an ordinary Trefoil. Queen Victoria placed the Trefoil in her royal diadem in lieu of the French *Fleur-de-lis.—R. D.*

SPECIMEN TREES AT CHISWICK HOUSE.

The fine old trees to be seen in the grounds at Chiswick House, at present occupied by the Marquis of Bute, give evidence not only of the hoary antiquity of the place, but also of the suitability of the alluvial soil of the Thames valley for the many kinds of trees belonging to widely diverse natural families. The undermentioned measurements for the height of trees were ascertained by means of Kay's Dendrometer, so that the calculations are not mere guess-work made by the eye, as heights are frequently given. Of the commoner kinds of trees there are many that approach the heights given below, and there are other specimens worthy of notice had time permitted of the measurements being taken.

In the immediate neighbourhood of the house itself, both on the north and south sides, the huge Cedars of Lebanon at once claim attention. Of four trees measured the tallest was 85 ft., with a girth of 14 ft. 3 ins.; but another tree was notable for the enormous spread of its branches, amounting to 102 ft., while the trunk girthed 17 ft. 4 ins. at 3 ft. from the ground. Cedrus Deodara, planted in 1864 by Garibaldi, is now 38 ft. high, and supposing it to have been 2 ft. high when planted, it would have grown, on an average, 18 ins. every year since. The Tulip Tree (Liriodendron tulipifera) close by forms a clean straight trunk, running up to a height of 77 ft., and girthing 8 ft. at 4 ft. from the ground. A Catalpa, 43 ft. high, has been destroyed by wind, otherwise it would have been much taller, judging from the trunk, which girths 8 ft. 3 ins.—a great thickness for this tree. The Ginkgo Tree in the flower garden is 57 ft. high, girthing 6½ ft.; and the Kentucky Coffee Tree (Gymnocladus canadensis), although in a rather unfavourable position, is 49 ft. high.

The tallest trees are unquestionably the English Elms, but many specimens of Beech and Lime (Tilia vulgaris) bear hard upon them. A tree of the Elm (Ulmus campestris) measured 122 ft. high, with a girth of 12½ ft. Against this we have Beeches 100 ft. high; Lime, 106 ft., with a girth of 13 ft. 8 ins.; and the Scotch Pine (Pinus sylvestris), 90 ft., with a girth of 8 ft. 9 ins., having a clean straight trunk. Bulky specimens of the Wych Elm, with long, pendulous, spray-like branches, and growing near a pond, have solid stems, one of which measured 15 ft. 10 ins. in circumference at 4 ft. from the ground. A tree of the common Oak (Quercus pedunculata) runs up to the height of 85 ft., and girths 14 ft. 3 ins. Where planted in proximity, there can be little doubt that there has been a rivalry between many of these trees as to which would get uppermost for the sake of the light; but at the same time they have well-developed trunks containing many cubic feet of timber.

A fine specimen of the common Walnut (Juglans regia) stands 73 ft. high, with a rugged and gnarled trunk girthing 13 ft. 10 ins. The true London Plane, which is the Maple-leaved variety (Platanus orientalis acerifolia), measures 65 ft. in height, with a girth of 10 ft.; but the typical form of the tree (P. orientalis), which is far less common in any collection, runs up to a height of 66 ft., with a circumference of 14 ft., and a spread of branches of 90 ft. It is doubtless one of the best trees of its kind in the country, as it usually forms a broad spreading head of no great height. Two other of our native trees besides the Oak, Beech, Elm, and Scotch Pine mentioned are good samples of their kind—namely, the Hornbeam (Carpinus betulus), the stems of some trees girthing 8½ ft., and the Bird Cherry (Prunus Padus), which is 48 ft. high and 6 ft. 7 ins. in circumference. In a sheltered part of the ground on the south-western boundary is a fine specimen of the Holly Oak in first-class condition, with the intense green colour of the foliage more distinctly brought out by the nakedness of the surrounding trees. It is 53 ft. in height, girthing 13 ft. 2 ins. near the base, but branches at no great height, forming a broad spreading head with a diameter of 60 ft. At some distance from this, on a flat expanse of grass, is a beautiful spreading tree of the evergreen Lucombe Oak, but neither in age nor in dimensions can it be compared with the Holly Oak just mentioned.

NOTES ON FRUITS.

Rejuvenated Foxwhelp Apple.

Much has been said from time to time concerning the degeneracy of old and well-known Apples, but few, it would seem, make any regular or determined efforts to rejuvenate those kinds that are said to have become diseased or constitutionally almost worn out. That it can be done is stoutly maintained by those who have undertaken the task. The Rejuvenated Foxwhelp is said to be simply the Foxwhelp mentioned by "R. D." (p. 306), with a greatly improved vitality and an increased luxuriance in the growth of the tree. The fruit is broader than long, whereas that of the old Foxwhelp is longer than broad and more inclined to be oblong. Some are inclined to doubt whether it is the same old historic variety or a different thing altogether, because the cider made from it is more sweet and luscious than that made from the old variety. Against this it is contended that the true flavour of the Foxwhelp Cider never becomes properly developed till the trees become old, and that the cider obtained from young trees does not possess the true Foxwhelp flavour so much esteemed. The rejuvenescence of the trees has been effected by a process of grafting and re-grafting on healthy young stocks, commencing with seedlings of the old Foxwhelp. Healthy grafts as well as stocks are matters of great importance, to which more attention should be given than is often the case.—*F.*

NOTES FROM SCOTLAND.

Scottish Horticultural Association.—At the ordinary monthly meeting of this association, held on the 8th inst., Mr. Alexander Milne presiding, there was a large attendance, and Mr. Colin J. Mackenzie, Warriston Nursery, read a paper on "Decorative Palms," in which he described some specimens that were found most serviceable wherever plant-grouping for effect was aimed at. Palms generally, he contended, were a useful class of plants, without which no decoration of any importance was complete. In the course of his remarks, he observed that there was in the Royal Botanic Garden a collection of Palms of rare beauty, and the like of which could not be seen anywhere else in Scotland. By this fine collection, which included many grand and notable examples, the cultivation of Palms throughout the country had been greatly stimulated, and it was matter for congratulation that the Botanic Garden was to remain as at present, and not to be handed over to the custody of the University authorities.

Mr. Mark King, Bonnington, made a communication on "Nature Seed Sowing," remarking at the outset that there were two modes in which plants might be propagated—the vegetative, in which a portion of the mother plant containing a leaf-bud was placed under suitable conditions to make it develop into an individual in every respect resembling the mother plant, and the reproductive by the agency of seeds. Alluding to the dispersion of seeds, he said that attention had lately been drawn to Spanish plants growing on the banks of the Water of Leith between Currie and Colinton, due to the introduction of their seeds with Esparto Grass, now extensively used in the manufacture of paper. Australian plants have been gathered on the banks of the Tweed, their seeds having been brought from the Antipodes adhering to the wool employed in the manufacture of cloth in Border towns.

Mr. Robertson Munro submitted the views of Mr. John Arthur, Carlisle, on the "Culture of the Tuberose." Treating of the question of cultivating Tuberoses in "bottom heat," Mr. Arthur did not wish to assert that they could not be grown by this means, but he held that when Tuberoses were reared in that way the quality of the flowers was much inferior to those which were allowed to get well established before forcing was attempted. Besides, the percentage of flowering bulbs was far greater when grown by the latter method. Indeed, experience had proved that "bottom heat" was unnecessary, and that all who had an ordinary greenhouse might not only grow Tuberoses, but find in them a capital substitute for such choice flowers as Stephanotis and Gardenias, which were only within the reach of those who could command a stove temperature all the year round.

The thanks of the Association were awarded to those who had contributed papers. Among the exhibits on the table was a beautiful collection of Chrysanthemums of various colours, sent by Messrs. R. B. Laird & Sons, West Coates Nursery. The chairman called attention to the International Chrysanthemum Exhibition, proposed to be held in the city in November next, under the auspices of the Association, the object being to commemorate the introduction of the Chrysanthemum a century ago. On the motion of Mr. Hugh Fraser, Leith Walk Nurseries, seconded by Mr. Robert Morrison, it was unanimously resolved to do everything possible to make the Exhibition thoroughly successful.

Pruning Fruit Bushes.—We note the opportune remarks of your correspondent on Gooseberries (p. 291), and though the paper points to what is of great moment in pruning every kind of fruit tree, it is not likely to induce older hands, who have long travelled in one beaten rut, to change into a wiser system of keeping their bushes rejuvenated by a systematic method of leaving young growth in the bush in proportion to that which has been cut out. Nay, they are often found to hold up such common-sense practice to ridicule, and charge their more advanced neighbours—as we heard a very "learned" highlander do those with whom he differed—"with ignorance and want of knowledge combined." Surely such an one must have been far gone! We have, however, seen many advanced men go to the opposite extreme, and allow their bushes to become so crowded that the heavy crops which they bore annually could scarcely be gathered because of the density of the bushes on which the fruit grew. Our own system—after trying every method of pruning (not merely for a season) likely to ensure the most valuable returns—has been to yearly cut out a number of the more stunted old branches, leaving the strongest and best placed young shoots to keep up the bulk and form of the bush, giving liberal supplies of manure after removing the surface soil for a yard or so over the roots. By thus concentrating the best roots the bushes can be easily lifted, transplanted and well mulched—a practice we have always found attended by the best results, labour being reduced and fruit increased in size and flavour. For gathering the crop green for market extra quantities of wood may be left with impunity, but to get fine large fruit of first-rate flavour, when ripe we allow sun and air to enter the bushes, which should always be in full vigour, with a fair proportion of wood from the previous year's growth in full bearing. Currants, Apples, Pears, and even Vines are not averse to changing of shoots for young ones.—*Caledonian.*

Presentation to Mr. A. M. Byres.—The secretary of the Royal Horticultural Society of Aberdeen (Mr. A. M. Byres) was, on Tuesday evening, the 8th inst., presented in the Douglas Hotel, Aberdeen, with a beautiful silver tea and coffee service and tea-tray, together with a lovely bouquet for his bride, on the occasion of his approaching marriage. Councillor Lyon, late chairman of the acting directors of the society, in an eulogistic speech, made the presentation, and assured Mr. Byres of the hearty good wishes of the members of the society for his future happiness and welfare in the new sphere he was about to occupy. Mr. Byres feelingly replied on behalf of himself and his bride. The healths of the young couple having been enthusiastically pledged, the remainder of the evening was spent in a most enjoyable manner. The bouquet was supplied by Messrs. James Cocker & Sons, Sunnypark Nursery, Aberdeen, its tastefulness and beauty being greatly admired by the many members of the society present, who one and all considered it to be one of the best arranged they had ever seen. The silver tea and coffee service bore an appropriate inscription.

Royal Horticultural Society of Aberdeen.—The prize schedule for the grand Floral Fête to be held in the Duthie Public Park, Aberdeen, under the auspices of this society, on the 22nd, 23rd and 24th August next, has just been issued. There are in all 236 classes and 708 prizes. The special prizes, of which there are 20, consist of silver cups, silver medals, &c. The money prizes amount to nearly £150. The special features will be the large table of plants, bouquets of wild flowers by boys and girls under sixteen, working-class window flowers, &c. A large number of hon. vice-presidents and hon. directors have been added, and the appeal for donations has been well met.

FLORICULTURE.

The Swanley Primulas.

Mr. Cannell's enterprise happily saved the National Chrysanthemum society's mid-winter show from comparative failure. Were a few other members of the trade to make as fine an effort the exhibition might soon become one of the most attractive of the year. The Messrs. Sutton & Sons did for one or two years send up grand displays of their fine Primulas, but they were absent last week, owing to the severe weather of a few days previously. It would have been indeed interesting to have seen the best of the Reading and Swanley trains in competition. Mr. Cannell, at least, has nothing to fear, for his strain seems to be one of the very finest and most varied in the kingdom; and we are compelled to say the same of the Messrs. Sutton & Sons' superb strains also. It is a case of Greek versus Greek, only unhappily for critics at a distance. Mr. Cannell cultivates his Primulas with marvellous excellence, and his flowers show gradual but still wonderful development. Even if the mid-winter show achieved no other good, at least it enabled many gardeners to see what grand forms of Chinese Primroses are being produced.

Some of the newer ones in particular were much admired, and three of them were selected for the award of Certificates. These were: Emperor Improved.—The foliage of this variety is of the ordinary type, but very robust, of a bronzy red beneath, with hairy, red petioles. The flowers are of large size, well thrown above the foliage, and of good substance, with a peculiar shade of crimson-red and a large lobed yellow eye. Eclipse.—The flowers of this new form are somewhat smaller than those of Emperor Improved, and of a brilliant fiery crimson, being quite distinct from anything in cultivation; a brownish crimson line surrounds the yellow eye. The leaves are ovate-cordate, but greatly elongated and deeply lobed. Beauty.—The rich warm pink flowers of this variety well merit the distinction given by the name, for they are indeed beautiful. The lobed yellow eye is surrounded by a white line. The flowers are well thrown above the foliage, which is of medium vigour and deep green, with green petioles.

Show Pelargoniums.

Fashion in horticulture varies, as in other things, and flowers that have been great favourites with the public lose their popularity after a time, and get elbowed out of favour. Such is the case of the show Pelargoninm. Such enormous strides have been made in the zonal section of late years, both in size of pip and truss, in the richer shades of colour, habit, and free continuity of blooming, that they have almost ousted the show Pelargonium from our greenhouses; probably because, in addition to their merits as bloomers, they are of easier culture, and do not become infested with that pest of the show varieties—green-fly. The show Pelargonium does not appear now at exhibitions, either in such numbers or in such quality as in years gone by, for the reason that, in this age of decorating, glass structures are so crammed with "something to cut from," that such subjects as these Pelargoniums rarely receive the space they require to produce good specimens, or sufficient ventilation to keep them strong, clean, and healthy.

At this period of the year the plants have had half their season, so perhaps I had better hark back some months before offering a few notes on their cultivation, as their season of growth commences from the "cutting down" period, rather than from the advent of the New Year. Well, after my plants had done flowering they were placed out of doors in an open position; but as last summer was so wet and devoid of sunshine, their wood took longer to ripen, and as they require little or no water at such a period they passed a good deal of their time laid on their sides, to prevent them getting saturated. They were cut down to within a few eyes of the current season's growth, and damped overhead — when bright weather did occur — with a rose-pot or the syringe. So soon as they had fairly started growing, and before the young growths got at all long they were shaken out, and the roots cut well back with a sharp knife. They were then potted into as small pots as they would reasonably go into, using a compost of light turfy loam, leaf-soil, and sand. They were then stood in a one-light box, received a good watering, and were shaded when requisite until root action commenced. Shading was then dispensed with, and ventilation was afforded to keep them from becoming drawn.

When fairly on the move they were stood on ashes out of doors, and carefully supplied with water, the aim being to keep them stocky, and to harden their growths for the approaching dull days of autumn and winter. They were in that position on the night of October 1st, when we had 7° of frost, which proved so disastrous to many Chrysanthemums; but fortunately I took the precaution to cover up my Pelargoniums, and the next day removed them to a shelf close to the glass in a Peach-house, where they received plenty of ventilation. Water was sparingly applied, in fact, they were kept rather on the dry side; all decaying leaves were removed, and all small puny shoots rubbed off, as it was preferred to have a few vigorous growths rather than a mass of weaklings. Towards the close of the year, as they were nicely rooted, they were transferred to their flowering pots, using turfy loam and sand; they were potted rather solid, and the soil being in good condition as regards moisture they did not require watering for a week or so, only a slight dewing overhead to freshen the foliage. They were afterwards removed to a light span-roofed structure, where they stand not far from the glass, air being admitted on all favourable occasions; a temperature of 40° is desired, with a little heat turned on when frost occurs.

When the shoots get longer they will require staking out neatly, and later on the least bushy will need stopping to make them so, as well as to produce a succession of bloom. Fumigate often to prevent green-fly. In propagating it is usual to put in cuttings of the ripened shoots at the time the plants are cut down, but, for my own part, I prefer to put in green cuttings in June; if these are inserted in fine sandy soil in the open border, dewed overhead morning and evening, and shaded, they will root as freely as zonals. When root formation has taken place and active growth commences they should be topped, and when they have started breaking take them up and pot them, treating similar to the old plants.—*Geo. Potts, Junr., Northiam.*

BRIDEHEAD HOUSE, DORSET.

Until quite recently the nearest railway station to this fine old Dorsetshire demesne was at Dorchester, some seven miles distant, and difficulty of access must, I take it, be set down as the reason why I have never seen the estate alluded to in gardening papers. Leaving Dorchester on a dry clear day early in the present month, I was delighted with the lovely hilly country through which we drove, and the beautiful scenery surrounding Bridehead House, the residence of R. Williams, Esq. Near the end of a well-kept carriage-drive, about a mile in length, the visitor arrives at the top of a hill overlooking the mansion, from which coign of vantage he gets such a view of hill and dale scenery, with glimpses of the sea in the distance, as is seldom met with. Though it was mid-winter, one could hardly realise the fact from the fresh green appearance of the hillside pasture, dotted with frisky lambs of the Dorsetshire Horn breed, many of which were born in November. These horned sheep are a characteristic and striking feature in the landscape, so different from what the hornless breeds afford.

The mansion stands in a low position, with a large sheet of ornamental water on the west side, and takes its name—Bridehead—from its situation at the source of the River Bride, which flows through the valleys and empties itself into the sea at Bridport. The ornamental grounds contain many examples of trees and shrubs of good dimensions. Evergreen Oaks do well here, so also does the Tree of Heaven, Weeping Elms, Weeping Beech, &c. Handsome young Conifers are also dotted about, and specially worthy of mention I noted a Thuiopsis dolobrata. Specially beautiful, too, are the well-sheltered borders, appropriately situated, of hardy plants, the large clumps of Tritomas, perennial Sunflowers, Lilies, &c., and the large beds of Ghent and other Azaleas, Bamboos, Kalmias, Rhododendrons, and other plants of a kindred nature. The old white Azalea indica does grandly in these mixed beds.

In another part are some well-filled beds of H. P. Roses, and here, too, are some poles clothed with climbing varieties, which afford a change, and must be beautiful to look upon in the summer. Other beds, again, are filled with hardy spring-blooming plants, such as the finer strains of Primroses, bulbs, &c. Close to the mansion is a small flower garden kept for ordinary summer bedding plants, which, however, are not used so extensively as formerly, the hardy perennials meeting with greater favour every year.

Leaving the pleasure grounds, we direct our steps towards the first kitchen garden, passing on the way a waterfall charmingly surrounded by trees and shrubs, and through a churchyard, which with its pretty church and neatly-kept surroundings, shows that the owner of Bridehead, at all events, is in sympathy with those who would make God's acre beautiful.

The first thing to attract my attention in the kitchen garden was a long border filled with herbaceous plants, bulbs, &c., many of which thrive here in a most remarkable way, such as Perennial Candytuft, Montbretias, Veronicas, Monarda didyma, Narcissus, Tulips, &c. From this boder Mr. Birkenshaw told me he could cut an abundance of flowers until frost came. Vegetable culture is specially well done here, the demand being a large one, and some three or fonr acres are under cultivation on the side of a hill facing the south. Here were large breadths of Brussels Sprouts, Cabbages of all sorts, varions kinds of Kale, a good strain of Green Curled Borecole, Broccoli, &c. Cauliflowers being over, Broccoli was in abundance; and I could see by the remains of a large patch of Snow's Winter White, that the stock (Veitch's) was a good one. This is truly a grand Broccoli when it can be got true to name — a difficult thing very often. Penzance Early White was the sort then in use, and very fine heads they were. This will be succeeded by Cooling's Matchless, Veitch's Spring White Leamington, and for the last crop Veitch's Model, which is very highly spoken of, as it keeps up the supply until the early Cauliflowers come in. With reference to the latter I may notice that the old plan of keeping a portion of the stock in small pots through the winter, is adhered to as being the best for getting early heads. The Celery crop was a splendid one, and only three sorts are grown. A strain of Major Clarke's Solid Red, of which Mr. Birkenshaw obtained a little seed from a gardener in Norfolk, who grows no other kind, and has kept his stock pure, surpasses any kind grown at Bridehead for the last fifteen years. So much for careful selection to keep stocks true. Beet and Onions are also good crops here, and I noted a fine lot of Sea Kale coming in under pots in the open quarter, covered with protecting material.

Fruit culture, both hardy and under glass, is also admirably carried out. The walls are covered with well-trained trees in splendid health, and a Plum wall with a south aspect is one of the finest I have seen. The trees from top to bottom are covered with close-set spurs, the result of very careful close pinching in summer. Pears do not do so well here as Plums, although there are some good trees of recent planting. Bush trees of many kinds of Pears are worthless, but many Plums do well as bushes, and so also do Apples. I noticed on one of the Apple trees a large bunch of Mistleto, which Mr. Birkenshaw got to grow by inserting some berries in a slit in the bark some four years ago. The bunch was most abundantly berried, although there is no other example in the garden. It may be worth while here to ask if the sexes are on different plants, or whether both grow on the same plant? [They are usually diœcious, that is to say, the sexes are borne by different plants, but a case was recorded nearly twenty years ago, of both sexes being found on the same bush; and this may be a more common occurrence than is generally supposed.—Ed.] Peaches are not now grown on the open walls, having been given up some years ago in favour of their cultivation under glass.

The glass accommodation is not extensive, though of a useful character. A long Peach-house in two divisions, erected five years ago, is now filled with some of the best trees of all the leading kinds it has been my good fortune to see. Amsden June is the earliest, and well thought of, and other favourites are Hale's Early, Sea Eagle, and Noblesse; and among Nectarines, Lord Napier and Pine Apple. There are two early vineries, one of which was closed preparatory to forcing at the beginning of the month; and two late ones, in one of which some extra fine Muscats were still hanging, good in berry and colour and first-rate in flavour. The roots are in a raised outside border, close up to the surface, and protected only by a little long stable litter. The plant houses are three in number, one being a stove containing some good Poinsettias, and the usual assortment of fine-foliaged and flowering plants; the second, a greenhouse with some good plants of Reinwardtia (Linum) trigynum, Cyclamens, Epacrises, and a good batch of Tea Roses just breaking into growth; and the third a small house for growing Ferns for cutting, &c. The pit accommodation is more ample, and in this department I noticed good batches of Eucharis, Pancratiums, bedding plants, Cinerarias, &c., also Asparagus, Carrots, &c., to be followed by Melons and Cucumbers—of the former High Cross Hybrid and the old Golden Perfection are

considered the best. The all-round good cultivation, and neat orderly manner in which every department is maintained, reflects great credit upon Mr. Birkenshaw, the gardener in charge, who is most liberally supported in his efforts by the owner of Bridehead.—*J. Crook.*

DAMPING IN CHRYSANTHEMUM BLOOMS.*

Damping of the blooms is one of the greatest annoyances Chrysanthemum growers have to contend with, for in a severe case damp steals over the blooms so suddenly as to do irreparable mischief in a few hours. What makes it more vexatious, is that it does not occur in the early part of the season when there might be time to secure fresh plants and so in some measure recover our loss; but comes after a season's labour and care have been bestowed on the plants, and those in charge are looking hopefully forward for satisfactory results to reward them for their patient and enthusiastic labour.

There are few cultivators of the Chrysanthemum whose experience extends over two or three seasons who have not felt the annoyance and perplexity which this damping causes, and as all good cultivators are enthusiastic and devoted to their plants it naturally leads them to try and ascertain the cause of this mysterious evil. Everything is thought out to try and find where in the past treatment of the plants cause may have been given for such bad results. The supply of stimulants, chemicals, the drainage of the pots, and ventilation, are all reviewed in order to find where culture may have been wrong or unsuited to the plants, in order to avoid those bad results in the future.

In my own experience I have not suffered more than others, not so much as many have, but I have considered there are two forms of damping. One form damps from the base and centre of the florets, gradually stealing over the bloom until it is useless; and in the other, the bloom is suddenly affected at the upper part, and presents the appearance of having been scalded with hot water.

In the first form my opinion is that it is chiefly caused by overfeeding and overwatering. To obtain the highly developed blooms we meet with in the prize stands at the exhibitions, it is necessary to assist them with manure, either in a liquid state from the farmyard, or some of the various chemical compounds to be had at the present day. While the plants are growing, manure judiciously applied is of great benefit to build up vigorous plants, especially when the pots are full of roots and there is little danger of turning the soil in the pots sour. At the approach of autumn—say the middle of September—the buds have all been taken, some perhaps five weeks, and the wood having become hard up to the buds, a few of the earliest will be showing colour. Owing to the heavy dews we have at this season the plants are unable to take up so much water as they have been accustomed to, and also partly because they are not making growth. But strong manures are continued at this stage to obtain size and substance in the florets. In my opinion they are necessary to bring the blooms to perfection, although we may lose a few, especially in the case of varieties that are especially susceptible to damp. But I think care in watering the plants will reduce the evil to a minimum. By careful watering, I mean by applying water only when needed. If water is applied at this stage when the soil is wet, and especially if the air is charged with moisture, the plants cannot find an outlet for the superfluous moisture, except in the most tender part of the plant—the bloom—leading with the first adverse weather to the decay of the florets, called "damping."

In the second form of "damping," the worst case I remember occurred about three seasons ago. We had a few days very hot and bright, succeeded by a sudden change to wet with a little fog; it was about the third week in October, and the early blooms damped most severely at the time. I well remember there was a general lament amongst the growers at the Floral Committee meeting we had a day or two after. But having another favourable change in the weather damping stopped, and in fact, I may say we were free from it for the rest of the season. As a grower I have had to guard against earliness, my plants having a tendency that way. Consequently, when housed, I used no fire heat while the weather kept favourable. When the atmosphere was not overcharged with moisture the blooms appeared all right, but with rain or fog suddenly setting in the chief damp occurred. The fire would then be lighted and the pipes kept constantly warm, more or less according to the weather, but the fire was out at no time except on the morning of a bright day, to be lighted again in the afternoon. From the time the firing was commenced there was a reduction in damping. This leads me to conclude that the atmosphere and the sudden change of the same have much to do with the damping, and especially where the blooms are suddenly affected.

Fire-heat dispels the stagnant moisture and causes a buoyant motion in the air favourable to keeping the blooms. Where fire-heat is first applied and blooms are opening, take great care to keep the house well ventilated, and let the pipes warm gradually, or the sudden heat might cause a great quantity of moisture to ascend, and then be condensed on the blooms, thus aggravating the evil it is intended to cure.

Numbers of early blooms were lost this season through a kind of damping of the lower florets, which faded in the way a bloom would through age, although these had, perhaps, not finished their centres. I believe this is attributable to the foggy weather we had at the time, for with drier weather a great improvement at once became apparent, although I think blooms generally did not have the staying powers of an average season when we had more sun. I think this season the Chrysanthemums have suffered with most other plants. As this is such a very exceptional season, I need not dwell on this matter, for after all, our efforts are feeble without that prime agent, the sun. In conclusion, whilst I think where high feeding is carried on for the production of high-class blooms, damping will be present to some extent in most seasons, I think the best safeguards against damp are careful watering and ventilating, a dry and airy atmosphere, avoiding as much as possible all sudden changes, and by the frequent use of stimulants rather than by strong doses occasionally.

*Read by Mr. C. Gibson, Morden Park Gardens, Mitcham, at the National Chrysanthemum Society's Conference, Jan. 9, 1889.

Odontoglossum crispum, var. leopardinum.

Odontoglossum crispum Bickleyense.

TWO BEAUTIFUL ODONTOGLOTS.

The illustrations we give are those of two very choice forms of Odontoglossum crispum, the most popular and widely grown species. That on the left is O. c. leopardinum, or leopard-spotted, a title it well merits on account of the profuse spotting that marks every organ of the flower. The ground colour is pure white, setting off the blotches, which are of a rich chocolate-brown, to the best advantage. The petals are jagged, as shown in the illustration; but the latter scarcely shows the beautiful fringing all round the margin of the lip. The crest is prominent and yellow, while the white column is furnished with curiously fringed wings. The figure on the right is an illustration of O. c. Bickleyense, which, while it shows a few incisions on the margins of the petals, is altogether distinct in the blotches, as well as in the ground colour, from those of O. c. leopardinum. Both are now flowering in the collection of H. M. Pollett, Esq., Fernside, Bickley, under the care of Mr. Parkes, the gardener. O. c. leopardinum bears seven flowers on a spike, but O. c. Bickleyense, which was shown at the Drill Hall, Westminster, on Tuesday last, bore ten flowers on a spike about 30 ins. in length. The pseudo-bulbs and leaves were strong, healthy, and well developed. The ground colour of the sepals and petals is of a pale lemon-yellow, almost white, and are heavily blotched with cinnamon-brown in the manner indicated by the figure. The lip is of a deeper yellow, blotched with chestnut-brown and fringed at the margin.

The Amateurs' Garden.

Calceolarias.

Wherever these are being wintered they should be kept as cool as possible, airy and near the glass. They are so nearly hardy that coddling does them great injury by drawing the stems and leaves. If not already in their flowering pots they should be potted off without delay, at least all the more forward of them, using a compost of good fibrous loam, leaf-soil, a quantity of good well-rotted manure, and sufficient sand to render the whole porous and open. If the soil used be in a sufficiently moist condition no watering will be required for some days, during which time the roots will have made some fresh action.

Show and Fancy Pelargoniums.

In order to secure a good display of bloom, the plants should receive their final shift now. Where early flowering is intended the plants have been placed in their largest sizes some months ago—say in October. In both cases considerable attention will have to be given in the matter of training during the winter months, as the shoots soon become crowded and drawn. In addition to the looping down of the shoots more room will be required between each plant, and all should be placed in the most advantageous position with regard to the light. Shoots becoming drawn and lanky now should have their tops pinched out.

Chinese Primulas.

Those who raise their own seedlings must always derive great pleasure in watching the blooms as they expand for any that may appear of high quality. Great strides have been, and continue to be effected in this beautiful class of plants, and the collection of even ten years ago are poor in comparison with the best collections to be seen now. Their culture is also yearly being better understood by a larger class of growers. Like everything else they are found to be worth growing well. In cool greenhouses they require very careful management at this cold or wet season to prevent damping at the collar—that is, where the plant springs from the soil. This does not imply that the plants should be starved, but merely that water should be given only when the soil in the pots gives evidence of requiring it. Manure water should, however, be given, or some of the artificial manures recommended, when watering is done, and a greater amount of bloom will repay this extra trouble.

Hyacinths, Tulips, and Narcissi.

The stock of these bulbs, which are at present plunged in ashes or coco-nut fibre, should be occasionally examined to see what progress they have made. If the flower-scape and leaves have pushed some way, they should be uncovered immediately, and to prevent them from damping off, should be removed to the greenhouse and placed on a shelf near the glass, where they will have plenty of light, and be immediately under the eye, so that water may be given if necessary. At present, however, and until considerable growth has been made, very little watering will be required. None will be necessary immediately after they are taken indoors, and the condition of the soil, on close observation, will best indicate when moisture is wanted. The foliage at first will present a blanched appearance, and should bright sunshine occur, a small inverted pot should be placed over their crowns for a few days until the foliage assumes its wonted green appearance. The more forward of them may be placed at the warmer end of the house, in order to hasten them while the others are retarded for a succession.

Pruning the Vine.

Whether grown against a wall out of doors or under glass, the fertility of the Vine is generally much impaired by the allowance of a superabundance of young wood. This is especially felt under glass, where the leaves crowd one another to such an extent as to prevent the wood from becoming properly ripened. What should be done at this time is to prune back all the lateral shoots to one or two buds at the base of each, leaving only the old rods, except there may be room to train on a vigorous young shoot to form a new rod. The wood should be thoroughly ripened now, and if pruning is done when the Vines are at rest, there will be no risk of bleeding when the sap begins to rise.

Cuttings of Gooseberries and Currants.

These should be taken off about 12 ins. or 14 ins. in length, according to the strength of the shoots at command. In the case of Gooseberries and Red and White Currants, every bud at the base of the shoots for distance of about 8 ins. should be removed with a sharp knife, to prevent them from throwing up suckers after they have become established, and are forming bushes. The first 5 ins. of the cutting is necessary to fix it firmly in the ground, the next 3 ins. or 4 ins. to form a stem clear of the ground, and the remainder to form a head. In the case of Black Currants, the throwing up of suckers from the root is a matter of less importance, and, in fact, the bush is sometimes renewed in this manner when it happens to get broken down with snow, or ceases to bear freely on account of the age of the bearing shoots.

Heating, Watering, and Cleaning.

In reply to the numerous applications for information which we have received of late from inexperienced cultivators, especially of the amateur class, we would beg space for the insertion of some amenities of practice for the benefit of the class of friends referred to. One, rather an acute old hand in many respects, was in a dilemma regarding the firing of a new greenhouse which lately had been erected. He put on strong fires at night with the view of expelling damp. Now, we are all ready to admit that firing is necessary for more purposes than keeping a desired temperature, but that cannot be done if used at night while the atmosphere outside is cold and damp, when the structures must remain closed. Death to the plants and waste of fuel are the evils which must ensue under such practice. To expel damp we raise the heat in the pipes early in the day, increasing the passage of air through the house as the temperature rises. Towards the close of the day the pipes should be allowed to cool, and the ventilators may be shut, the air being continued at the apex of the structures all night. When the weather is severe the temperatures under glass should be kept at their minimum height—40° or a little less is safe for all plants suitable for cool houses.

Watering is a real difficulty with the inexperienced amateur, and when subjects, such as Heaths and many New Holland plants, die off suddenly, too much water has often the blame; but an examination of the ball of soil would soon prove that the precious liquid had been badly applied, and, perhaps, given in stinted proportions, the upper portion of the soil, where the roots are in smaller proportion than at the base, being merely moistened. We have seen plants which have been raised in nurseries and tended with great care and skill brought home by purchasers and placed in their glass structures, and in a week or two they were sickly and dying—quite beyond recovery. Heaths and New Holland plants generally are liable to destruction in the manner indicated, therefore it is imperative that well-rooted plants should have enough of moisture when it is administered or none at all. The "little and often" system is mischievous in the extreme, both in summer and winter.

Another item of malpractice is allowing insects and dirt to have part or lot in the matter of plant or fruit growing. Where such exists without giving pangs of horror to the cultivator, the sooner he gives up his voluntary or professional work the better; for if a practical man can tolerate vermin with impunity (having the means to eradicate them), it is a sure sign he has embarked in the wrong vocation. The present is a proper time for cleaning glass structures, by washing every part with soft-soap, and the surface of the soil in plant or fruit houses should be renewed with fresh material.—*Caledonian.*

THE SUCCESSFUL GARDENER.

In gardening, as in all other professions, there are men who enjoy almost unbroken success in all they undertake, and, in time, amass a respectable fortune. Others seem only to meet with misfortune, although apparently as well situated, and having all needed requirements to properly conduct their business, including perhaps, also, a fully equipped range of greenhouses, and withal a thorough business education, coupled with an extensive botanical knowledge of plants and plant life.

The inexperienced may have difficulty to account for this diversity, but not the successful plantsman. Fully appreciating, as he must, the importance of a good education including, if possible, botany, he is yet alive to the fact that his success is due to the strict attention he has always given to detail in his business, and particularly to the watchful care he has bestowed on his plants. Such a man when he sees others always in trouble over hard luck with their seeds and plants, rightly attributes this nine times in ten to carelessness.

It appears strange that any man depending upon plants or their products for a living would knowingly allow them to suffer, even die, for want of proper attention, yet this is constantly occurring. We have all known men, well equipped in all essential respects, to meet with shameful failure simply because they were careless in the many little points recognised as vital by the successful cultivator.

Among the matters of first importance in gardening are proper care in seed sowing, the potting of plants, the temperature of the houses, the prompt destruction of insects, and most important of all, the judicious watering of plants. What does the ability to name and classify plants, to know their seeds, to explain the grand plan by which vegetables propagate themselves, and to understand their heat and moisture requisites amount to, if we then fail to apply this knowledge to all proper details, and with necessary uniformity?

What if a man becomes so expert at potting plants, that he can pot thousands while his neighbour pots only hundreds, if after potting he allows them to suffer tortures from neglect as well as from the ravages of every known insect enemy?

I recall to mind at this moment an incident of such a kind which came under my direct observation recently. One of our men had in charge the sowing and care of some Primula seeds. When the young plants should have appeared it was found that all the seeds were dead; that inattention was the cause of failure was denied by the man. More seed was obtained from the same lot as the first, and which I knew had germinated freely with other growers. I gave the seed to the man, warning him that Primula seed is almost certain to perish if allowed to suffer from drought during the germination stage. Naturally I was on the outlook, and one day, at the most critical time, found the Primula soil quite dry. I had it promptly watered, but it was too late, and only a few seeds started. Here was an instance of carelessness, for the man has had an extensive gardening education.

Understand me, I am an earnest advocate of a thorough education for the gardener, including at least the rudiments of botany, and earnestly urge all young men to include it amongst their studies. But what I wish young gardeners to especially heed are those apparently little things so easy to learn if attention is paid to them, and yet for some far harder than whole vocabularies of botanical names. Let him turn to some of his successful neighbour gardeners to be found everywhere, yet who do not profess to be gardeners. They have learned a few of the first principles of plant culture perhaps, and they practice them faithfully. They watch their plants as they do their children, discovering immediately, as far as their knowledge goes, their every want. Experience brings with it knowledge. In all operations they exercise care, and success is the reward.

Young gardeners, learn to do all things well, and do them with your whole might. If then you are in love with your profession you will soon learn much about it; if you are not in love with it give it up as soon as you can secure anything else to do, for the chances are that you will never make a successful gardener.—*James Currie in Popular Gardening.*

Gardening Miscellany.

Dwarf Poinsettias.

I have read several articles on the cultivation of Poinsettias during the last few years, but do not recollect having seen anything about a late system of potting which has been practised with much success by myself and two other gardening friends. The cuttings are struck in thumbs during April and May, potted on into 3-in. pots, and when established are removed to cold pits, where the plants are encouraged to make a sturdy short-jointed growth by giving air in abundance (tilting the lights at the back) on all favourable occasions. Watering must be closely attended to, but never syringe overhead, because it induces the plants to make a long sappy growth. They remain in the 60-sized pots until September—in fact, until it is no longer safe to leave them in the cold pits; and when housing, we re-pot them into 48, 40 or 32-sized pots, as may best suit the purposes of the cultivator. As the bracts are generally being formed at this time, instead of the plants making a long growth when introduced into a little dry heat, the stems thicken up, and growth is otherwise concentrated in the bracts. I have never

seen plants so dwarf, with correspondingly large bracts, as when grown on this system. The compost used is loam, leaf-soil and a little rotten manure. If any of your readers who require dwarf plants for decorative purposes have never tried this plan of late potting, I advise them to do so, and report through your columns.—*S. P., Chelmsford.*

Lilium polyphyllum.

In August, 1887, you printed a note from me on Lilium polyphyllum blooming in our Wisley garden, with thirteen flowers aud buds on a stem 5 ft. 5 ins. high. I asked for information from any reader who had seen the Lily flowering at home in India. Several of your readers were good enough to give their experience. I have just received some additional information on a card from Mr. Griffith, of Katagir Nilgiris. He says, "You mention having thirteen blossoms of L. polyphyllum on one stem; I have never here had more than three, but another correspondent to whom I sent bulbs tells me he has had nine fine blooms on a stem. L. polyphyllum likes to be covered with snow for two or three months in the year, and here they only bloom as it were under protest, though they grow well if protected from sun. Mr. Huftelen, of New York, tells me also one of my L. polyphyllum bulbs gave him nine blooms on a stem." I showed the stem of our Lily at the Scientific Committee meeting on November 8th, 1887.—*George F. Wilson, Heatherbank, Weybridge Heath, January 12th.*

A Veteran in Horticulture.

No man is better known amongst horticulturists in the midlands than Mr. Henry Pope, who a great many years ago started as a nurseryman at Gib Heath, or as it is now called, Nineveh, Birmingham, and subsequently went to King's Norton, establishing a large nursery there, now carried on by his son, Mr. John Pope, the father having retired from the business, though still active and genial, and enjoying excellent health. Spending a few hours with him recently, he showed me a memorial card in memory of a celebrated landscape gardener in the midlands, Mr. William Lunn, who died September 12th, 1857, aged 72, and was buried in the old cemetery, Birmingham. Mr. Lunn designed and carried out the work in the formation of the well-known and celebrated gardens at Alton Towers, and other gardens. Mr. Pope is the oldest living representative of a very celebrated nursery firm, which ceased to exist nearly forty years ago. Pope's Handsworth nurseries had a great reputation for their very complete collection of hardy plants especially. The founder of these nurseries was a Mr. Luke Pope, the grandfather of the present Mr. Henry Pope, who possesses a superb oil painting portrait of the founder, holding in one hand a plant of Correa speciosa.—*D. S.*

The Mentone of England.

In continuation of my note at p. 295, I may say that no garden in Parkstone seems to be complete without a plant or plants of some of the varieties of Euonymus, which grow magnificently here. A specimen of E. latifolia variegata about 4 ft. high and 3 ft. through has greatly taken my fancy. Coronilla glauca, which has seen at least one or two winters in the open air, is flowering finely. The lemon-scented Verbena (Aloysia citriodora) may be seen in several places nailed to walls, and I am told it is perfectly hardy. Chrysanthemums have been looking wonderfully well considering the trying season. Boule de Neige has been most noticable for its fine free-flowering habit and bushy growth, and another variety which has interested me is Sœur Mélanie. We have two beds of this sort, and the plants are flowering all up their stems, almost every eye developing into blooms, with stalks about 2 ins. long. Fair Maid of Guernsey has also given us a few blooms in the same way. This I am not surprised at, but I have before found it difficult, with Sœur Mélanie, to get one good crop off. The climate being humid and the season mild, I presume started them into a second growth.—*E. Warden.*

Science and Practice.

Our scientific contemporary *Nature* draws attention to a curious conflict between theory and practice, which deserves to be generally studied by farmers. During the last few years of agricultural depression there has been a great deal of talk about the best means of rapidly converting cultivated land into permanent pasture, and discussions have been raised as to the respective merits of various kinds of grass and clover. Up till a few years ago the grass generally employed in greatest abundance was the kind known as common Rye-grass. But it was denounced by some agricultural theorists as a short-lived and inferior kind, foisted upon purchasers by the seedsmen because of its cheapness and rapid growth. However, many persons still noticed that it was very abundant in good natural pastures, and therefore persisted in its use. Last year Professor Fream, of the Downton Agricultural College, put the question to the test. Upon the principle that the proof of the pudding is in the eating, he obtained sods from twenty-five pastures of proved and acknowledged excellence. These were planted in the botanical gardens of the College, and last summer the herbage on each was cut and carefully examined. In twenty-one cases the despised Rye-grass was far the most abundant of all grassy constituents, and in a similar way White Dutch Clover was the commonest of other plants. One specimen of choice Herefordshire pasture contained nothing but these two plants. As *Nature* remarks, the obstinacy of the practical men who went on sowing such seed in spite of the warning of those who should have known better has been most fully justified.—*Daily News.*

Azalea amœna calyciflora.

Like the type itself, this variety was introduced from Japan, and proves a most useful subject for forcing, as it requires very little encouragement to bring it into flower. It is an improvement upon the type from a decorative point of view, because although the calyx is enlarged and coloured in the latter, it is surpassed by A. a. calyciflora, where the calyx is equally as large as the corolla. Both are larger than in the type, and of a beautiful soft salmon-red, with pink stamens projecting from the centre. The flowers may therefore be described as hose-in-hose, and are produced with the same freedom as on the ordinary and better-known form of the plant. The leaves are rather larger than those of the parent, and of a deep shining green. A good-sized plant is flowering in the conservatory at Tower House, Chiswick.

Peperomia Saundersii.

Few out of the 400 described species belonging to the genus have been introduced; but a few of them are sufficiently ornamental to be included in collections of stove or intermediate house plants. For general decorative purposes and for table work the species under notice is the best, and appears in gardens under different names, such as P. Verschaffeltii and P. arifolia argyrea, which are merely synonyms. The leaves are ovate, or sub-orbicular and peltate, that is, the blade is supported by its petiole from near the middle, and have dark green veins radiating from the base, while a broad silvery grey or metallic-white band occupies the interspaces. They are of a fleshy consistency, and would prove both durable and beautiful for table decoration, provided the house servants would treat them more feelingly and less harshly than they do, as the leaves are brittle as well as fleshy, and liable to get disfigured, and do not repair the damage very quickly. It is used for decorative purposes at Parkside, Ravenscourt Park, Hammersmith.

THE GARDENERS ROYAL BENEVOLENT INSTITUTION.

The annual meeting of the subscribers to the above was held on Wednesday at "Simpson's," in the Strand, Mr. Herbert J. Adams, one of the vice-presidents, presiding. The minutes of the previous meeting having been read and confirmed, the secretary read the report of the committee and statement of accounts, which is given below. In the report the committee again congratulated the subscribers upon the continued success and prosperity of the institution. Ten pensioners had died during the year, three of them leaving widows, whose claims to succeed their husbands having been found satisfactory, were placed on the pension list without election. The committee also thanked Sir Trevor Lawrence, Bart., M.P., for so kindly taking the chair at the last annual festival, in the unavoidable absence of the Right Hon. J. Chamberlain; and with pleasure called attention to the gratifying fact of the institution being now in receipt of greater support from gardeners than at any other period. With reference to the celebration of the jubilee year of the institution, the committee refer with pleasure to the unbroken success which has year by year attended the operations of the institution. During the long period it has existed, it has never upon any occasion receded nor trenched upon its reserve fund, and while from year to year it has increased its sphere of operations, it has gone on steadily increasing its reserve, so that in the event of any unforeseen calamity overtaking the institution, the pensions of the annuitants can always be met. The number of pensioners on the books of the institution is 120, and would be increased to 134.

The motion for the adoption of the report, and that the best thanks of the meeting be given to the committee for their able management of the affairs of the institution during the year, was moved by Dr. Masters, seconded by Mr. Osborne, and carried unanimously. Mr. W. Richards moved, and Mr. Osborne seconded, "That in accordance with the recommendation of the committee, Rule XVIII. be altered as follows:—That six members of the committee go out of office annually by rotation, but be eligible for re-election"; carried unanimously. Mr. Barron moved, and Mr. John Laing seconded, "That Mr. Harry J. Veitch be re-elected treasurer, and that the best thanks of the subscribers be presented to him for the great care and trouble he has taken in the affairs of the institution during the past year." This also was carried unanimously, and Mr. Veitch briefly returned thanks. On the motion of Mr. James Veitch, seconded by Mr. H. Williams, Mr. John Lee, Mr. T. A. Dickson, and Mr. W. Richards were re-elected members of the committee; and Mr. W. J. Nutting, Mr. George Munro, and Mr. John Fraser were elected members for the ensuing four years.

Messrs. John Lee, J. F. Meston, and Jesse Willard were re-elected auditors; and Mr. G. Munro, Mr. Ed. Tidswell, Mr. James Webber, Mr. W. Richards, and Mr. E. W. Cuthie were appointed arbitrators for the year ensuing. Mr. H. J. Veitch moved that Mr. E. R. Cutler be re-elected secretary, and the resolution having been seconded by the chairman, Mr. Cutler was duly elected for the forty-eighth time. In accordance with Rule VI., the following five persons:—John Allen, Compton Bassett; Elizabeth Ridler Amos, Widmore, Bromley; William Binder, Rugeley; Isaac Harris, Lichfield; and John Mitchinson, Penzance, were placed on the list of pensioners without election. The election of candidates was then proceeded with, Mr. Barron, Mr. J. Veitch, Mr. Woodgate, and Mr. Webber being appointed scrutineers. At the close of the poll the following were declared to be the successful candidates: Sarah Naylor, 2,014; William Hollah, 1,917; Helen W. Lassells, 1,900; George Read, 1,729; Christopher Robinson, 1,626; Margaret Malcolm, 1,615; Charlotte Newell, 1,587; John Slowe, 1,490; and Elizabeth Kember, 1,383. The figures denote the number of votes polled for each candidate. In the evening a large number of the supporters of the institution dined together; the Very Rev. S. Reynolds Hole, Dean of Rochester, presiding.

STATEMENT of the RECEIPTS and PAYMENTS of the GARDENERS' ROYAL BENEVOLENT INSTITUTION for the Year ending 31st December, 1888.

Dr.

	£ s. d.	£ s. d.	£ s. d.
To Balance, 1887	...	...	564 0 9
,, Annual Subscriptions	1,320 11 0	...	
,, Donations at and in consequence of Annual Dinner	849 5 6		
,, Collecting Cards at do.	287 9 5		
	2,457 5 11		
,, Advertisements	63 10 6		
		2,520 16 5	
,, 5 Quarters' Dividends on Stock	791 5 0		
,, Bonus on Conversion on Stock	52 15 0		
,, Interest on Deposits	46 16 3		
		890 16 3	
To Legacies:—			
The Late Lord Northwick	100 0 0		
,, ,, Mrs. Cameron	50 0 0		
		150 0 0	
			3,561 12 8
			£4,125 13 5

Cr.

	£ s. d.	£ s. d.
By Pensions and Gratuities	...	2,180 10 0
,, Secretary's Salary and Honorarium	186 5 0	
,, Rent of Office	50 0 0	
,, Stationery	31 14 2	
,, Printing	115 4 1	
,, Advertising	5 14 0	
,, Expenses of Annual Dinner	86 10 10	
,, Postages, Travelling Expenses, &c.	122 1 0	
		597 9 1
		2,777 19 1
Placed on Deposit at Glyn & Co.	...	700 0 0
		3,477 19 1
By Balance, viz.:—		
With Treasurer at Bankers	630 6 9	
,, Secretary	17 7 7	
		647 14 4
		£4,125 13 5

Stock in 2¾ per cent. Consols, £21,100.

Audited 9th January, 1889 { JOHN LEE, J. F. MESTON, J. WILLARD.

NOTES ON VEGETABLES.

Kales for Winter and Spring.

In the suburbs of London it is difficult to get Cabbages, Savoys, or other winter vegetables to stand the winter with any degree of success. The chronic smoke and fogs to which London is continually subject in winter, must be held responsible for this state of matters; for these hardy subjects like a clear clean atmosphere just as much as the more tender hothouse plants. There are, however, a few things that will even withstand the smoke and blacks of a London atmosphere even in winter, and amongst these the Kales take a leading place. The undermentioned are a few of the kinds we noted in the trial grounds of Messrs. J. Veitch & Sons at Chiswick.

The dwarf and finely curled kinds are known in some parts of the country under the name of Curlies. Dwarf Green Curled is perhaps the best known, and like others of the same type is generally the most useful. The dwarfest of all is Chelsea Exquisite, which has very closely curled leaves lying close to the ground, and of a clear bright green colour. The best time to use the leaves as a vegetable is in summer, when they are tender and growing rapidly, or again in winter after they have had a little frost, when they again become tender.

They are more valuable in winter, however, than in summer, because vegetables are generally more abundant during the latter season. Read's Hearting Kale is also closely allied to the above in the character of its leaves and the use made of them, but the crown bud forms a head like a small Cabbage in spring. This variety is also valuable for late work, and is in fact the last to run to seed. At present the plants range from 10 ins. to 14 ins. high, and are quite fresh and unhurt by the fog and frost to which they have lately been subjected.

Very similar to Cottagers' Kale is Chou de Milan, as both are valued for the quantity of high quality sprouts which they produce in spring. The stems range from 1½ ft. to 2 ft. high, and bear narrow drooping leaves of a deep glaucous green, more or less tinted with red on the veins. The crown is open, and the axillary buds are the best part of them for human food. Buda Kale also appears a very coarse kind compared with curled Kales, and to the casual observer more resembles Swedes than anything else, but has, of course, no tuber. The stems are very dwarf and bear coarse glaucous foliage, but in spring a quantity of sprouts are produced, which may be blanched in the same way as Sea Kale. The dwarf stems facilitate this operation. The variety is sometimes called Asparagus Kale; but the same name is also applied to Egyptian Kale, the Portugal Cabbage, and the Jerusalem Kale, all being used in the same way; so that it is difficult to say to what plant the name should be properly applied. The Jerusalem Kale is grown in the trial grounds here, under the name of Delaware Kale, and is dwarfer even than Buda Kale, but has its leaves more or less curled at the margins, and tinted with purple.

Besides these there are several varieties of variegated Kales, which have occasionally been used for decorative purposes in the flower garden during winter. They are exceedingly hardy and ornamental in their way, and those who do not object to their colour may use them in the same way as the curled Kales, to which they are closely allied in all except colour. The different strains vary in height from 10 ins. to 15 ins., and bear bushy heads of much-curled leaves. Some are variegated with red, others with red and white, and creamy yellow shaded with red, and the variegation is generally along the centre of the leaf, including the principal lateral veins occasionally, while the much-curled margin is green. The young leaves are the best, because the contrasting colours are stronger or better defined on them.

There are several other varieties grown here, and the collection is one of the most complete in this country as far as this race of the wild Cabbage (Brassica oleracea) is concerned. They deserve more recognition in the south than is generally accorded them on account of their hardiness.

Pea, William Hurst.

This is one of the best dwarf Peas in cultivation, but is not nearly so much grown as it deserves to be. It is an enormous cropper, and can be grown in rows 2 ft. apart; but I prefer 4 ft., with either Lettuce or Spinach grown between; then the rows are a picture, plenty of pods full of grand, sweet peas, just the thing for either the squire or the workman. I always put a few sprays of Larch on each side of the rows, as with good cultivation it grows 2 ft. high; then the pods are easy to pick, and are kept cleaner than if allowed to fall on the ground.—*Southdown.*

Chelsea Giant White Runner Bean.

This is undoubtedly one of the largest Runner Beans in cultivation. Last season, though late in consequence of the wet and cold weather, it did fairly well, the enormous pods, some of which measured over 12 ins. in length and proportionately broad, being very fleshy and of splendid table quality. They were very much admired, and will doubtless be eagerly sought after by exhibitors when better known. Good cultivation is essential, for without it they are not seen to so great advantage. To get them early, sow two beans in a 60-sized pot about the middle of April, place in any warm house, and as soon as they show the rough leaf remove to a cold frame or a cold Peach house. Re-pot into 32's if necessary, placing a twig or two of Birch in the pots, and transfer them to the open ground about the middle of May. Stake at once, and place a few twigs of Larch or Beech on each side of the row for protection from sun and winds. I find that after planting out such tender subjects the hot sun shrivels the young leaves, and though the plants ultimately recover, they lose time, so that a little protection given at first is a gain.—*Southdown.*

The Duchess Pea.

Having grown this new Pea, which I see advertised in a recent issue, for two seasons, I can with confidence recommend all who love a good Pea to include this in their order list. It is all the Messrs. Hurst claim for it, and well deserved the First Class Certificate—though I was not aware till now that it had received one.—*B. L.*

The Conqueror Brussels Sprout.

Firm compact Sprouts have not generally been abundant this season, owing no doubt to the super-abundant rainfall, and perhaps for this reason the season has hardly been a favourable one for comparing the respective merits of different varieties. Still, with us, The Conqueror, a variety very similar to the Aigburth, has come out the best, the number and solidity of the Sprouts having been all that could be desired, and the number of "rogues" in the brakes singularly few.—*B. L.*

VALLOTA PURPUREA AS A WINTER-FLOWERING PLANT.

It may interest some of your readers to know that this usually-considered autumn-flowering plant has been in bloom with us during the last two months, and we have a dozen heads of bloom to open yet. When the scarcity of choice flowers is taken into consideration at the present dark season of the year, the blooming of this plant may be considered of some importance, for the size of each individual flower will cover as much space as a Eucharis bloom, and being bright scarlet in colour, they make an exceedingly fine contrast with the Amazonian Lily. Independent of this, the flowers last a much longer time in perfection now than they do in the autumn. I have kept the flowers in water together with Eucharis for a week round, and they have appeared as fresh as when first cut.

I cannot say that any special culture has been given to flower these bulbs at the present time. They are ordinary-sized bulbs, one in a 5-in. pot, and each has thrown up two heads of flowers. They were allowed to stand all the spring and summer through in a very cool greenhouse, just giving them a little water sometimes; in fact, they may be said to have taken their chance, hit or miss. No signs of the flower-stems were visible until well on into October, and then they only came very slowly forward, the plants having to be placed in a warmer house to bring them along into flower for December and January. We have yet a dozen heads of flowers to open, and very serviceable we find them as they appear.

Whether this is simply a freak of nature only, or whether the blooming period may in future be prolonged till December is an open question. The bulbs have never been denuded of their foliage, like some of the Amaryllis, so that it cannot be from being too dry that they have flowered thus late in the season. Whatever may be the cause, I think it worth notice, and I shall watch the progress of events another season. —*W. G.*

Sutton's Exhibition Brussels Sprout.—The past wet season has acted on this useful variety much in the same way as cultivators have found the case with other well-known kinds, namely, by causing the sprouts to become loose and open in many cases. With this exception, however, Mr. Aitken, gardener at Parkside, Ravenscourt Park, says the crop has been excellent.

The Gardeners' Calendar.

THE PLANT HOUSES.

Cinerarias.—The earliest batch is now in a very forward state, and some of the first blooms are already expanded. If so required, the best of them may be placed in the conservatory to help in giving variety to the occupants of that structure. Attend carefully to the watering, and see that the soil is never allowed to become very dry, otherwise the roots will get damaged, and the foliage will never be able to maintain its fresh and untarnished appearance. For the sake of the foliage, the plants must also be kept near the glass, and crowding avoided. Feed with artificial and liquid manures, which will greatly assist the plants in the production of large flower heads. Keep a watchful eye on the plants, so that insect pests may find no quarter.

Potting.—Before potting commences in earnest, the compartments under the potting benches should be well filled with the different kinds of soil, manures, peat, sand and other requisites. This is necessary for various reasons. In the first place it is most economical to have a store at hand so as to avoid the necessity of going to the general store out of doors every time a small quantity is wanted for any particular class of plants. Then, again, we are liable to much rain at frequent intervals, so that exposed soil is always kept in a sodden and wet state, a condition that is highly objectionable while the potting operations are being carried on, because in the working it gets puddled and pasty, and afterwards settles down in a solid state that is altogether prejudicial to the roots they enclose. A good store of clean pots should also be in readiness, and as the work proceeds the empty ones should be washed and placed to dry. A small quantity of paraffin in the water greatly assists the operator in facilitating the work. A quantity of clean crocks is also necessary.

THE FORCING HOUSES.

Early Peach House.—Where the earliest house was closed in November the flower-buds will now be well advanced or on the point of expanding. Before this happens the house should be fumigated to destroy any traces of green-fly, as the operation cannot safely be performed while the trees are in flower, because the blooms are so susceptible of injury from smoke. During the flowering period it is necessary to keep the atmosphere of the house drier, in order to favour the dissemination of the pollen, and enable a good set to be made. Previously to this there would be no difficulty in keeping down insect pests by syringing; but during the cessation of this most beneficial operation, insects will multiply apace. After the flowers expand, a brisker atmosphere should be maintained during the day to favour the setting of the flowers. A sufficiently moist atmosphere can be maintained by the damping down of the paths and walls. Plenty of ventilation must be given while the weather is favourable, and assistance may be given to the setting of the flowers in some of the many ways usually practised.

Cucumbers.—The batch now commenced to fruit must be carefully attended to in the matter of temperature. The bottom-heat especially requires careful regulation, but the matter will be greatly simplified if the mid-winter batch be grown in pots. During the prevalence of frosty weather very high temperatures should be avoided, as severe forcing always has a tendency to favour the increase of insect pests, such as red-spider, if there is any trace of them present.

THE KITCHEN GARDEN.

Wheeling Manure.—During the prevalence of frosty weather, omit no opportunity that presents itself for wheeling manure to the squares and borders, so that all may be in readiness for digging when the ground is again in suitable condition. Very little wheeling should be done when the walks are soft, and least of all when they are wet and muddy after a thaw sets in, as they are not only thereby cut up, but the soil gets conveyed from the ground to the gravel, till the latter becomes utterly spoiled.

Pruning Gooseberries.—This operation is frequently delayed, with the idea that bullfinches and sparrows may yet do them a deal of harm by destroying the flower-buds. The season is, however, advancing and the buds are swelling, and should we have another recurrence of mild open weather before the winter is over, the buds will soon be on the point of expansion. Pruning must not therefore be delayed, but prosecuted at once, so that every bud left may have its proper share of sap directed into it. Unless where the spur system is adopted (as in the northern counties), all the leading shoots that radiate away from the centre of the bush should merely be shortened back, while useless shoots and those that grow in the wrong direction should be cut back to within a few buds of the base. Remove entirely all suckers that come up from below the surface of the ground.

ORCHID NOTES AND GLEANINGS.

Odontoglossum maculatum.

Having had this Orchid in flower for the last six weeks I dare say it will interest some of your readers to know that it has passed through all the late fogs without sustaining the least damage. This, I think, makes it a desirable Orchid to grow, and especially as it is also a very pretty and attractive species. The sepals are chestnut-brown within, marked with green transverse bars at the base, the petals yellow, thickly spotted on the basal half with reddish brown, and the lip cordate and of the same colour as the petals. It succeeds best in a cool house grown in a pot in peat and moss.—*G. W.*

Freak of Cœlogyne cristata.

Some of the Cœlogynes appear to have a terminal inflorescence, as in the case of C. elata; while in C. cristata it may be described as lateral or basal, because it arises from the base of the old pseudo-bulb. That this inflorescence, however, is produced on the apex of a leafy branch there is abundance of evidence to show, and in the case of C. cristata this branch seldom develops a pseudo-bulb. This actually happened, however, at Studley House, Hammersmith, last year, when flowers were produced in the usual way on the lateral scaly shoots. One of the internodes afterwards became swollen and plump, forming a short dumpy pseudo-bulb, with the remains of the inflorescence and two leaves at its apex. What happens occasionally in the case of C. cristata does so habitually with C. lentiginosa and C. flaccida, and the reason why it so often passes unnoticed is that the inflorescence is produced first and the pseudo-bulb afterwards. In C. elata the reverse happens. A more interesting case occurs in C. flaccida, should the flowers be fertilised. The flower-stalk does not then fall away, but becomes erect and elongates considerably, while the pseudo-bulb, terminated by a pair of leaves, is being developed beneath it. The experiment and observation was made by Mr. C. Cowley, the gardener.

Cypripedium cardinale.

Amongst hybrid Cypripediums belonging to the section Selenipedium, this beautiful form bears the same relation to its allies as the hardy C. spectabile does to the group to which it belongs, and presents similar but more intensified and contrasting colours. It was obtained from C. Sedeni, itself a hybrid, and C. Schlimii albiflorum, and exhibits all the vigour of the seed parent, as well as equally large flowers. The upper sepal is ivory-white, and the petals also white suffused with pink, and having a patch of deeper coloured hairs at the base. The pouch is of an intense rosy carmine, and is notable for its neat and beautiful shape as much as for colour. The opening to the pouch presents the appearance of a somewhat sunken, orbicular, and remarkably narrow cavity, as if it were a bag or purse with the mouth drawn together by a string. It continues flowering for a long time at Studley House.

Lælia lobata.

In general appearance this species may be likened to a highly coloured L. crispa, and close examination shows that it has a considerable affinity with the latter, but differs chiefly in the pseudo-bulbs being shorter and differently shaped, with a longer column, and altogether differently coloured flowers. The sepals are revolute at the edges, while the petals are folded from the middle, backwards, as seen in L. crispa; but all are of a rosy purple or deep lilac, with darker veins. The three-lobed lip is of a rich amethyst purple, much undulated and crisped at the margin. The flowers are of medium size, say from 4 ins. to 5 ins. in diameter, but are very distinct, and to this must be added their delicious fragrance, which may be compared to a mixture of almonds and cinnamon, or perhaps hawthorn. Lindley first described this species under the name of Cattleya lobata. It does not seem to flower very freely with the treatment given to the other species of Lælia, but is now in full bloom at Tower House, Chiswick, the residence of J. Donaldson, Esq.

Dendrobium heterocarpum and Epidendrum ciliare.

Many of our showiest Orchids are entirely devoid of scent, while many of the smaller and unassuming ones are sweetly scented. Both the above mentioned are now flowering with us. The former, although not very striking to the eye, is as sweetly scented as Violets, and the latter is no great beauty to look at, perhaps, but it possesses a redeeming feature, being as sweet as Honeysuckle, which is apparent on paying the Orchid house a visit in the evening.—*Hector.*

Cynoches chlorochilum.

Another curiosity also flowering at the present time is the Swan Orchid, received with Cattleya Mossiæ, with which it has been grown. A bulb 9 ins. long has thrown a spike bearing four of its curious yellow flowers.—*Hector.*

Lælia anceps varieties.

At the R. H. S. meeting on Tuesday, some grand spikes of L. anceps varieties were exhibited by Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham, among them being a good spike of the type with warm rosy purple flowers. The others were well-grown specimens of named varieties, including L. a. Percivaliana, in which the sepals and petals were blush-coloured, with purple tips to the segments of the lip. L. a. Stella had white sepals and petals, with a small purple blotch near the apex of the lip. A grand variety is L. a. Dawsoni with broad ovate petals, and they as well as the sepals were white. The lip is also broadly expanded and tipped with purple, and in this respect, as well as in the ovate petals, it differs from L. a. Sanderiana, another splendid variety, chiefly distinguishable from the former by its oval and narrower petals, and in the more pointed lip.

Orchid Seeds.

The introduction of Orchid seeds for the first time into the trade catalogues as a regular article of commerce is an event which deserves a passing word. The credit of the introduction is due to a rising young firm in the west of England—Messrs. Jarman & Co., of Chard—who in their seed catalogue just issued offer "Orchid seeds, mixed varieties," in 2*s.* 6*d.* and 5*s.* packets! The very sound of the well-known trade phraseology, as applied to Orchid seeds, almost takes one's breath away. Yet the fact remains that the Messrs. Jarman have imported seeds of Cattleyas, Lælias, Cypripediums, Dendrobiums, Masdevallias, Odontoglossoms, &c., from the native countries of the respective plants, but it is unfortunate that they should be mixed, and still more unfortunate that their germinating power cannot be guaranteed. In any case, those who would like to try their hand at raising Orchids from seed can now do so without incurring a ruinous outlay, and we promise them that if the experiment does nothing else it will teach them the virtue of patience.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*January 15th.*

The amount of interest created by the rumours which had been spread about that the Council intended to introduce certain reforms in the constitution of the committees and in their methods of procedure as regards the awarding of certificates, was well illustrated by the large number of members who assembled in the Drill Hall on Tuesday morning—cold, dull and cheerless as the place was, and so little as there was to see. Before commencing business, the members of the Council present, Mr. Veitch, Mr. G. Paul, Mr. James Douglas, and the Rev. W. Wilks, called the committeemen together to hear a statement from the last-named gentleman, as to the nature of the innovations which the Council had thought it desirable to introduce. In the first place, said Mr. Wilks, the Council had determined that all members of its permanent committees must be Fellows of the society, as was the case with every other society of a similar character in this country or abroad. Secondly, with a view of enhancing the value of the First Class Certificates, the Council had instituted a second award, to be called an "Award of Merit," so as to enable the committees to give the First Class Certificates only to subjects of really first-class importance, and with the "Award of Merit" to recognise such things as had some point of merit or special feature to recommend them, yet were not quite of first-class rank. And thirdly, with reference to the voting of either forms of certificate, the Council had resolved that in future, in the case of subjects certificated, the number of votes given, for or against the award, shall be recorded and published in the society's proceedings. What Mr. Wilks did not say, and the matter is alluded to here as an item of news only, was that the Council had also decided to discontinue the modest luncheons which have always hitherto been provided for the members.

Floral Committee.

When this committee assembled for business Mr. William Marshall, on taking the chair, remarked that it was seventeen years ago since he was first appointed chairman of the committee, and he was pleased to see so many of the old faces then present—a circumstance which he thought spoke well for the hold which the society had upon the horticultural community. A long discussion then ensued as to what was to be considered the exact value of the "Award of Merit," some of the members stating their objection to the new award on the ground that for advertising purposes it would probably by some be misrepresented as being equal in importance to the First Class Certificate. It was also pointed out that the old National Floricultural Society, from the ashes of which the Floral Committee sprang, had a secondary award, which was called a "Commendation," to the use of which there was and could be no objection. Eventually, however, it was made clear that the "Award of Merit" was only another name for the old and invidious Second Class Certificate, and must always be understood to be inferior in value to the First Class award. The first plant that came up for judgment was a Chinese Primula named Miss Inez, a semi-double flower, of large size and pure white, with very vigorous bright green and much divided leaves. It was shown by Mr. John Knight, The Oaks, Epsom, and an Award of Merit was carried for it by twenty-three votes against one, twenty-nine members being present. Primula Princess Mary, one of the Messrs. Cannell's fine seedlings, received a similar award by eleven votes to eight. The flowers are of a light lilac-pink, and notable for their fine size, being 2⅜ in. in diameter, while the whole plant is strong and vigorous, with very robust foliage. Primula Swanley Mauve, by eleven votes to eight, gained a First Class Certificate on account of the decided advance which it marks upon what has hitherto by courtesy been called the Blue Primula. The leaves are of the ordinary type, with rather long red petioles; and the large, much-imbricated, and lobed flowers, though described as mauve, are really the nearest approach to blue yet obtained. The only other award made was a First Class Certificate (by sixteen votes to three) to Vanda Amesiana, shown by Mr. Hill, gardener to Lord Rothschild, Tring Park. At some little distance one might take this for a large-flowered Phalænopsis rosea. It is neat and dwarf in habit, with narrow, grooved or channelled, rather rigid and fleshy deep green leaves, arranged in two ranks. The flower scapes are ascending or sub-erect, bearing a raceme of medium-sized flowers, the sepals and petals of which are white, while the terminal lobe of the lip is rosy purple, and folded backwards upon itself.

Fruit Committee.

At the meeting of this committee, of which Mr. R. D. Blackmore, of Teddington, is the new chairman, a Cultural Commendation was awarded to Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich, for some bunches of the round white Grape, Mrs. Pearson, shown in an excellent state of preservation. Mr. J. Davis, gardener to the Rev. H. Arkwright, Bodenham, Leominster, exhibited a good-looking seedling Apple, named Bodenham. It was splashed and flushed with red on the exposed side, the rest being yellow. A basket of Doyenné d'Alençon Pears, from a tree in a 10-in. pot., was shown by the Rev. W. Wilks, Shirley, Croydon.

Manchester Horticultural Improvement.

At the usual monthly meeting, held on the 18th inst., Mr. E. Griffiths Hughes presided. Mr. R. Tait, jun., read a paper on Liliums and Cyclamens. He said:—The Lily, with which we naturally connect ideas of stateliness and beauty, forms one of the most ornamental and most useful classes of plants we possess, and the variety of form and habits are so very numerous that many choice kinds will always be found to suit every person who wishes to grow them. They are suitable alike for outdoor, greenhouse, and conservatory decoration, and there are few things which make better window plants than some of the species. As a class they are not nearly so much grown as they should be, which is no doubt due in a great measure to the variable climate of this country, and especially of the northern counties. However, within the last few years their cultivation has been extended very much, and there are now hardly any gardens of any moment which do not contain several varieties. The great secret of success in Lily growing is to give them as nearly as possible the same conditions as the plant receives in its native home. These are in most cases a certain amount of summer heat, and a good deal of moisture during the growing season, for drought is one of the worst enemies of the genus, and in its native

habitation almost unknown. Protection from frost in winter, and from winds and sun in summer is also necessary. Many of the old writers on horticulture place the Lily at the top of the list of flowers.

They are to be found in a wild state in almost every part of the temperate zone, both in the Old and New Worlds, only three or four species being found within the tropics. Authorities on the subject state that the climatic conditions which seem favourable to their growth are a moderately cold winter of short duration, a warm spring and summer with considerable moisture. Many fine sorts may be grown in Lancashire and Cheshire, and even in the neighbourhood of Manchester, although more care and trouble are required to keep them healthy, as the conditions are not so favourable as in the south. Most of the genus may be grown in pots, and if three or four bulbs according to size are planted in a 10 or 12-in. pot, they make fine specimens, and rival in beauty the choicest Orchids. A certain amount of shade is beneficial to a great number of the varieties. Some growers believe that exposure is one of the causes of the disease which attacks the Lilium, and so far it has baffled our best scientists to discover the real cause and find a certain cure.

Alluding to the Cyclamen, he said:—The Persian section is the best known and most useful. Until the last few years the plants have been but poorly understood and not very well grown. Even now they seem to puzzle many gardeners, and are seldom seen in perfection in private places. But most gardeners who will take the necessary care, and follow the correct routine, will be able to attain excellent, if not exactly perfect results. The type of a good Cyclamen is that with fine bold flowers of a pure colour, with broad petals, stems not too long, and foliage well marked and compact. The Cyclamen is particularly useful on account of the long period during which we can have it in bloom, namely, six or seven months, and its compact habit enables it to be employed for all kinds of decoration. The plants should be lightly shaded in summer, kept free from draughts, and the watering-can used with care. The great secret of success is to keep up a constant and even heat, with a moist atmosphere, plenty of water without going to excess, free circulation of air without draughts, shade in summer and light in winter. If these conditions be observed they will keep up a constant and vigorous growth, and so repay the cultivator by a grand show of bloom.

Messrs. G. Lunt, Turner, Paul, R. W. Keer, Birkenhead, W. Plant, F. Robinson, W. H. Driver, J. Booth, Edwards, and R. Tait, senior, joined in the discussion which followed.

QUESTIONS AND ANSWERS.

Ammoniacal Liquor.—*D. M. L.:* The Ammoniacal liquor obtained from gas works, and commonly called liquid ammonia, is used with good effect as a manure on grass land, but on account of its caustic nature it has to be used with great care, and should always be diluted with at least six times its bulk of water. We have had no experience with it in the garden, but should be glad to record the experience of any of our readers. Could you not yourself make a few experiments on plants of no value?

Books.—*J. B.: Plant Lore, Legends and Lyrics,* by R. Folkard (Sampson, Low & Co.).

Forcing Seakale and Rhubarb.—The fact of either being forced in a stokehole will not make any difference in the flavour. If you put the roots in soil, leaf-soil, coco-nut fibre refuse, or spent tan—anything that will keep them moist, and cover the crowns to keep them clean, and in the dark, you ought to succeed very well.

Humea elegans.—*C. C. O.:* It is too early to get seedling plants yet, and your best plan will be to wait until about the end of May, and then apply at any of the larger nursery establishments. The roots are exceedingly susceptible to changes of temperature, and are liable to die off at any time. If you try seeds again, bearing this fact in mind, you may be more successful.

Names of Plants.—*H. A.:* 1, Aspidium (Polystichum) capense; 2, Asplenium formosum; 3, Pteris hastata macrophylla; 4, Selaginella Martensi variegata; 5, Selaginella viticulosa; 6, Selaginella lævigata (freqnently known as S. Lyalli). *H. G. C.:* 1, Oncidium cucullatum; 2, Odontoglossum Lindleyanum; 3, Dendrobium aureum (or D. heterocarpum of gardens); 4, Cattleya Trianæ. *R. L.:* 1, Pinus austriaca; 2, Pinus excelsa; 3, Abies Nordmanniana.

Seedling Orchid.—*Levenshulme:* The flower you send cannot be referred to any cultivated species, and we should therefore favour the idea of its being a seedling, probably a hybrid; but you do not indicate whether your gardener has effected a hybrid between two different species, or whether he raised the seedling at all. Your best plan would be to grow the plant till it attains some vigour, when it will be more certain whether the flower is really distinct, or whether it is not a depanperated and abnormal form. It may change colour and form altogether another year, as we have evidence of a similar occurrence in Lælia purpurata, the flowers of which were almost aborted. See The Gardening World, vol. iv., p. 645.

Smilax.—*Perthshire:* There are several species which are quite hardy in the south; but in your latitude they would probably give satisfaction only in a greenhouse, especially if required for table decoration. In America, as well as abundantly in this country, Myrsiphyllum asparagoides is grown and allowed to twine round pieces of string, and the whole is then cut for decorative purposes. It is often called Smilax, especially in America, and this is, perhaps, the plant you mean. For decorative purposes it would be a safe investment, and should be grown in a warm greenhouse or intermediate house. There are some pretty species of the true Smilax, and the undermentioned are good—namely, S. aspera, S. asperrima (a garden name), S. Bona-nox (better known under the name of S. tamnoides), and S. ornata, with variegated foliage. All these may be grown in a greenhouse.

Tree Fern.—*James Jones:* If your plant is really Alsophylla excelsa, as you say, we would not advise you to put it in a higher temperature for the present at least, as the plant is almost hardy. The young fronds will make better growth if they are not urged to develop till spring, as the light and the natural temperature will then be better. From what you say respecting the roots, we should think that they, as much or more so than the temperature, are at fault. If the drainage is bad, the sooner it is rectified the better, because, although Ferns like an ample supply of moisture, especially when growing, yet it must not be stagnant about the roots; therefore see to the drainage, and do not overwater till fresh growth commences to be made.

Communications Received.—G. W.—R. J. H.—W. B. H.—J. M.—L. C.—O.—N. F.—R. T.—A. O.—W. T.—Scotia.—W. G.

TRADE CATALOGUES RECEIVED.

John Laing & Sons, Forest Hill, S.E.—Flower and Vegetable Seeds, Novelties, Begonias, &c.

Thomas S. Ware, Hale Farm Nurseries, Tottenham.—New, Rare and Choice Flower Seeds.

H. Cannell & Sons, Swanley, Kent.—Vegetable and Flower Seeds.

E. H. Krelage & Son, Haarlem, Holland.—Bulbous and Tuberous-rooted Plants, Dutch Bulbs, &c.

Charles Turner, Royal Nurseries, Slough.—Vegetable, Flower and Farm Seeds.

W. Piercy, Beadwell Road, Forest Hill, S.E.—Early and very Late-flowering Chrysanthemums.

Cardno & Darling, Aberdeen.—Garden and Farm Seeds, Florists' Flowers, &c.

Jarman & Co., Chard, Somerset.—Flower and Vegetable Seeds.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending Jan. 12th was 29·53 in.; the highest reading was 30·07 in. at the beginning of the week, and the lowest 29·09 in. on Thursday morning. The mean temperature of the air was 35·3°, and 2·4° below the average in the corresponding weeks of the twenty years ending 1868. The mean showed an excess on Tuesday, Wednesday, and Friday, but was below the average on each of the other days of the week. The direction of the wind was variable, and the horizontal movement of the air averaged 8.7 miles per hour, which was 4·5 miles below the average in the corresponding weeks of sixteen years. Rain fell on four days of the week, to the aggregate amount of 0·49 of an inch. The duration of registered bright sunshine in the week was 2·7 hours, against 6·4 hours at Glynde Place, Lewes.

COVENT GARDEN MARKET.

January 16th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	1 6	3 0	Pine-apples, St. Michaels.....each	2 0	7 0
Cobs .. per 100 lbs.	100 0		Pine-apples, Eng., lb.	1 0	1 6
Grapes .....per lb.	0 9	2 6			

Canadian and Nova Scotia Apples, per barrel, 7s. to 14s.

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ..per dozen	1 6	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 3
Cabbages.... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	2 0	3 0	Radishes ..per dozen	1 6	
Celery ....per bundle	2 0		Small salading, punnet	0 4	
Cucumbers ....each	0 6	0 9	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos ....per lb.	1 3	1 9
Herbs ....per bunch	0 2	0 4	Turnips ....per bun.	0	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys. 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	6 0	18 0	Foliage Plants, various .....each	2 0	10 0
Arum Lilies..per doz.	9 0	18 0	Hyacinths ..per doz.	8 0	12 0
Azalea.....per doz.	24 0	42 0	Lilies of the Valley, per doz.	18 0	30 0
Chrysanthemums, per dozen	6 0	12 0	Marguerites per doz.	6 0	12 0
— large plants ..each	2 0	5 0	Palms in variety, each	2 6	21 0
Coleus .....per doz.			Pelargoniums, scarlet, per dozen	6 0	9 0
Cyclamen ..per doz,	9 0	18 0	Poinsettia ..per doz.	9 0	12 0
Cyperus, ..per dozen	4 0	12 0	Primula sinensis, doz.	4 0	6 0
Dracæna term., doz.	30 0	60 0	Roman Hyacinths, per doz.	9 0	12 0
— viridis, per dozen	12 0	24 0	Solanums....per doz.	9 0	15 0
Evergreens, in var., per dozen	6 0	24 0	Tulips .....per doz.	8 0	10 0
Ferns, in var., per doz.	4 0	18 0			
Ficus elastica ..each	1 6	7 0			

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms.	5 0	9 0	Paper White Narciss, 12 sprays	0 9	1 0
Azaleas ....12 sprays	0 8	1 0	— — — French, doz. bunches	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Poinsettia, doz. blms.	4 0	6 0
Camellias, 12 blooms	2 0	4 0	Primroses..doz.buns.	1 0	2 0
Carnations, 12 blooms	1 0	2 0	Primula, double, bun.	0 9	1 0
Chrysanthemums, 12 blooms	1 0	4 0	Roman Hyacinths, 12 sprays	1 0	1 6
— 12 bunches	4 0	12 0	— — (French), 12 bun.	3 0	9 0
Cornflower, 12 bunch.			Roses, Tea, per dozen	1 0	3 0
Cyclamen..12 blooms	0 6	1 0	— Red .....per doz.	1 0	2 0
Eucharis ..per dozen	4 0	6 0	— Saffrano ..per doz.	1 6	3 0
Gardenias, 12 blooms.	10 0	18 0	Tuberoses, per dozen.	1 0	2 0
Heliotropes, 12 sprays	0 6	1 0	Tulips ....12 blooms	0 8	1 6
Lapageria, 12 blooms	2 0	4 0	Violets ..12 bunches	1 0	1 6
Lilium longiflorum, 12 blooms	5 0	9 0	— Parme, French, 12 bunches	5 0	7 6
Lily of the Valley, 12 sprays	0 9	1 3	— dark French, bun.	1 6	3 0
Maidenhair Fern, 12 bns	4 0	9 0	Wallflowers, 12 bnchs,	4 0	8 0
Marguerites, 12 bun.	3 0	6 0	White Lilac, French, per bun.	5 0	7 6
Mignonette, 12 bun.	2 0	4 0			
Pelargoniums, 12 spys.	1 0	1 6			
— scarlet ..12 sprays	6 0	9 0			

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*** *Advertisements for the current week, and also "Stop Orders," must reach the office not later than the first post on Wednesday Morning.*

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SUTTON'S

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Very quick in growth, of moderate size, with few outer leaves and a splendid heart, somewhat pointed, of delicate flavour.

Per Packet, 1s., post free.

"All Heart is a spring sort of marked type, having a habit of early maturity. All Heart, in fact, received its name from its habit of losing the outside leaves when mature, so that it then stands out of the ground a Cabbage all heart! It may be noted, too, that its shape is oblong, and on that account the plants may be set thickly in the bed.—H. E."—*The Field*, January 7, 1888.

SUTTON'S

IMPERIAL CABBAGE.

Per Ounce, 1s., post free.

"Sutton's Imperial Cabbage is one of the best early varieties I have ever grown; indeed, grown side by side with four other sorts, I may say that it is by far the earliest and best. I have been cutting beautiful heads since the first week in May; and to get Cabbages fit for table at that date in Carnarvonshire is very good work.—G. TYLER, Gardener to General Hugh Rowlands, V.C., C.B., Plastirion."—*Gardening World.*

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Having purchased the entire Stock of Peas (which contains many excellent sorts and crosses) raised by Mr. T. Laxton, of Bedford, we wish to inform the Trade and Gardening Public that it is our intention to develop all the advanced sections, and after the most careful and complete culture, introduce them as soon as stocks are sufficiently large.

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Mrs. O'REILLY, Colamber, Rathowen, *October 16th*, 1888.
"I wish to say that having tested most of the seeds supplied in England and Ireland for years, I found your supply more generous, the yield better and more certain than the others, and have this year decided on getting all the garden seeds from you."

Mr. A. W. CHILD, Botanic Avenue, Belfast.
"The seeds I had from you last year gave every satisfaction. I got fearful rubbish from Germany. Serves me right for trying foreigners."

Seed Growers and Merchants,
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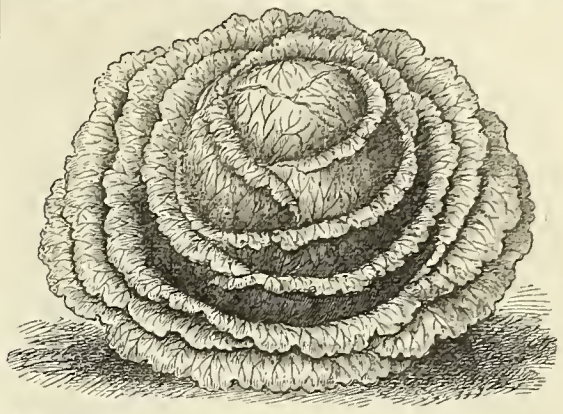

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LILIUM AURATUM, THE GOLDEN-RAYED LILY OF JAPAN, can now be purchased in cases containing 50 fine Bulbs, just as received from the Japanese Bulb Farms, unopened and unexamined, at 25s. per case, sent free to any Railway Station in England and Wales on receipt of Postal Order for 23s. 9d.; cases containing 100 fine Bulbs, price 40s. Fine and sound Bulbs, per dozen, 4s., 6s., 9s., 12s. and 18s. Mammoth Bulbs, 2s. 6d. and 3s. 6d. each. All sent packing and carriage free.—CARTERS', Royal Seedsmen by Sealed Warrants, 237 and 238, HIGH HOLBORN, LONDON.

☞ TERMS OF SUBSCRIPTION.—Post free from the office to any part of the United Kingdom, one copy, 1½d.; three months, 1s. 8d.; six months, 3s. 3d.; twelve months, 6s. 6d. Foreign Subscription to all counties in the Postal Union, 8s. 8d. per annum.

Next Week's Engagements.

MONDAY, Jan. 28th.—Sale of Lily Bulbs at Protheroe & Morris's Rooms.

TUESDAY, Jan. 29th.—Sale from Samples at Protheroe & Morris's Rooms.

WEDNESDAY, Jan. 30th.—Annual General Meeting of Northern Florist's Societies at Manchester. Sale of Lilies, Stove and Greenhouse Plants, &c., at Protheroe & Morris's Rooms. Sale of Bulbs, Fruit Trees, &c., at Stevens' Rooms.

THURSDAY, Jan. 31st.—Annual general meeting of the National Chrysanthemum Society, at Andertou's Hotel, Fleet Street, E.C.

FRIDAY, Feb. 1st.—Sale of the second portion of the Barvins Park collection of Orchids at Protheroe & Morris's Rooms.

For Index to Contents & Advertisements, see p. 346.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JANUARY 26, 1889.

THE PROPOSED MANURE TRIALS AT CHISWICK.—The Council of the Royal Horticultural Society has resolved to conduct during the present year a series of trials of patent or artificial manures at Chiswick. The suggestion is an excellent one, provided that the plot of ground selected for the purpose—an exhausted Strawberry bed—is now so far deficient in manurial properties that every manure tested will start fair; and we should be hopeful of the experiments being carried out to a practical conclusion, but for the startling announcement that every entry of a manure must be accompanied by a fee of £10, a charge so heavy that we fear it will defeat the object in view. As the

society proposes to go into the open market and purchase the various manures, why not do so without regard to entries or entry fees (as was done some years ago when certain seeds were bought and tested for their germinating powers), and thus give a trial to every kind which claims to have horticultural reputation?

The risk which a manufacturer will run of losing his money if he pays the fee at first, and then finds that the trial ends in a failure through default of the season, as in 1887, which was too dry for artificial manures to operate, seems so apparent, as to almost put the possibility of any entries being made, out of one's thoughts. Besides this risk, there are others which manure makers will take into consideration: the soil may already be possessed of constituents that will neutralise the artificial manures; or the nature of the crop may be such as the manure is not specially designed to assist, so that the failure of what is after all a really meritorious manure may result to the prejudice of the manure and its manufacturer.

Manures specially prepared for roots such as Potatos, are quite unfit for Cabbages, or Celery, whilst manures of a strong ammoniacal character are really little other than harmful to Potatos. If the fee charged for each manure were about 10*s*., no great risk would be run, and we assume that the trial is to be conducted quite as much in the interest of horticulture as of manure manufacturers. We have the strongest possible desire to see Chiswick practically utilised, but the proposal under consideration seems likely to have its practical aims defeated by the enormity of the entrance fees. If manures are to be thus handicapped, it seems only fair that all plants, roots and seeds tested in the gardens should be similarly treated.

The Winter.—The winter season is slowly dragging itself along, and so far has, with the exception of a short period of hoar frost, been as unsensational in character as the most prosy of persons could desire. If we are to judge by what sort of weather has ruled up till the present time, we should say that a finish up of a comparatively open mild character seems inevitable. Of course we may get severe weather yet, as there is plenty of time, for February is often a treacherous month; but indications are of an obverse kind.

The season, in spite of its open character, has not been of a precocious nature. Nothing of an ordinary kind seems any the earlier for the recent open weather, probably for the reason that, whilst comparatively mild, it has been so dull and gloomy. The sun has rarely shown its face, and the soil is both very cold and wet. Where the soil is naturally stiff, a mild wet winter is a serious evil, as it seems impossible to get the ground into anything like friable form, which is most helpful to growth. The less all such soils are touched at present the better.

If we get some gleams of sunshine now, and the weather remains open, vegetation will most certainly soon move, but no conditions of the atmosphere seem more conducive to restfulness in vegetation than do gloomy weather and sunless days. After a spell of severe frost, a quick rebound often follows, but with gloomy open weather no such sudden reaction results. Whatever may be the nature of the weather between now and the end of March, we hope that it will be mild and genial when the spring-time is really here.

The Railway Rates Act.—The passing of an Act of Parliament last year, dealing with the question of railway rates, especially for the carriage of home produce, was expected to result in important reforms by the companies, leading to such an equalisation of charges as should appreciably favour the home growers. Parliament, when it intervenes in matters of this sort, does not always do so wisely, and judging by complaints made in some directions, the equalisation so far seems to have led to a levelling up of charges rather than of a levelling down. If that sort of reform is to be the general product of the recent Railway Rates Act, very probably many persons will wish that well had been left alone. It is very doubtful whether, on the whole, the outcry with respect to the inequality of transit rates has not been of a sentimental character, the evil being much smaller than the remedy is equitable. Growers usually find railway companies amenable to special arrangements; but if the companies are forced by Acts of Parliament, they may demand in return their pound of flesh, and the poor fruit-grower, who hopes so much from the Act, may be worse off than before.

The Elections of the County Councils.—These are still proceeding, but will be all completed in a few days. None, however, have excited more interest than that of the newly formed County of London, and specially so to those engaged in fruit and vegetable culture for sale, because the metropolis is the chief market of the world; and the duty of supplying market places for all sorts of produce is now vested in the County Council. If we are to regard the constitution of the new body from the market-growers' point of view, we should view it hopefully. The old monopolist element is shattered, and there is now in authority a power strongly inclined to the provision of municipal markets for the community. It is worthy of remark that during the tremendous glut of all kinds of green vegetables which have characterised the market trade in London, consumers have hardly benefited. Still farther, growers have always obtained better prices at shops than they have in Covent Garden Market, where concentrated quantity destroys profits.

The English Apple and Fruit Growing Company.—Many of our readers have doubtless conned with considerable interest the report we published last week respecting the affairs of this newly-formed company. The carrying out of the bold proposals originally made has for the present become impossible—not at all a matter for surprise, for the natural reason that the investing public have so far had little experience in horticultural, and especially in fruit-growing speculations, hence there is little anxiety to be on with the company's shares. The course now proposed, that of starting modestly, and as confidence increases, of expanding the company's operations, is by far the best, and certainly is far more likely to lead to prosperous results than would the incurring of a big outlay at the first, a large portion of which must of necessity for some time remain unremunerative. The ultimate success of a company of this kind depends to some extent upon the possession of public confidence, but it even more depends upon the requirements of the public at large, and it is absolutely certain that the demand for high-class fruit of every kind is increasing and must continue to do so.

An Odd Suggestion.—A correspondent, probably of the Artemus Ward sort, referring to a reference made last week in relation to important changes in association with the committee of the Royal Horticultural Society, and specially referring to the abolition of the luncheon privilege, suggests "that to raise a Luncheon Fund for the members, the Council of the society should insist on the payment of an entrance fee of 5*s*. for every single exhibit, whether tree, flower, fruit, or vegetable, submitted to the Floral or Fruit Committees for adjudication. If there were twenty of such entries per show, for instance, that would raise £5 per meeting, and thus pay for the committee's luncheons handsomely." He does not "advise charging for subjects shown solely to assist in making the meetings attractive, but for those only which are entered for awards of certificates." He adds that "in the majority of cases these awards give a pecuniary value to the subjects certificated, and that in any case the coming before the committee becomes a good advertisement, which is worth paying an entrance fee to ensure."

The National Chrysanthemum Society.—It has been definitely arranged for the Provincial Show of this society for 1889 to be held in conjunction with the annual exhibition of the Hull Society, on November 21st and 22nd.

Gardening Engagement.—Mr. George Ormiston, lately gardener to the late Earl of Selkirk, St. Mary's Isle, Kirkcudbright, as gardener to J. Colman, Esq., Gatton Park, Reigate, Surrey.

Mr. Laxton's Seedling Peas.—We understand that Messrs. Harrison & Sons, of Leicester, have purchased the entire stock of Peas in the possession of Mr. Thomas Laxton, of Bedford, the well-known hybridist. The stocks, acquired after many years of patient cross-fertilisation and selection, will be put upon the market as soon as sufficient quantities for that purpose can be obtained.

"Chrysanthemums and Their Culture."—We note with pleasure the appearance of a fourth edition of Mr. Edwin Molyneux's admirable little work, and congratulate him on the success which has attended his efforts to raise the standard of cultivation generally. The fact that a fourth edition has been called for during a period of a little over two years, precludes the necessity of further singing its praises, but we may mention that a new chapter or two has been added on interesting subjects, and that the author has brought his selections up to date.

County Councillors.—So far as we have been able to ascertain, but few of our noted horticulturists or florists have sought seats on the new County Councils, and but very few have been elected. In the Milnrow-cum-Castleton division of Lancashire, Mr. Samuel Barlow had the best of a stiff contest with Mr. Clements N. Royds; and in the Wallington division of Surrey, Mr. A. H. Smee secured a seat.

An Ice Carnival in the Albert Hall.—Arrangements have just been completed for holding a great society fête, to be known as "The Ice Carnival," in the Royal Albert Hall and Conservatory, on behalf of the West End Hospital for Paralysis, which is under the patronage of the Princess of Wales. The dates fixed are March 14th, 15th, and 16th, and the fête will represent winter scenes and festivities in various countries.

Veitch Memorial Fund.—At a meeting of the trustees held on Wednesday, the 16th inst., Dr. Robert Hogg in the chair, it was resolved that three Veitch Memorial Medals be awarded at the Temple Gardens Show on May 30th, 1889; that two medals be placed at the disposal of the Royal Caledonian and the Newcastle-upon-Tyne Horticultural Societies, and one each to the Northampton, Tibshelf, and Chiswick Horticultural Societies respectively. Dr. Maxwell T. Masters was elected a trustee, and Mr. A. H. Kent was elected secretary, in the place of the late Mr. Thomas Moore. All communications should be addressed to the secretary, 13, Kempson Road, Fulham.

National Auricula, Royal National Tulip, and Carnation and Picotee Societies.—The annual general meeting of these societies will be held on Wednesday next, at the "Old Bull's Head" Inn, off the Market Place, Manchester, at three p.m., to arrange the schedules, and to appoint judges, together with any other business that may arise in connection with the societies. The trustees of the Turner Memorial Fund have kindly offered the sum of ten pounds for 1889; half to the National Auricula Society, and half to the Royal National Tulip Society; and the meeting will have to consider how this sum shall be arranged in the respective prize lists—to which alone it is applicable.

New Plants Certificated at Ghent.—At a meeting of the Belgian Syndical Chamber of Horticulturists held at Ghent on the 14th inst., Certificates of Merit were awarded to Lycaste Poelmani, exhibited by M. L. Poelman; to Cypripedium Canhami and C. villosum albo-marginatum, shown by M. Moens; to Dendrobium Brymerianum, from M. L. Desmet; to Odontoglossum Harryanum, from M. Peeters; to Catasetum Bungerothi, shown by M. Leonard; and to Cypripedium Stonei Hyeanum and C. Ashburtoniæ expansum, exhibited by M. Jules Hye.

Brussels Horticultural Chamber of Commerce.—A number of horticulturists met in Brussels on the 14th inst., for the purpose of founding a Chamber of Commerce under the above title, and which shall have for its objects, the union of the horticulturists of Brussels and the province of Brabant; the institution of a horticultural exchange or bourse; the organisation of meetings and horticultural exhibitions; the extension of commerce by the research for new openings; and the study of all questions of importance to commercial horticulture. The Chamber will be composed of an unlimited number of both effective and honorary members. The former will consist of horticulturists, directors of nursery establishments, florists, vine growers, &c., who will pay an annual subscription, and they only will have the right of voting. Honorary members may consist of anyone belonging to the country or otherwise, provided they are interested in horticultural affairs, inscribe themselves as members, and pay the annual subscription. The Chamber is to be governed by a directing committee, invested with the most extended powers to carry on its affairs. The following have been elected to serve for five years—namely, Messrs. Lucien Linden, president; Fr. de Backer, vice-president; Paul Buquet, secretary; Joseph Story, assistant secretary; and Louis de Langhe, treasurer.

MID-WINTER BLOOMS OF CHRYSANTHEMUMS.

In your comments on January 19th (p. 320) on the mid-winter show, you say "it is doubtful whether the production of late winter blooms can be made coincident with particular attention to the production of autumn show flowers." I am not sure if I interpret your meaning rightly; but if it is that you think the growing of plants for late blooming cannot be carried on concurrently with the growing of plants to produce autumn show flowers, without the latter having, in some measure, to suffer from inattention thereby, I can only say that in our practice we experience no difficulty whatever. Our exhibition plants suffer no diminution of attention to their wants, because we set aside another lot of plants for a little different treatment, that they may produce their blooms at a much later date.

It is true we have been growing Chrysanthemums in an ordinary way, and also for late blooming, for a much longer time than we have been growing plants for exhibition blooms. But during the six years we have grown plants for cut show blooms, the growing of plants for other purposes, including those for late winter blooms, has been carried on coincidently, without any one section of the plants having to suffer through extra attention being given to any other section or set of plants. In short, we have always been able to give to each set its proper share of care and attention. Given the house-room, no grower would find any difficulty in growing plants for late blooming.

While I would give every attention to the production of a certain quantity or number of autumn show flowers, I would not allow it to monopolise time and attention to the extent—which I fear is the case with some growers—of neglecting other and more useful phases of cultivation of the flower. It is to be feared that it is this all-engrossing, all-absorbing of time and attention to the production of huge blooms for the show table that is causing many lovers of the Chrysanthemum to look with disfavour on that phase of cultivation, and to give only a lukewarm support to Chrysanthemum exhibitions. I do not think that this is the consummation the National Chrysanthemum Society desires, and the production of huge exhibition blooms ought not to be the be-all and end-all of Chrysanthemum growers.—*J. Kipling, Knebworth, January 22nd.*

NOTES ON FRUITS.

Apple, Stirling Castle.

The books all describe this as an early Apple, which is so far true, and it is stated to be in season in August, or from August to September, and again from August to November. Under favourable circumstances and conditions, however, the fruit will keep good till well into January. The fruits I refer to were ripened north of the Tweed, a circumstance that may have materially favoured their keeping till so late a period. The flavour was then considerably improved, and the fruits might have been used for dessert purposes, and proved palatable to many. The flesh is tender, juicy, and sub-acid, but becomes so mellowed by December and January that it makes pleasant eating. In the south, as one might naturally expect, the fruits come sooner to maturity, both in the open ground and after they have been stored. The colour is also more highly developed in southern-grown specimens. As a variety it is now of respectable age, having been raised at Stirling about the year 1830; but is not so extensively cultivated as it might with profit be. It is a heavy cropper on young trees, even in such an unfavourable season as the past, and seeing that it is admirably adapted for culture as a bush, it might be more largely grown in cottage and villa gardens.—*F.*

Apple, Downton Pippin.

Small Apples as a rule are less favourably received at present than they used to be; but it must not be forgotten that small-fruiting varieties often bear in great abundance, whereas in the case of large kinds, the fruits must of a necessity be fewer even when the crop is a good one. The Downton Pippin bears a considerable resemblance to the exceedingly old Golden Pippin or London Golden Pippin, a fact which is not surprising seeing that the latter was its pollen parent. It is shortly oblong, or somewhat cylindrical, with a smooth lemon-yellow skin, with a yellowish white, crisp, and juicy flesh. It is a dessert kind of the first quality, ripening in November, and is still in season.

LENTEN ROSES.

With the mild weather that has prevailed for some time past, the species and varieties of Helleborus—now generally known under the name of Lenten Roses—are

Lenten Roses.

rapidly coming into flower, and will continue to be produced till March, some time during which the blooms attain their greatest perfection, and then gradually lose their colour, becoming green. As far as the flowers are concerned, there are several that are not particularly showy; but in some cases the beauty of the foliage recommends them for cultivation. H. colchicus is undoubtedly the finest of all the Lenten Roses, and has deep plum-purple flowers, while a variety named H. c. coccineus is even richer in its colours. H. abchasicus and H. atrorubens also deserve a place in a collection, or a partially-shaded situation on the rockery. Both have purple flowers, more or less tinged with green at the base, and when in full bloom are very pretty. The spotted variety of H. caucasicus, named H. c. punctatus, presents a new element in the rosy-spotted flowers.

There are several forms of H. orientalis in cultivation, some of which are exceedingly beautiful. The typical form is rose-coloured, and while H. o. antiquorum has larger and somewhat basin-shaped flowers, they are nearly pure white. H. o. guttatus is white, spotted with purple on the lower part of the petals. A sub-variety of this, named H. o. g. Leichtlinii, has the spots extending over the greater part of the petals. This variety is shown in the centre of our illustration of a group of Lenten Roses.

Bromley District Chrysanthemum Society.—The next exhibition of this society will be held on November 13th and 14th, at the Drill Hall, Bromley, Kent.

ANTIQUITY OF VEGETATION.

Progressive order of Plants and Animals.

It is impossible in the present state of our knowledge to give a complete and consecutive genealogy of either plants and animals, owing to great gaps in the chain of succession, representing vast periods of time if reckoned by years, intervening between the subsidence and elevation of land during the different geological epochs, so that it will be necessary to keep to general facts.

Sea Weeds and Rhizocarps have continued from the lowest stratified rocks to the present time, accompanied by Protozoa amongst animals. Club Mosses, Horsetails and Ferns followed, and then Conifers, Cycads and Monocotyledons, the first three culminating in Carboniferous times. This corresponds to the age of invertebrates, fishes and amphibians. The oldest fossil insect occurs in the Devonian of North America, and measured 5 ins. across the wings, while May-flies in the Carboniferous rocks had an expanse of wing of 7 ins., so that they are probably not the first that lived. Cycads and Conifers become dominant in the Secondary rocks, which were formed during the age of reptiles. The latter were adapted to live on land or water, and some of them were of enormous length, including one (Iguanodon), 40 ft. to 70 ft. in length, and a singular flying reptile. Insects are represented by beetles in great numbers and variety, gnats, cockroaches, dragon-flies, huge ants and bees. A supposed fossil butterfly (Palæontina oolitica) occurs as early as the Oolite rocks in England; but its affinity is doubtful, and it is significant that true flower-haunting insects should make their appearance so late, corresponding to the incoming of show flowering plants.

In like manner, the first seed-bearing and true-flowering plants had small and inconspicuous blooms, and were fertilised by the wind, such as Conifers, Cycads, and Angiosperms, represented by Palms, Grasses, Sedges, Poplars, Willows, Planes, Oaks, Birches, and others, which were independent of insects for the production of seeds. The occurrence of plants bearing seeds in a seed-vessel in the Cretaceous period is a remarkable fact in geological records, showing that the vegetable kingdom had reached the culminating stage of its development before placental mammals which correspond to it in the animal kingdom made their appearance, as the latter do not occur before the Eocene in the lower Tertiary rocks.

From the lower Tertiary upwards large and showy flowers become more and more numerous, at first exhibiting no great specialisation to any particular class of insects, but open to visitors of many or all kinds, such as flies, beetles, and ants. With the exception of large and coloured corollas, they exhibited no special adaptations to flower-haunting insects. Flowers of this kind were followed by others with irregular corollas, such as Aconite and Pea flowers, or even with the petals united, forming a short tube, to which only insects with long tongues, such as bees, could gain access to the honey. The insect world kept pace with the needs, and the bee family made its appearance. Finally, in the Tertiary, we meet with true Lepidoptera (moths and butterflies), and likewise with long-tubed or long-spurred flowers, each specially adapted to the other, and mutually dependent for their co-existence. Moths and butterflies only can reach the honey at the base of the flowers, and so obtain food, while the latter are equally dependent on such insects for the fertilisation of their flowers, the production of seeds, and their preservation. Existing evidence goes far to prove that highly-developed flowers—such as Dandelions, Thistles, Sunflowers, Harebells, Foxgloves, Salvias, Lilies, and Orchids—did not exist till middle or late Tertiary times.

At this period the earth becomes clothed by the social grasses, forming a green carpet everywhere, and causing such a revolution amongst animal life as the old-world inhabitants could never have dreamed of. The Mammaliferous Stone-bed of Norwich of Pliocene times yields skeletons in good preservation of the Mastodon, Elephants, Hippopotamus, Antelope, Stag, Horse, Panther and Hyæna, as well as the bones of birds, showing in great abundance the existence of grazing, herbivorous, and other animals. Later, in cave deposits of Pleistocene age previous to the Glacial period, we find bones of the Horse, Ox, Bison, Goat, Red Deer, Reindeer, Roebuck, Cave Lion, Bear, Fox, Hare, Lemming, and shells of the Limpet, Oyster, and Mussel, associated with flint arrow-heads, knives, and harpoons, evidence of Palæolithic Man, showing that he was the latest to appear on the scene, but had at this time attained some considerable degree of civilisation, and lived by fishing and hunting. In a cavern at Torquay, Devon, we have evidence of two distinct races of men having inhabited it coeval with extinct Pleistocene animals.

FORMS OF LEAVES.

Leaves are as varied and diversified in outline as the plants that bear them, and if the argument be extended so as to include minor matters of detail, it would often be a difficult matter to find two exactly alike on the same plant. Assuming, however, and for all practical purposes it will suffice to reckon that every plant bears one or at most a few forms, the difficulties of enumerating them are considerably lessened. There are from 100,000 to 300,000 flowering plants throughout the world, according to different authorities and botanists, who, to make themselves intelligible, have agreed upon a few standard types, to one or other of which they compare every form they meet. Under the circumstances it is not surprising to find them disagreeing in many points of comparison, for it often happens that a leaf may, with equal right, be referred to two or more standard types, because not exactly like either.

Notwithstanding the variety and complexity—not only in structure but in outline—of the leaves of plants at present clothing the earth's surface, we have reason to believe they existed in much simpler forms at an earlier period of the earth's history. The solid crust of the earth may be compared to a museum, and the various strata to shelves on which are piled specimens of the plants then existing and clothing the habitable surface. The record would have been complete if a regular gradation or series of forms had been preserved, but unfortunately for science there are not only numerous missing links in the chain, but unspannable gaps that can never be bridged over. Bearing this in mind, it would often be impossible to recognise from fossils, plants that make their reappearance at a later epoch if they had undergone much change during the interval of their disappearance from geological record. On the other hand, imperfect as they are, these records are valuable, and show an evident progression of plant life from simple forms to that of a more complex kind.

Gradation of Forms.

Further evidence of this succession or gradation of forms might be adduced by a study of living specimens. Two plants collected in widely separated localities might present so many differences as to be regarded as two perfectly distinct species. By a careful exploration of the intervening districts or countries, a numerous series of intermediates might be found connecting the two extremes, and confirming their common parentage.

A study of the plant from its infancy often reveals many successional stages, from the primary and usually simple leaf up to that of the greatest complexity occurring in the species; and the study of its embryology gives more reliable evidence of its genealogy or ancestral line of descent than geological record itself. The common Passion Flower (Passiflora cœrulea) affords a good instance of plant evolution from the juvenile to the adult state. The first true leaf is small, undivided, and not unlike the cotyledons or seed-leaves, succeeded by eight to ten more that differ from the first chiefly in size. A series of three-lobed forms appear abruptly, and these, in turn, give place to five-lobed forms which may, under certain conditions, exhibit no further division. Under favourable circumstances, however, the leaves of the adult plant become more or less five to seven-lobed, with long finger-like divisions. In most plants the successional stages are fewer and the transition more abrupt. Other species of Passion Flower having undivided leaves in their adult state merely show development in size from the seedling upwards. The first leaf of the Horse Chestnut has five leaflets—a degree of evolution little behind that of the parent, while the seedling Laburnum has three leaflets and the adult no more. The explanation of these latter phenomena is that the offspring, through causes which I need not here discuss, inherits the peculiarities and developments of its parents at a still earlier and earlier age, until we find little or no trace of evolution in the seedling at all.

Cause of Form.

The agencies at work in bringing about the present conformation of vegetation are numerous, but the fundamental principle of variation underlying the whole is an inherent property pervading all living matter, and inducing it to become more and more complex and differentiated. Under such a principle there would be a constant tendency in every organism to ascend the scale, becoming more and more complicated and presumably perfect. But there are so many minor and collateral influences at work, that plants do not always ascend the scale of organisation, but deviate one way or another according to external influencing conditions, so that there is often an apparent degeneracy in order to accommodate themselves to their surroundings. The natural outcome of this variation is designed to fit plants to occupy different positions on the earth's surface, so that every part capable of supporting vegetation of some sort may be clothed; and further, the changing conditions, both physical and geographical, to which our earth is subject, necessitates the faculty in plants of changing their physical and external conformation in order to exist. There is a general competition—sometimes severe—amongst the members of the vegetable kingdom for the richest and best places, and while the weaker give way, the stronger survive and occupy their places. Variation, however, may fit the former for some other position where the latter are unable to follow them. It needs but little argument or demonstration to show that conditions such as temperature and exposure to light, and surroundings such as mountains and other kinds of natural shelter, or submersion in water, all exert a powerful influence in modifying the forms of leaves. For instance, the leaves of the Water Lilies, through a long series of developments and evolutions, have become what we now see them, structures designed for floating, while the Oak and the Ash have developed in another direction, and are totally unfitted for an aquatic condition.

There is every reason to believe that aquatics were more prevalent at a former period of the earth's history than they are at present, owing to a more imperfect separation of land and water, and a greater abundance of atmospheric moisture. These aquatic plants have either died out, or changed their habits and become adapted to live on dry land. It would be an easy matter to point out plants adapted to fill an intermediate position between aquatic plants proper and those confined solely to dry land. Heat and moisture combined have undoubtedly wielded a powerful influence on vegetation, in shaping and moulding the endless variety of leaves we see around us. Witness the wealth of the tropics in evidence of this, where the two great and favourable conditions are combined, giving birth to the gigantic leaves of the fan Palms, the Victoria Regia, and hosts of other highly developed subjects. In the absence of moisture the vegetation dwindles to small-leaved, hairy or spiny forms, or gives place to the fleshy-leaved succulents, and other drought-resisting subjects. Reverting to the vegetation of our own comparatively sunless climate, the forms of leaves become much tamer and more capable of resisting our changeable seasons. Yet even here I believe our Oaks, Ashes, Limes, Maples and other deciduous trees originated when or where the climate was moister and warmer than ours is at the present day.

Importance of Light.

Light is another, and one of the most powerful factors, affecting not only the external conformation, but the internal construction of leaves. The size and shape of the leaves, their arrangement, the length of the internodes and the petioles, all bear a definite relation to one another in different plants, and to their exposure to light. If the leaves are large, the petioles or the internodes, or both, must be long, as in the Plane and Sycamore, or the leaves may be long and narrow, as in the Sweet Chestnut. They may, on the other hand, be arranged in one plane, so as to catch the incident rays of the sun, as in the Lime, Elm, or Custard Apple; or they may be very large and arranged in tufts umbrella-fashion on the apex of the stem and branches of trees, as in the exotic Sterculias, Palms, Grias, and many others. So powerful is the influence exercised by light upon leaves, that it destroys the symmetry of their arrangement in probably hundreds of cases, making them when opposite, or in whorls of three or more, greatly disproportionate in size and unequally matched. Trees and shrubs, more especially those with evergreen leaves, have a more conspicuous and evident arrangement of their leaves, with regard to a perfect exposure to light, than herbaceous plants, owing to the necessity of keeping the former in a healthy condition for a longer period of time. The effect of insufficient light is readily observable in our hothouses in winter, especially during foggy weather, when rapidly-growing thin-leaved plants lose colour in a comparatively short space of time. Anyone may test the influence of light upon leaves for himself in the following manner. Of two young and growing leaves under like conditions, take one and enclose it in a bag of some dark material, so as to exclude the light, leaving the other fully exposed. That where the light is obstructed will remain small and even lose colour, proving that although leaves are perfectly formed in the bud, they never attain their natural size and texture, unless fully exposed to the influence of light.

This is readily explainable on the grounds that the leaves of plants are at once a laboratory or workshop in which all the material is prepared for the construction of more leaves, their proper development, the construction of wood, and the production of flowers and fruit. This applies only to the leaves containing chlorophyll or leaf green.—*J. F.*

(To be continued.)

CYPRIPEDIUMS.*

Popular as Orchids have become in recent years, none has secured a greater share of favour than the Cypripediums, though they certainly cannot be ranked amongst the most brilliant of the family in floral colouring. In devoting a few minutes to the consideration of their chief characters we may gain some idea why they are so popular, but it would be impossible to deal exhaustively with the subject in a paper of this kind, which is intended to be suggestive, and as a prelude to discussion.

General Characters.

Orchid flowers are usually recognised without difficulty even by those uninitiated in horticultural or botanical mysteries, but no genus stands out so conspicuously distinct from others, yet so uniform in the principal characters itself, as the Cypripedium. Everyone knows a Cypripedium the instant a flower is seen; there is not the slightest difficulty about it, no danger of mistaken identity. The variations are numberless, yet are united by certain predominant characters which constitute one of the most clearly defined groups of Orchids. It is assumed that the origin of the Cypripedium dates far back in the history of present plant life, at a time when Orchids had not advanced so far in their complexity of structure, and a simpler order of things prevailed. Darwin made a special point of this in his work on the *Fertilisation of Orchids*, and he remarks that "an enormous amount of extinction must have swept away a multitude of intermediate forms," leaving the Cypripedium known to us isolated from all other members of its family, with the exception of a few obscure species that do not come within the horticulturist's ken.

The antiquated simplicity claimed for Cypripedium flowers is not, however, very apparent to the casual observer. The sepals, petals and labellum are present as in other Orchids; there is also the column, compounded of stamens and pistil in the usual position, but here a difference is noted that will furnish a key to the whole structure. At the top of the column, and just above the entrance to the lip, is a fleshy plate, various in size and shape, which occupies the place of the anther-case in most other Orchids, and being theoretically regarded as a metamorphosed or functionless stamen, it takes the name of staminode. Behind this are two anthers, one on each side of the column, another divergence from the normal Orchid structure; then below the staminode is a stigmatic plate projecting from the front of the column. The shape of the labellum is also exceptional, and not only gives the plant its botanical name, but also its popular and very widely accepted one of "Ladies' Slippers," varied in North America by the title Mocassin Flower, both referring to the pouch or slipper-like lip. Here, again, it may be remarked, the assumed simplicity of structure is by no means evident, for the labellum is widely different from all other Orchids, and the form is approached by very few flowers, the Calceolaria affording, perhaps, the most familiar example of any similar pouch-like structure. We can scarcely imagine how an organ such as the Cypripedium lip could be developed even from the strange forms which prevail in the Orchid family without a very long series of changes. It is so artificial in appearance—if that term is admissible—and seems to be so exactly adapted for its particular purpose, that it is difficult to imagine it to represent an earlier and simpler form of structure. If we may indulge in such fancies, the most probable view is that starting from a primitive form, the Cypripedium has developed in an altogether different direction from other Orchids, hence the wide divergence in characters now observed, which is sought to be accounted for by the extinction of intermediate forms.

In Orchids we naturally look for special adaptations to favour cross-fertilisation, and the labellum commonly serves as the chief means by which wandering insects

*A paper by Mr. Lewis Castle, read at the Horticultural Club, January 15th, 1889.

are unconsciously induced to assist. In the Cypripedium the labellum serves an important purpose in that direction, not so much, however, by attracting as by constituting a kind of trap, permitting only one means of escape—namely, at the back by the side of the column, compelling the intruder to carry with it the pollen-mass, which is probably conveyed to another flower, and in endeavouring to escape again the first pollinia would be placed on the stigma before the next was reached. As an attraction, the upper or dorsal sepal, usually so much larger and more showy than the other portion of the flower, really takes upon itself the duties of the normal Orchid labellum, and it performs its task well. The brightest colouring is concentrated there, and it is moreover frequently arranged in bold bars or lines of dots tending in the direction of the lip, probably acting as guides to the insect visitors.

SELF-FERTILISATION.

Self-fertilisation is rare amongst the Cypripediums, but it is rather a remarkable fact that with all these adaptations to favour cross-fertilisation travellers tell us seed pods are comparatively scarce on plants in a wild state, and importers seldom receive specimens bearing seed. It is even thought that some species are gradually approaching extinction from this cause, as their increase by growth is slow, and in any case this must keep the species within restricted areas. In one very remarkable case, that of C. Schlimii, self-fertilisation is a common occurrence, and the ill effects of this are apparent in the weakness of imported plants, and in home-raised seedlings not derived from a cross with a stronger species. Here we have a tendency to extinction from a directly opposite cause from that just assigned—namely, the limited production of seeds, as C. Schlimii is endangered by its own fertility. It would seem, therefore, that these Orchids are not the most favoured by Nature in the race of life; yet it is strange that under cultivation they are readily increased by seed, crosses are obtained with ease, and the number of hybrids already raised and recognised as distinct are far more numerous than all the known species.

The leaves of some of the "Ladies Slippers" are very interesting and beautiful. In such species as C. Lawrenceanum and C. Hookeræ there is an exquisite marbling or variegation of light and dark green, some being tesselated in a most artistic manner. In others of the C. concolor type, with thick leathery leaves, the surface is covered with a kind of transparent crystalline glaze, through which the markings have a beautiful effect. Of course, none of the Cypripediums can be said to rival their charming relatives, the Anætochili or Goodyeras, in beauty of foliage, yet they rank next to them in these attractions.

(To be continued.)

GARDENERS OF THE FUTURE.

CONCERNING the discussion which has been going on in your journal with regard to the gardeners of the future, Mr. J. Peebles (p. 306) draws unfair conclusions in treating of the duties of head gardeners towards their subordinates when he says that complaints are made about young gardeners not receiving instruction in the sciences from their chiefs. If we are to rely solely upon our superiors for instruction we cannot expect to excel them, and gardeners of the future, if such were the case, could in no way be superior in education to them. Gardeners in the past have been largely drawn from the ranks of the labouring classes, still continue to be so, and the practice is likely to be continued in the future. Now it is very evident that such men are rarely in a position to give their sons a technical education, so that to look forward to the latter as teachers of science is expecting too much; there are exceptions certainly, and it is mainly due to individual talent and innate perseverance that they can thus outdistance their former schoolmates and equals. It remains for the gardeners of the future to develop their talents individually, or call in the assistance of teachers, of whom there are many more in the present day than when our superiors were young men.

I have myself come in contact with gardeners whose knowledge of the sciences was very limited, but did not less appreciate their efforts to impart practical instruction; at the same time I did not doubt but that an appreciable, that is, a fair amount of knowledge of the sciences would have been of an incalculable benefit to them, not only with regard to their own duties, and in their dealings with subordinates, but also in their relations to, and communications with, their employers; but above all things, it need hardly be necessary to draw attention to the fact that young gardeners need not point to their superiors as a standard beyond which it is useless or unnecessary to go. If such were the case, no improvement nor progress could be made on any ancient existing order of things. Mr. Peebles says that "a man can be a very successful gardener without possessing a knowledge of botany or chemistry"; but his general argument breaks down when he admits that such a man would, no doubt, be more successful when in possession of a good knowledge of those subjects. After such an admission, it seems unnecessary to ask the question whether those sciences were "absolutely necessary" to grow Chrysanthemums to a certain degree of perfection which he indicates. In his previous sentence he practically admits it.

It is a very difficult question to say precisely what perfection is, even when applied to the growing of Chrysanthemums. Everyone knows that a certain amount of risk attends the growing of Chrysanthemums, as occasional complete failures show, even in the application of manures. Now, a knowledge of chemistry would undoubtedly have prevented those failures in most cases, except through inadvertence or sheer accident. At the same time, it must not be denied that the Chrysanthemum growers he mentions possess a large amount of practical knowledge of the sciences in question; and that in their proper application resides their value. Science improperly applied is no science at all, and may be compared to a trial or experiment, or, to speak mildly of it, a leap in the dark. Botany at first sight would to the uninitiated not appear to be of any assistance to the cultivator of Chrysanthemums; but Mr. Peebles must not overlook the fact that botany as a science is not confined to a mere list of technical terms. Physiology is but a branch of it, which treats of the natural functions of the various organs of plants, and teaches us what are their requirements and how we may best supply those wants. This, again, is intimately linked with chemistry, and soils with geology, so that it would be difficult to say where one might stop and show that plant culture does not require further elucidation.

I would urge Mr. Peebles to look beyond the little difficulty attached to the acquirement of a knowledge of mere technical terms, such as he gives in several parts of his article. They are only the alphabet by which one is enabled to read in the book of science; and that the latter may be of practical value to a man, he must pursue a subject a little farther than the acquirement of a "smattering of technical phrases," or terms that merely serve to unlock its pages. Again, a knowledge of the elements of chemistry will serve but little if the gardener has no idea of their relations to plant life, and be able to apply them in any particular case, such, for instance, as the best kind of manure to give to a certain plant or class of plants, the method of applying it, and the proportion at different stages of development of the plants under the gardener's care. Botany also teaches what relations heat, moisture and light have to plant life, without which knowledge the technicalities of the science would be dry reading indeed.

The practical gardener he mentions is a very good type of the old school; a good instance of the conservatism that prevails amongst them, and the unwillingness to depart from the old and beaten track, without which progress would be impossible. If the seeds, cuttings, or young plants were from tried and valuable kinds, they certainly would have deserved a place in his garden, whether they had names accompanying them or not. The flowering plants, when they came into bloom, or the fruit trees, when they came into bearing, could have been determined, and should they have proved to be new, then, if worthy of retention, they deserved a name. In all of these cases a knowledge of botany, in certain of its numerous branches, would have been of incalculable benefit to him. His scientific knowledge would have been no detriment to him, but would have enabled him to improve upon it.

Before concluding, I should say that a man may grow a certain class, or several classes of plants, to a great degree of perfection, simply by close and attentive observation, extending over a great number of years; but if a knowledge of the science of those subjects would enable him to attain the same degree of perfection in a smaller number of years, then I say by all means get the necessary knowledge. Young gardeners need no check to their ardour, nor cold water thrown on their endeavours to acquire a thorough knowledge of their profession. On the other hand, they are generally but too eager to find an excuse for evading study of any kind.—*A Gardener.*

I HAVE not seen any comments on the subject of the nursery as a school for young gardeners, but I think something may be said in reference to it. The most evident way in which nurseries are of advantage to young gardeners is that they are generally open to give them employment when they are not engaged at private places, and although the remuneration may be small, even this is a great benefit in most cases. It is well known that situations are not open at all times—at least, of a suitable character. Moreover, nurseries in general, on account of their business connections, have ready means of securing appointments; but too often we find gardeners (young and old), when employed in a nursery, confining their daily thoughts to "more wages," and to obtaining a situation as "gardener," utterly neglecting the opportunity for gaining knowledge on subjects that would subsequently be of the greatest use to them.

An attentive and intelligent young man should not overlook the many advantages to be gained by spending a year or two in a good nursery, where he could learn as much as he would in a far longer period spent in a comparatively limited private garden. A nurseryman's main object is to supply all that is necessary for the furnishing and laying out of gardens, and it may be taken for granted that the best nurseries contain fair collections of the best plants, trees and shrubs in cultivation, all collected together, and almost daily under the observation of the learner, who, with the aid of books, perseverance, and diligent observation, should thus acquire a fair amount of useful knowledge. No doubt there are many difficulties to contend with, for, of course, a nurseryman expects those in his employment to work diligently; but there is no royal road to knowledge, and the knowledge of the management of a garden is not to be obtained by pertinaciously adhering to one particular system, however highly it may be recommended.

The most useful knowledge is only to be acquired by perseverance, unremitting industry, and by reducing the principles of theory to the certain and infallible test of practice. Propagation in all its branches being extensively practised in most nurseries, affords opportunities which no young gardener should neglect, for an intelligent attention to the manner in which it is performed will necessarily prove to be of the utmost benefit to him.

The propagation of trees, shrubs, and conifers, by eyes, cuttings, layers, budding, grafting, &c., is also of great interest, and thorough success can only be obtained by practical experience, together with a thorough knowledge of the principles involved. It must be admitted then, that nurseries give the young gardener the chance of acquiring an experience which could not be got otherwise.

I sincerely trust the many advantages of a nursery to young gardeners (some of which I have pointed out), may have some influence in inducing young men to make the most of the time they spend in a nursery, whether voluntary or otherwise, and, as far as possible, take advantage of the many opportunities for improvement at their disposal.—*R. J. H.*

I HAVE been reading the letters on this subject with great interest, as I look forward to the time when I shall help to swell the already over-crowded ranks of the profession. I have had fourteen years' training in all branches of gardening, under, for the most part, good practical men; but who, alas for me, knew little or nothing about the sciences mentioned by some of your correspondents, though I found that their want of knowledge on this subject did not make them one whit the less good gardeners. Of course that is a very shallow reason why I and my fellow aspirants should follow in their wake; but when one sees such men so successful in their respective positions, one is apt to come to the conclusion that we can easily dispense with the science and yet be good practical gardeners.

The men who have made themselves efficient in botany, chemistry, &c., are chiefly men of means who have had a high-class education, and have plenty of leisure time, and the best class of books to work with—luxuries that are almost out of a gardener's reach altogether. What the gardeners of the present want, is a Union into which no one should be admitted until after undergoing a strict examination. That would be the means of weeding out hundreds of men who are a disgrace to the name of gardeners, and I am sure if we young gardeners knew that we had to pass a stiff examination before we could call ourselves gardeners, it would be the means of making us exert ourselves much more than we do at present. There are plenty of able men among your correspondents who could take this matter up and bring it to a successful issue, and by so doing they would have the heartfelt thanks of all true sons of Adam.—*O.*

FLORICULTURE.

The Carnation and Picotee Union.

We have just received the fourth annual report of this association, and are heartily pleased to note its highly successful progress. The honorary secretary, at the close of his observations on the good flowers of the year, says: "Our statistics continue eminently satisfactory. In the first year 110 members were entered upon the roll; in the second, an addition of 112 was made; in the third, 84; and in the fourth, 111; the association having now some seven times the number of supporters in excess of that attained by its competitors for public favour. Its income in the first year from all sources was £70 16*s.* 6*d.*; in the second, £94 17*s.* 6*d.*; in the third, £125 18*s.*; and in that now closing, from subscriptions £142 3*s.*, from the sale of the Kilmurry Seedlings £61 11*s.*, total £203 14*s.* In the first year, prizes amounting to £41 6*s.* 6*d.* were paid to twenty-two competitors; in the second, £43 10*s.* to twenty-one competitors; in the third, £57 18*s.* to thirty-one competitors; and in the fourth, £61 15*s.* to thirty-six competitors. In the first year the largest amount taken by any one competitor was £5 6*s.* 6*d.*; in the second, £5 19*s.* 6*d.*; in the third, £6 8*s.* 6*d.*; and in the fourth, £5 9*s.* 6*d.* No worthy exhibit went unrewarded, nor did any competitor go away empty-handed. This is a record of unequalled progress, and such as will afford hearty satisfaction to every lover of the Carnation."

Chinese Primroses at Farnham Royal.

Since we last visited Mr. James, at Woodside, he has been extending his glass houses, having added two others of 45 ft. in length, very handsome 12 ft. span erections, and most perfect of the kind for growing florist's flowers for seed production. He has now a total run of 435 ft. of 12 ft. span glass houses of the very best of their kind. Chinese Primroses figure largely at this time of the year, his plants being stout and robust, yet not exceptionally luxuriant; too much leafage apparently being regarded as detrimental to seed production. As the plants begin blooming early, artificial fertilisation begins with the new year, and is regularly continued until the last bloom has fallen. Fertilisation induces the earlier falling of the flowers, and thus a big show of the finest flowers is not so easily made after the first blooms have well expanded.

The collection is specially rich in whites of the Fern-leaved type; stout but dwarf leafage, very perfect of its kind; whilst the blooms are wonderfully fine. Snowflake on pale green leafage, Purity on semi-dark leafage, and White Perfection on very dark foliage, are indeed three of the grandest whites in cultivation; all were certificated in 1887. The Woodside strain of the now popular Chiswick Red form is a first-class one, the flowers large, stout, and superbly coloured; indeed, for depth of hue and quality, second to none we have yet seen.

Whether due to light at Woodside, or to natural depth of hue, the blue Primula there is the richest coloured yet offered. A grand semi-double is the crimson or blood-red Brightness, which should make a first-rate market variety. Mary James, fine, margined lavender; Braid's Seedling, rosy lilac, and Advance, rosy red, are also very striking varieties, and the product of some crosses had yet to open at the time of our visit.

Cinerarias.

Mr. James will presently have a very fine show of Cinerarias at Woodside, as he has some 3,000 plants to bloom. About 1,000 of these are propagated plants of all his first selections of the past ten years, and a grand lot they are, certainly unsurpassable anywhere. The plants, too, are well grown and blocked with colours. A 12-ft. house, 115 ft. long, quite full of these propagated Cinerarias, should show a mass of bloom in a few weeks, as when we saw them the other day, many of the earlier ones were then in bloom; the seedling plants, though strong, are later. The biggest show will probably be towards the end of March, for in the excellent houses at Woodside, all filled with top pipes for drying the air, the plants grow rapidly and flowers come on apace.

With such a wealth of fine kinds certificated from time to time, and never put into commerce, it does seem disappointing to find that visitors may see, but so far only get what richness of form and colour the flowers show by means of seed. We are hopeful that Mr. James will ere long determine to place a dozen or so of the very best kinds into commerce, and thus enable lovers of the Cineraria to enjoy that splendid quality of flowers which is the special characteristic of the Woodside strain.

Calceolarias are coming on in large quantities, and will make a brilliant show in May. These, again, seem to be unbeatable, for the Woodside strain seems to be never excelled. Cyclamens are also really good, but blooming rather late. Mr. James is working to secure the finest and best strains, and his Giganteum compactum and fine crimsons are first-class. Without doubt the air and pure light of Farnham Royal helps to the development of the best qualities in flowers.

SIBERIAN CRABS.

There are two species of Apple trees, the fruit of which is designated Siberian Crabs. Both are natives of Siberia, but the name is, perhaps, most appropriately applied to Pyrus prunifolia, which was introduced in 1758. The specific name, literally translated, means Plum-leaved; but the foliage may more accurately be compared to that of the Cherry, which is, for the matter of that, a Prunus, although it cannot be described as a Plum. The fruit is small, globose, and yellowish, but more or less suffused with red on the exposed side. It is very harsh and austere when ripe, but becomes more palatable when kept till in a state of incipient decay, like the Medlar. The fruit is surmounted by a persistent calyx, and this is one of the strongest characters by which it may be distinguished from that of Pyrus baccata, also spoken of as a Siberian Crab.

The specific name refers to its berry-like character; but the fruit may not inaptly be compared to a Cherry, both with regard to size, colour, and the absence of the calyx, which falls away while the fruit is still young. The great difference between it and a Cherry lies in the fact that the scar left by the falling calyx in the latter is at the base of the fruit, whereas in Pyrus baccata the scar is at the apex of the fruit.

P. baccata is a native of Siberia and Dahuria, and was introduced in 1784. It forms a spreading broad-headed tree when afforded plenty of space to develop itself, and grows from 10 ft. to 20 ft. in height, bearing an extraordinary quantity of fruit almost regularly every year, whatever the nature of our summer—the past one being no exception, as the trees bore most abundantly, and being unattacked by birds the red fruits hung till well into winter. If collected when ripe, and stored under favourable conditions, they will keep plump and unshrivelled, retaining their red colour for several months, and even now are very pretty and more palatable than when they first assume their bright red hue.—*J.*

ANTHRACITE.

Diversity of opinion exists on every subject, and the merits of Anthracite seem to be no exception to the rule. In a recent issue of a contemporary a paragraph relative to this coal contains a sentence which runs thus: "A fire made up in the morning with this coal does not require touching till night." I have no desire to raise an argument against the use of Anthracite, but I confess that on reading that statement I was at first constrained to question its accuracy, because the size of the furnace, form of boiler, temperature, and state of the weather are points on which the writer remained silent, and I naturally concluded that he intended this system of stoking to be universally adopted, irrespective of all these qualifications. But someone remarked that there are several spurious kinds of Anthracite palmed off on the public as horticultural Anthracite, and which only lead to disappointment, if not disaster. If such is the case the diversity of opinion is no doubt attributable to the doings of these unscrupulous vendors.

This method of stoking may be adapted to large establishments, in which the best quality of Anthracite is used, and the furnaces have a capacity to receive one or two barrow-loads of fuel at once, but in small establishments where the furnaces are incapable of receiving more than one or two shovelfuls of fuel of the same quality that we burned, it would be worse than useless; indeed, if the draught of our furnace had not been very good, we should have found the fuel worthless too. True, a fire made up in the morning may remain untouched all day, and be found bright in the evening; indeed, I believe a reasonably sized fire made up in an ordinary furnace on Monday morning may remain untouched all the week, and be found alight on Saturday night, but I am not prepared to say that a brisk heat would be maintained in the pipes all that length of time. I learn from the tone of some correspondents' communications that one fire a-day is not sufficient to suit their purposes. We burned Anthracite for a considerable time, but found it of very slow combustion indeed, and if the weather was the least unsettled, it was impossible for us to maintain ordinary stove temperature on one fire a-day. I have no desire to under-estimate the lasting and heat-giving properties of Anthracite, but if anyone were to assert that one fire a-day of the stuff that we burned is sufficient to maintain an ordinary stove temperature during all weathers, I should be prone to believe that its heat-giving properties were overrated.

Some consumers of this coal have an objection to raking or disturbing the fire in any way. I may remark that we certainly never had occasion to rake it together; it seemed self-possessed of that propensity, but we found that frequent stirring up and scattering about in the furnace was absolutely necessary to maintain the requisite temperature, because when it was well burned through, and had remained untouched for about two hours, a soft crust formed all over it. This crust being of a dark colour on the outside, led me to believe that nearly all the heat was kept within, and that it was necessary to break it in order to let the heat ascend to the roof of the furnace, or play more freely all round the saddle boiler. Indeed, my experience with the stuff leads me to believe that it is better adapted to the horizontal tubular than to the saddle boiler, because when the crust remained unbroken, I am certain that a great part of the heat descended through the fire-bars into the ash-pit, and this is my reason for believing that it is more apt to burn the fire-bars than ordinary coal or coke.

I may remark that a good many consumers have decided in favour of the Anthracite offered by Mr. Essery, which I understand is supplied in large blocks. The stuff that we burned was not supplied in blocks, but in sacks like ordinary coal, and sometimes there was a considerable quantity of dust, which was of very slow combustion indeed; in fact, in places where the draught is bad, it would prove worthless. Such is my experience with Anthracite, and my opinion will probably remain unchanged until experience of a different quality changes it for me.—*J. Peebles.*

CRANBERRIES.

The true Cranberries are produced by two species of Oxycoccus, namely, the common or Marsh Cranberry (O. palustris), and the large-fruited or American Cranberry (O. macrocarpa). In some parts of Britain the name is applied by the country people, but erroneously, to the Cowberry (Vaccinium Vitis-Idæa), the fruit of which is of the same bright red colour, and edible, although not so large. By some authorities the genus Oxycoccus is sunk in Vaccinium, but is sufficiently distinct botanically to be kept separate. The generic name refers to the acidity of the berries, which, although rather strong, is very agreeable to the palate of most people in the form of tarts and preserves. The word Cranberry is said to be derived from their being much eaten by cranes, but according to some old British botanists, because the flower stalk and the unopened bud resemble the head and bent neck of a crane. Other English names applied to the plant are Mossberries, Moorberries, Fenberries, Marshworts, and Cornberries.

Our native species, O. palustris, is a native of the north temperate hemisphere, including Europe, Siberia, and North America, and prefers boggy or wet places in turfy mountainous districts. The slender trailing stems are covered with small, ovate, evergreen leaves, and the berries, something between pear-shaped and globular, ripen in September, when they become crimson, or are more or less spotted, and remain in this condition throughout the winter if left ungathered. In some districts in the Highlands of Scotland Cranberry gathering is an important event amongst the peasantry.

The lessee of the glen in the Forest of Glentanar annually throws the hills open to the Marquis of Huntley's tenants for two days in the year to allow them to gather Cranberries. As early as daybreak the hillsides get covered with hundreds of people collecting Cranberries, which they carry home in great quantities for the purpose of preserving, testifying to the fruitful nature of this little shrub in what would otherwise be unfruitful wastes. This is but a solitary instance of what occurs in several other districts in the Highlands.

Before the fens of Lincolnshire were drained, the

fruits of the common Cranberry were conveyed to Norwich and sold by the cartload. Likewise in Cumberland the poor people used to sell from £20 to £30 worth of fruit, in the town of Longton, every market day for a period of six weeks. Home-grown Cranberries can also be bought in some of the northern towns yet during the season. Some prefer the fruit of the common to the American Cranberry, and *vice versâ*; but the quality of the former is said to be improved by growing it in dry sandy peat, when, however, the quantity is smaller than when grown in a bog bed.

The American Cranberry is more frequently planted in artificial bog beds than is our native species, as the berries are larger and produced in greater quantity. They are globular, crimson, ripening in October, producing a succession, and remaining on the plants all the winter; frost even improves them. The shoots are similar to those of the common Cranberry, but more vigorous, and the leaves are oblong, leathery, and not turned back at the edges. Many years ago this species grew so plentifully in Longton Bog, Mould, Flintshire, that it was considered worth recording in works on British botany as an American plant that had been sown (planted) there.

It is rather surprising that the resources of this plant are not developed in this country in these times of depression in agriculture, seeing that there are many waste boggy places both in Britain and Ireland that might profitably be occupied by this plant, for which there is already a good market. There is a constant supply in Covent Garden Market throughout the winter, obtained from America, where they have given rise to a considerable industry. It is cultivated to some extent in this country in private establishments, where it affords a constant supply of wholesome and delicious fruit, which is gathered as required throughout the winter months. The plant may be grown in boggy places, or on the margin of a pond in beds of peat, where the surface of the latter is 1 in. or 2 ins. above the level of the water. It is more profitable, perhaps, to grow the plant in artificially-made beds of peat, which can be irrigated from April to September, with the means of turning off the water after that time, and allowing the beds to become dry—a process which hastens the maturity of the fruit, and improves its flavour as well as the keeping properties of the same while it is allowed to remain on the bushes.

The American species is used largely for tarts while fresh; but a large quantity is bottled or put into barrels for exportation to Britain as well as continental Europe. That our climate and boggy waste lands are capable of producing what we want for home consumption the above-mentioned instances show. Bottling of the fruit of the common Cranberry for future use is practised in some parts of this country—perhaps more so formerly than at present. One recipe for cooking Cranberries in this country is to add ½ lb. of granulated sugar to 1 pint of fruit, also ¼ pint of water. Cook for ten minutes, shake the vessel, and do not stir. For tarts the same mixture is used, baking in an earthenware dish, having the fruit surmounted by a covering of wheaten flour. To preserve the fruit, the following recipe is given:—To every lb. of fruit allow 1 lb. of loaf-sugar; carefully pick the fruit, put it in a preserving-pan with the sugar, and boil for half an hour, keeping the whole well stirred, and carefully removing all the scum as it rises. Put the jam into jars, and when cold cover down.—*F.*

Ruellia macrantha.

RUELLIA MACRANTHA.

The Acanthus family includes a vast number of plants mostly confined to the tropics, Acanthus itself, the type of the order, being an exception, and represented by several European species. A great number of the members of the family are of a weedy character; but a considerable number of the showiest have now found their way into our stoves and greenhouses, where they prove valuable from the fact that they flower in winter, furnishing considerable variety with other subjects. It must not, however, be overlooked that the Aphelandra, and others, have handsome and ornamental foliage. There are several species of Ruellia in cultivation, but their flowers are small compared with those of R. macrantha. Our illustration of it shows the flowers natural size. They are of a bright rosy purple colour, beautifully lined with darker somewhat branching veins, shown off to great advantage on the paler ground colour of the throat.

The species was introduced from Brazil as recently as 1883; it grows there in shady woods and forests. In this country it responds readily to the temperature of an intermediate house, and flowers freely from December to February. The individual flowers are very durable for a member of this family, and remain in good condition for the space of a fortnight, while a succession is kept up during the time stated. After the plants have done flowering, they should be cut back to encourage the development of young wood for cuttings. The latter strike readily with a bottom heat of 80° in a compost consisting of loam, peat and leaf-soil, with a good dash of sand. After the cuttings are rooted, they may be grown on for next winter's work, and the old plants thrown away. The plant would ultimately attain a height of 4 ft. or 6 ft., but by annual propagation it can be kept low and bushy.

ACACIA DRUMMONDI.

This is perhaps one of the best-habited greenhouse Acacias grown. It usually, when under good cultivation, keeps in the form of a close and compact bush, without the necessity of having to use the knife to make it so. It flowers in a very small state, but it is not advisable to allow it to bloom in a very young condition. The energy of the root-action should be encouraged, to cause the little plants to develop and make themselves as large as possible in a season.

The young plants, which may be obtained from cuttings, require a few seasons' good growth to make them into nice shapely plants fit for grouping or for single specimens.

The plant shows best when about 18 ins. high and proportionately bushy, and from this size up to plants 3 ft. to 4 ft. in height. This size of plants, when well furnished with healthy shoots and in full bloom, makes

charming specimens for arranging singly in large conservatories, or for standing separately on pedestals in winter-garden arrangements.

The flowers are pale yellow in colour, and the spikes are cylindrical, or somewhat resembling a bottle brush and come from the axil of the leaf, which is short and close set with pinnate leaflets, the flowers when fully developed almost hiding the entire foliage.

It is one of the old-fashioned greenhouse plants of days gone by, but nevertheless a good showy useful plant, and well worthy of a place in any collection.

The soil most suitable for it to grow in during the first few years from the cutting pot should be good sandy peat, but as the plant advances in years a little good loam may be added. The compost for larger plants is composed of equal parts of peat and loam, with good sharp sand to keep it open, at all times being careful to drain well.—*W. G.*

The Amateurs' Garden.

Bedding Plants.

The dull, dark days of winter, together with damp, is now telling pretty severely on such things as Pelargoniums, Lobelias, and other soft-wooded or succulent-stemmed plants. The grower will note that all those subjects which were early and well rooted before it was necessary to house them for the winter, have stood the test better than those that were imperfectly rooted on the approach of the cold weather. This should press itself on the attention of those who have difficulty in keeping their bedding stuff healthy during the winter months. The only thing that can be done now is simply to keep them as dry as possible consistent with their needs ; for if water is withheld till the soil is dust dry, what roots the plants have must inevitably be killed, an occurrence which is highly undesirable. Give water when required early in the morning, and ventilate well during the day, using a little fire-heat occasionally during wet weather to dispel damp. Calceolarias, Violas and Pansies should have the lights thrown off during mild weather when it is not raining.

Edgings.

The present is a suitable season to plant fresh edgings, to lift and re-lay those already existing, or to make good whatever blanks occur in them. In the case of Box edgings, the better plan is to lift and re-lay the whole, rather than to patch and mend the gaps. Unless the edgings have recently been laid, and the plants quite dwarf, mending the gaps will always present a patchy appearance.

In villa gardens a great many other subjects than Box may be used to much advantage. Where there is much traffic along the walks, a low tile edging may be used to maintain an even outline to the walk. Immediately inside of this the soil should be dug or made up close to the tiles, and planted with a line or band of something to hang over and hide the latter from view. Crocuses are often used for this purpose, and look very well indeed during the time they are in flower, but the ground ought to be carpeted with somethiug else to take off its bare appearance. For this purpose Herniaria glabra, Veronica repens, Sedum lydium, S. acre, or even grass might be used with good effect. The grass would, however, require frequent mowing or clipping to preserve a neat appearance. Leaving Crocuses out of the question, any of the above may be used alone, or flowering plants of various kinds may be used with good effect. For this purpose Daisies may be used, or Aubrietias in various shades of purple, violet or lilac, also Veronica prostrata, V. rupestris, Thrift (Armeria vulgaris), some of the many beautiful varieties of Thyme, green or variegated, and several others, all of which form beautiful edgings, carpeting the ground.

Snowdrops.

These are often planted in the ordinary herbaceous border, where they are pretty enough while they last in flower ; but they never appear to better effect than when they spring up in clumps under the spreading branches of deciduous trees, or even peeping from under a hedge that is leafless in winter. In out-of-the-way corners of the garden, or on grass which is not closely cut in spring, Snowdrops also look uncommonly well ; in fact, any position will suit them if the bulbs are not subject to be disturbed by digging and planting for the sake of other plants. Cultivators would do well to bear this in mind when putting in fresh bulbs—the single form is far more graceful and pretty than the double variety. Snowdrops are sometimes grown in pots for the decoration of the greenhouse. They do not, however, force well, and must simply be allowed to come on gradually in a cold frame, which they will do sooner than those grown in the open border.

Winter Aconite and Anemone fulgens.

The yellow-flowered Winter Aconite (Eranthis hyemalis) is here meant, not the true Aconites which flower in summer and autumn. The Winter Aconite really flowers in spring, but is always ready to utilise the first few warm days of that period, which may be in February or March, according to the nature of the time. Frequently it may be noticed that the yellow buds peer above ground soon after the thawing of snow or of the frozen soil. They are really in a forward state, and therefore must be reckoned amongst the earliest flowers we have. A sheltered place should be given them, so that their flowers may not be driven about by the wind or bespattered with rain. The scarlet-flowered Anemone fulgens in mild winters also comes very early in places that are sheltered by a wall or hedge on the northern exposure. The double form is not so pretty as the single.

Gardening Miscellany.

Davallia elegans.

Of the smaller-growing species of Davallia, that under notice is one of the most useful for general purposes, and one of those most frequently met with in gardens. It is very accommodating, inasmuch as it can be grown either in a stove or greenhouse. It is practically decidnous, but under favourable circumstances of heat and moisture, it retains its foliage till the new is about to develop. The fronds are triangular, 6 ins. to 10 ins. long according to the vigour of the plant, deep green, aud finely divided. The creeping rhizomes are as much an object of interest as the foliage, when grown in baskets so as to display them to best advantage. At Parkside, Ravenscourt Park, the plants are grown in baskets, the rhizomes being allowed to ramble over the sides and attach themselves, so that by interlacing with one another the soil is almost concealed when the foliage is in good condition. The rhizomes are densely covered with rusty brown chaffy scales.

Capsicum, Little Gem.

Capsicums are most frequently grown for economic purposes, although not a few of them are very ornamental. Little Gem, as this particular variety is called, has been in cultivation for a number of years, and was honoured with a Certificate some six or seven years ago. Although the Capsicums are closely allied to the Solanums, they have a characteristic appearance which no practised eye can mistake, and therefore, although this plant has small scarlet fruits, it has quite a distinct habit of growth, and is perfectly different in general appearance from Solanum capsicastrum, now so popular as a greenhouse decorative plant. It branches very freely, but in such a way that the twigs are nearly on the same level, making the plant flat-topped. As the twigs all terminate in fruit, the berries arc uppermost, and therefore more conspicuously situated than in Solanum capsicastrum. The plants, too, are annually grown from seed, so that they occasion no trouble, so far as propagation is concerned, and if grown in heat they may afterwards be transferred to the greenhouse in winter.

Euphorbia fulgens.

The above is the older name of the plant better known in gardens under the name of E. Jacquiniæflora, and it has therefore the right of priority. It is a native of Mexico, like the Poinsettia, and like that subject, enjoys a stove temperature—at least in winter. As far as cultural treatment is concerned, it is even more accommodating than the Poinsettia, and when the upper or terminal part is cut away, the side shoots elongate, producing another crop of flowers, which although not so fine as the first lot, are nevertheless serviceable in many ways. By this means the flowering season is practically extended over the greater part of winter. A quantity of it was planted out in the Melon house at Tower House, Chiswick, after the Melons were cut last summer, and the plants are now 4 ft. or 5 ft. high and laden with their scarlet bracts, popularly spoken of as flowers.

The Australian Banyan.

Botanically this is Ficus macrophylla, a native of Queensland and New South Wales. It is also known as the Moreton Bay Fig, and may be met with in gardens, under the name of Ficus anstralis, probably because it comes from Australia. The trne Banyan Tree is Ficus Bengalensis, a native of India, and it requires a stove temperature, whereas F. macrophylla is a greenhonse plant and seems to grow more freely than F. elastica ; at all events it branches mnch more freely. The leaves are thinner than those of the latter but are decidedly of a leathery character, ovate, oblong, cordate at the base, and deep green. They are, therefore, proportionately shorter and broader than those of F. elastica, and the plant is so hardy that it might well be used as a window subject instead of or in conjunction with the latter. It is as easily propagated, and grows faster nnder the same conditions. Several plants of it are dotted abont the conservatory and greenhonses at Parkside, Ravenscourt Park.

Cornish Moneywort.

Of the half dozen known species of Sibthorpia, the most common in gardens is S. europæa, the variegated variety being the most popular and prettiest. The green form is, perhaps, most frequently to be met with because it is less difficult to grow than S. e. variegata. The latter is, moreover, a beautiful plant when well grown. The species is a native of England as well as of the Continent, but is rare as far as the first-named place is concerned, being found chiefly in Cornwall, as the name implies. Moneywort—as well as Pennyleaf and Pennywort, all applied to it—refers to the ronnd shape of the leaf, which is about the size of the silver penny. It likes an abundance of moisture, both at the root and in the atmosphere, and succeeds best in a partially shaded placc, and would therefore prove suitable for a cool Orchid house or cool fernery, grown either in small pots or pans. We noticed a quantity of it in healthy condition at Tower House, Chiswick.

Mushroom Culture.

I note that on p. 307, second column, Mr. Murray-Garden, of Aberdeen, is reported to have said that from 1-16th of an acre in this neighbourhood "Mushrooms were produced at the rate of £1,600 to the acre." As I like to see good results, if Mr. Murray-Garden will kindly state where this sixteenth of an acre is, I will (all being well) go and view it. This is £100 a year off 300 square yards.—*J. C., Leeds.*

Azalea Deutsche Perle.

Those who have to supply plants for the dining tables during winter, will find small plants of this grand Azalea admirably adapted for the purpose. The temperature in the rooms, however, should not be allowed to fall below 40°, or the pure white flowers will soon assume a sickly tint. When fully expanded and kept in a temperature ranging between 45° to 50°, the flowers remain fresh for a considerable time, provided there be no gas in the room.—*R. T. Humphris, Childe Okeford Rectory, Blandford.*

Cotoneaster Simonsii and the Effects of Smoke.

In the suburbs of London and other large towns where a smoky atmosphere is prevalent, the effect on many trees and shrubs, both evergreen and deciduous, is both considerable and often but too conspicuously evident. The nearer we approach those great centres of industry the effects of the smoke become more visible. In some of the London gardens Cotoneaster Simonsii becomes perfectly deciduous in autumn or in winter, although under more favourable conditions it is strictly evergreen. The red fruits still remain on the bushes, however, and the effect is certainly peculiar, especially to those who are familiar with the plant under more favourable circumstances. In a similar way Berberis dulcis, although ordinarily evergreen, loses its leaves during the winter season. Both these subjects are naturally so hardy that the fall of the leaves cannot be due to the influence of frost, seeing that there have been no particularly severe frosts this winter, nor any of long duration.

Dwarf Poinsettias.

As one who has had some experieuce in the cultivation of this gorgeous Mexican plant, and also having on more than one occasion offered a few remarks on its cultivation, I must confess that I was somewhat taken aback on reading the remarks of "S. P." (p. 326), on the production of dwarf plants. We hear of the starving method with Cockscombs, that is, keeping them in small pots until they show their combs, and then forcing them along by heat and potting, but I have

yet to learn that the same method is advisable for the production of dwarf Poinsettias. By striking the cuttings at the date mentioned, and keeping them in 3-in. pots until September, I want to know what kind of foliage they develop in such restricted root room, and how they retain it. As to potting them on at such a time, I should not consider such practice beneficial to the production of good bracts; in fact, I should think that was just the time above all others when they would resent root disturbance, *i.e.*, when they are, as "S. P." infers, forming their bracts. No, though as gardeners we like to find out new moves, yet I consider the best way to produce dwarf plants is to propagate some good strong points in August; that saves having them knocking about from April or May, and they do, if properly cared for, retain their foliage. I have struck some dozens in August, and they proved just the thing for the purpose they were propagated—furnishing jardiniers for the drawing-room.—*Pathfinder.*

Portulaca grandiflora and its varieties.

These are very beautiful annuals when grown under suitable conditions. They present a great diversity of colour, from pure white to deep crimson. They delight in the hottest and sunniest positions, and in most gardens such places can be found for them. Anyone who will take the trouble to grow them will be amply repaid, for when the sun is bright and shining, and the petals fully expanded, those who have not seen them can scarcely conceive the dazzling and brilliant effect produced by their pretty flowers. Although they will succeed fairly in any common garden soil, they delight in a calcareous, gravelly and porous soil, or on rockwork. They dislike shade and cool draughty positions, and will stand almost any amount of drought. In order to get the plants in flower during the hottest months of the year it is best to sow the seed in gentle heat during the early spring months, and prick off into boxes, keeping the young plants close up to the glass in a dry position to prevent them damping off. After the usual amount of hardening off, transplant into the positions intended for them. They can also be sown in April, in the open ground, and will do very well, though they are much later in flowering, and we thus lose the best part of the year. Perhaps one great drawback in growing these generally is that the flowers will not expand fully, except under strong sunshine, but when we do see them at mid-day in bright weather they fully compensate for this. The plant was originally introduced from Chili during the early part of the present century, but has been much improved upon since its introduction, some double varieties having been presented to the public, although I think the single ones are far the prettiest.—*Alfred Gaut.*

MEDINELLA MAGNIFICA.

This is one of the most distinct and stately of stove plants, and should have a place in every collection where there is sufficient space at disposal to grow it into a fair-sized specimen; for whether as a plant for exhibition or home decorative purposes it stands unique, and when staged among a collection of flowering plants, it often, if in good condition, turns the scale in favour of the collection in which it stands. Its style of growth and flowers are so unlike anything else used for show purposes, that a well-flowered plant always excites the admiration of the visitors; and its huge racemes of rosy pink flowers make such an impression when seen for the first time, as is not easily effaced from the memory. As the flowers last for a considerable time too, if not exposed to excessive heat, a plant may often do duty on several occasions.

It is one of those subjects which is by no means difficult to grow successfully among ordinary stove plants, and mealy-bug, where it exists, is its worst enemy. The buds and joints of the shoots are a favourite harbour for it, and it is difficult to keep them clean all the time mealy-bug is in the house, which, by the way, is a state of affairs that should not be tolerated. This pest is very troublesome all the time it is entertained as a visitor, but it is probably the only insect plague which can be thoroughly eradicated, Thrip, if the air of the house is allowed to get dry, will make its appearance, and must be sponged off, or the foliage will get disfigured. Special attention should be given to this, and when washing or moving the plants great care should be taken not to injure the foliage, as any damage done cannot be repaired quite so easily with this as with some plants.

It is easily propagated from cuttings of the side shoots, and put under a bell-glass, or a close frame, with a good bottom heat; when well rooted, pot them on and keep the young plants close and shaded for a short time, and should they start into growth with only one shoot, pinch it out and others will soon come By doing this a stubby young plant is secured, which forms a good foundation for the future specimen; and this breaking out of growths where only one shoot starts from the terminal growth, must be followed up through all the stages of the plant's growth, till it attains specimen size. Growth should not be encouraged late in the autumn; on the contrary, the plants, by exposure to more light and air, and less liberal watering, should have the wood well hardened for winter, during which period they should be kept comparatively dry, and placed in the lightest and coolest part of the stove. Early in the new year give a liberal shift, 3 ins. of new soil all round will not be too much, using a compost of good fibrous loam one half, and peat and well-decayed manure, with plenty of sharp sand. Take care the ball of the plant is in good condition as regards moisture, and the soil likewise, so that the plant need not be watered for a few days, only well sprinkled overhead.

When growth commences, some training may be required, and when the pots are well filled with roots liberal watering must be the rule; while a few applications of liquid manure will help them much. If well-ripened growth be secured, they should flower the following year, from April to June, but if wanted for the latter period they must be kept dormant till well on into April. When out of flower start into growth and give them a final shift into 18-in. pots, following the same routine as before. Should the roots become crowded, tie them out. When these plants are well done they often flower from the joints from which leaves have fallen. They may remain for two years in these pots, with a top-dressing in spring, and an occasional application of liquid manure. After this they had better be thrown away in favour of younger specimens.—*W. B. G.*

NOTES ON PEACHES, ANCIENT AND MODERN.

By T. F. Rivers, Sawbridgeworth.

When the cultivation of Peaches in pots was systematised it became possible to test the several varieties, both of the Continent and of England, which had been hitherto known by name only, and a collection was formed, including as many distinct varieties as it was possible to obtain. I remember being much interested by the precocity of some of the sorts, the Avant Pêche Rouge and the Double de Troyes being ripe in the middle of July, the Early Anne, dedicated to the memory of Mrs. Anne Dunch, ripening at the end of the month. Although of little value as fruits, I thought they might prove valuable in imparting precocity to the later and better Peaches, and being young and curious I amused myself by mixing the pollen of the early and midseason varieties, preserving and sowing the stones of the fruit so treated.

When the first batch of seedlings fruited, consisting of some two or three hundred trees, my father and myself were much interested in observing the curious diversity exhibited. Whether or no the mixture of the varieties caused this divergence, the appearance of early Peaches was at once an established fact, and in rapid succession came the Early Beatrice, Early Louise, Early Rivers, giving an abundance of fruit in the orchard house during July, a month hitherto barren of any but worthless sorts. With the advent of the Stanwick Nectarine an entirely new race, both of Nectarines and Peaches, was created, the rich flavour and size of the Syrian fruit imparting a totally different quality to the progeny of the ordinary Peaches and Nectarines, and to this mixture I owe the Lord Napier Nectarine, for although this was raised from a Peach, there is no doubt but that it inherited the Stanwick blood. Most of the seedlings raised from this race have vigorous growth and deep green sickle-shaped leaves.

Early American Varieties.

In 1874 I received from Messrs. Capps & Son, of Mount Pulaski, Illinois, two Peaches which they affirmed were the earliest to ripen in the United States; these Peaches were the Alexander and Amsden June. I confess that I was entirely incredulous, but I had the plants potted, and in due time they produced and ripened fruit; to my great pleasure it matured in a cold orchard house six days before the early Beatrice. The Alexander, although slightly clinging to the stone, is a Peach of high quality in every sense; but the Amsden June ripe almost on the same day, is slightly bitter, and a clingstone. I did not think it necessary to cultivate two varieties so closely allied, and I preferred the Alexander. I see, however, that on the Continent the Amsden June is selected as being superior. I cannot help thinking that in some cases the two varieties have become changed—a very easy matter, as they are so much alike. Alexander, Waterloo and Hale's Early are three very valuable early Peaches, and very distinct; the foliage of all is easily distinguished by the expert, the leaves being very bright and lanceolate, and the wood deep in colour. Although the Alexander and Waterloo are earlier than the Early Beatrice and Early Louise, yet the hardiness and fertility of these two English sorts will always keep them in general cultivation. I am almost inclined to think that the Early Beatrice, if grown in the open air after protection during the spring, would give a reasonable profit. I have seen it ripen on neglected bushes in the last week in July out of doors, the colour of the fruit being so bright that I thought some Poppies had been overlooked.

The Mid-season Sorts.

The mid-season Peaches are of course well known to all gardeners. The great tribes or races are the Noblesse, Grosse Mignonne, Galande, and Madeline. From these types hundreds of varieties appear to have been raised from seed and named. The Noblesse is probably derived from the Madeleine Blanche, and reproduces itself frequently from seed. The Grosse Mignonne is one of the most popular Peaches in France. Under this name André Leroy enumerates no less than fifty-seven synonyms. There is no doubt that is one of the most excellent of Peaches. According to this French author it has two centuries of existence. La Quintinye, in 1680, declares that the Mignonne is the finest Peach in cultivation, very large, velvety and round, melting and exquisite, but sometimes flat and insipid, a fault from which no Peach is entirely free under certain conditions of soil and culture. In England this Peach has obtained so much popular favour that it is encumbered with synonyms. There is no doubt that it is worthy of the extended cultivation it has received, and it is to be regretted that the season of ripening cannot be enlarged; the multitude of seedlings which have been raised from it have not, however, produced this desirable result. The Early Grosse Mignonne ripens sometimes in advance, and the Belle Bauce or Mignonne Tardive somewhat later, but the few days of difference are not of any great importance. There is a variety, said to be Grosse Mignonne, with small flowers, which I understand is sometimes sold by continental growers. This is a false Mignonne; the true Grosse Mignonne has large, clear brilliant flowers, and the leaves have globose glands.

The Galande Race.

The Galande is another distinct race of Peaches, which is also encumbered with synonyms both in England and France. It is distinguished from the Grosse Mignonne by the intensity of the colour of the fruit. When exposed to the sun in a warm season, the skin becomes almost black, and one of its synonyms is Noire de Montreuil. It is, perhaps, hardier than the Grosse Mignonne, and for this reason it is cultivated very extensively in the Peach gardens of Montreuil, and is the principal market Peach. The flavour of the fruit, when thoroughly ripe, is very good; but visitors to Paris sometimes complain that the price is excessive, and that a franc apiece for hard and dry fruit is too much, the fact being that they are gathered long before they are ripe. The flowers of the Galande are invariably small.

The Madeleine Rouge is the prototype of our popular Royal George, which again seems to be the sport of name-givers. The English sort under this name is so well established that it can be easily identified. The flowers are small, and the leaves serrated. The fruit is of the highest quality, but the excessive tendency to mildew renders this sort difficult to cultivate, as there appears to be no remedy for this disease. The Red Magdalen and Madeleine de Courson, which seem to have been mixed up with the Royal George, have large flowers and are glandless. I am responsible for the introduction of many varieties of Peaches, but I cannot say that I have ever studied the interest of the wall cultivators. Wall cultivation, unless in certain very favoured districts, appeared to me to be a weary waste of labour, and my object has always been to provide the orchard house with fruit from day to day, ranging from July to the end of September, after which date no reasonable man need desire Peaches or Nectarines.

In September, after the Royal George we have the

Barrington, claimed by the French as a synonym of the Chancellor; the Walburton Admirable, which is evidently a seedling from the Noblesse; the Late Admirable, which is also claimed by French pomologists as a synonym of the Bourdin. The orchard house has, I am glad to say, introduced a new race of late Peaches; these are—Princess of Wales, Lady Palmerston, Golden Eagle, the Nectarine, Sea Eagle, Gladstone, and Osprey, all of which fruits in the orchard house, properly grown, are far superior to the Late Admirable, Chancellor, Gregory's Late, Desse Tardive, or any other so-called October Peaches. There is a variety of the Peach which has never been very popular in England, but which is used in the south of France for stewing; this is the Pavie, the fruit being large and heavy, with tough and tasteless flesh, and a skin as disagreable to the touch as cotton velvet. This is the Melacoton of the Spanish (Anglicé, Cotton Apples). In the Provençal tongue it is Mirecoton or Mirlecoton, and in the United States, where the fruit seems to be popular, it is ingeniously transformed into Malagatune. If these Peaches could be grown out of doors like Pears or Apples they might make a pleasant addition to the dinner table, but they are not worth either the time or cost of glass or wall culture.

NECTARINES.

Since the introduction of the Stanwick Nectarine, a great advance has taken place in this smooth-skinn d brother of the Peach. Some few years since the Elruge and Violette Hâtive were the principal sorts grown; we have now a more extended range. These ordinary varieties of Nectarines, unless very skilfully and exceptionally grown, are small and insipid. The green-fleshed sorts have not been considered as equal in flavour to the orange-fleshed kinds. I think, however, this is no longer the case, the intermixture of the Stanwick race having imparted a quality of flesh differing completely from the older sorts. This is exemplified by the Victoria Nectarine, which was raised by my father, and is the result of a cross between the Violette Hâtive and the Stanwick. This is a very delicious and distinct Nectarine, but it ripens too late for walls in our climate, and must, therefore, be grown under glass to be enjoyed in perfection. The early sort, Lord Napier, I believe, inherits the Stanwick blood, although it came from a Peach. This Nectarine begins a series of fruits which last through August and September, divided into two distinct types—the orange-fleshed and the green-fleshed. There are now many important varieties of the former, and I venture to say that the better known they are the more popular they will become, the principal sorts being the Rivers Orange, the Pitmaston, Humboldt, and Pine Apple. These ripen generally in the order in which they are placed. The most decided success of late years in seedling Nectarines is the Lord Napier, ripening fully ten days in advance of the Hunt's Tawny, a Nectarine valued for its precocity, but otherwise of no merit. In Peaches and Nectarines, as in other fruits, I hope we shall cease to place a fictitious value upon varieties because they happen to be old and historical. It will be much better, both for ourselves and for others, if we can improve the standard of flavour and merit. This can only be done by the judicious raising of seedling fruits. I have tried with varying success for many years; but considerable improvement is still desirable, both in early and late Peaches. The failure of flavour attributed to the latter, however, appears to me to result from the fact that the tree, unless kept in a gentle warmth, is unable to complete the ripening. For this reason I think that the late sorts should be grown in a house devoted especially to them, so that the necessary heat should be applied. This continual heat is injurious to those sorts which have ripened their fruits and desire rest. As late Peaches have a high value in the market, the extra expense is fully repaid to the cultivator.—*From a paper read at the Horticultural Club.*

THE GARDENERS' CALENDAR.

THE STOVE.

SEED SOWING.—Batches of tuberous-rooted Begonias, Gloxinias and Cyclamens should now be sown if the operation has not already been done. The first two are the most important at this season, because the seedlings will flower during the course of the summer, so that if a collection is being formed a selection may be made before the close of the season, and the worthless kinds thrown away. After filling well-drained pans or boxes with light sandy soil, mixed with well-decayed leaves, it may be pressed firm after putting a sifted layer of the same material on the top. Water, and after the superfluous moisture has drained away, sow the seeds evenly, and not too thickly. Sprinkle a little of the sifted soil or even silver sand on the top, so as to settle the seeds, but not bury them. Place a square of glass over the pans so that no watering will be required till the seeds germinate. Stand in a shady place till the seedlings appear, when they must have light.

ACHIMENES, GESNERAS, AND GLOXINIAS.—The pots containing the rhizomes and tubers of the above should be transferred from their winter quarters to a propagating pit or stove, and if dry receive a watering with the object of moistening the ball. The tubers and rhizomes will absorb moisture, and being stimulated by the heat, will soon commence to push, and when the tops appear above the soil they may be potted off. Achimenes may, however, be put in fresh soil, placing the rhizomes rather thickly, and covering them up till they have made some growth, when they may be transplanted to their flowering pots or pans, as the case may be. This may be done for an early batch, leaving the main body of the tubers to be dealt with later on.

TYDÆAS.—These, as well as Gesneras, which flower in winter, will now be going past their best, and should be induced to go to rest by gradually withholding water. They must on no account be suddenly dried off, or the rhizomes cannot be properly plumped up, and must suffer in consequence. Do not store them away till thoroughly at rest.

THE GREENHOUSE.

HERBACEOUS CALCEOLARIAS.—The potting on of these must not be neglected at this season, otherwise good results at flowering time cannot be expected. Those in 60-sized pots should be potted in 32 size, using rich, light loam, with a good admixture of leaf-soil. The plants will then require more room to allow of the best development of the foliage, and must have a light position near the glass if growing in a greenhouse. A heated frame with a temperature of 45° by night, and a rise of 10° by day, would be a more suitable place than a greenhouse at this stage. If in the latter structure a great many might be accommodated on a shelf near the glass.

FUCHSIAS.—In order to obtain an early batch of these, the desired number of old plants should be pruned into shape, and placed in some house where a gentle heat is maintained till young shoots commence to push, when the roots should be shaken out of the old soil and re-potted in light, rich, open soil. Some growers shake out the roots before starting them into growth, but the buds break more regularly if started before the roots are disturbed.

THE FORCING HOUSES.

EARLY PEACH HOUSE.—Attend to the disbudding of the trees in the earliest house as soon as it becomes necessary, so as to throw the whole vigour of the trees into the remaining shoots and the young fruit. In some establishments they are still in the flowering stage, but as soon as that is over, the trees may be regularly syringed twice a day—say in the morning and again early in the afternoon—to keep down all insect pests.

EARLY VINERY.—The Vines that were started in the first week of November will now be passing out of flower, or if they have made favourable progress, the bunches will soon require to be thinned. Ventilation must be carefully done at this critical stage, so as to prevent currents of cold air from playing on the tender fruit.

THE KITCHEN GARDEN.

SEED SOWING.—Should there be an insufficient supply of autumn Cauliflower, or if, through some cause or other, the young plants in the frames have kept badly, then a sowing must be made in boxes, afterwards hardening off the seedlings, and transferring them to a cold frame, in which they can be sheltered till the weather is favourable for planting them out of doors. Brussels Sprouts and Lettuce may be treated in the same way.

STANDARD FRUIT TREES.—The present time presents a favourable opportunity for going over all trees, whether in the garden or orchard, and thinning them out where crowded. Weak, useless, and decayed growths should also be cut out of the heads, so as to admit light and air amongst the branches.

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM CORONARIUM.

A REMARKABLY fine spike of this Odontoglot has been sent us by Mr. W. Stevens, Walton Grange, Stone, Staffordshire. It bore twenty-eight flowers, occupying a space a little over 9 ins. in length. The individual blooms measured about 2¼ ins. across the petals. Both sepals and petals are incurved from about the middle, which make the flowers appear smaller than they really are; but they have a beauty of their own not seen in other species of the genus. The sepals and petals are of a rich reddish coppery brown, variegated at the base, especially of the latter, with a few yellow lines and numerous brown spots on a pale ground, while the margins of all are yellow and beautifully crisped. The lip is a curious organ, and reminds one of that seen in O. Insleayi, and is obcordate, somewhat spathulate, yellow in the upper half, and brown at the base; the side lobes are adnate to the claw, and ascending alongside of the prominent, white and brown three-lobed crest. The white column is spotted with brown, and is furnished with two conspicuously spotted wings, which are connected by a process that forms a distinct-looking hood to the column. The successful cultivation and flowering of this uncommon Orchid is a matter of no small importance, as it has peculiar likings of its own. In the first place the pseudo-bulbs are borne on elongated rhizomes slightly thicker than a goose-quill, each being separated from its neighbour by a distance of 2 ins. or 3 ins., so that pot culture is here inapplicable. Long baskets or rafts have to be constructed for it, so that the yearly growth may have something to which it may cling and derive support. The baskets containing it should be filled with peat and sphagnum, and supported from the roof of the cool Orchid house, so as to be favourably situated with regard to light; and the plants must not be allowed to get dry at any time of the year.

ONCIDIUM ANTHROCRENE.

AMONGST the many well-cultivated Orchids in the collection belonging to W. L. Barclay, Esq., The Briars, Reigate, is a specimen of the now seldom seem Oncidium anthrocrene. The plant bears upwards of thirty flowers on the spike, nearly 1½ ins. across. The spike is upright, and the flowers dark-coloured and very showy; the sepals and petals slightly undulated, chocolate-brown, barred with yellow. It is a good showy Orchid, somewhat resembling Oncidinm Weltoni in growth, and is, I believe, a native of Peru. It is well worth cultivating in the choicest collections, and flowering just now makes it doubly valuable. This collection has greatly improved under the fostering care of Mr. Bailey.—*Rusticus.*

LYCASTE COSTATA.

THIS not very common species, which was named and described some thirty-five years ago, is now in flower in Mr. B. S. Williams' nursery at Holloway. The plants were imported for Anguloa eburnea, which the long pseudo-bulbs, as imported, closely resemble, but they turn out to be this Lycaste, which, like L. lanipes, is exceedingly free flowering. The blooms are like the last-named in being of a pale greenish white colour, while the lip and base of the petals are white, with a yellow blotch on the former, which is also fringed.

SOPHRONITIS GRANDIFLORA AND S. VIOLACEA.

A LARGE number of the first named constitutes a conspicuous ornament in the cool Odontoglossum house of F. G. Tautz, Esq., Studley House, Shepherd's Bush. The variety S. g. rosea is also flowering. They are grown in baskets and small Orchid pans arranged on shelves close to the glass. The recent fogs played sad havoc with the flowers of this exceedingly handsome species, turning them livid or washing out the colour as if they had been dipped in hot water. A few fine days, however, with an absence of fog, restores their beauty again by expansion of fresh flowers. From the fact that two flowers are occasionally produced on a spike is evidence of the good cultural treatment they receive. S. violacea, also flowering, is an interesting species, although the flowers are much smaller than those of their congener, and violet-magenta in colour. It has the same compact, neat habit of growth as S. grandiflora, but the pseudo-bulbs are smaller. Structurally there is a considerable difference between the two, so that it is not surprising they are sometimes placed in different genera. S. violacea has an obovate undivided lip, while in S. grandiflora the same organ is conspicuously three-lobed. The crest at the base of the lip differs slightly in the two cases, and in the first named the pollinia are yellow, while in the latter they

are violet in colour. The nectary in S. grandiflora is small, and the column wings are not very strongly developed, whereas in S. violacea the nectary forms a deep, round, well-like cavity, while the lobes of the column project beyond the latter considerably.

Odontoglossum zanthinum.

This is the name which was given some time ago to a plant in Mr. William Lee's collection, which passed at the sale into the hands of Mr. B. S. Williams, and is now in flower at Holloway. It may be briefly described as a yellow form of O. ramosissimum, the white ground colour of the latter being replaced by canary-yellow in O. zanthinum. The plant bears a strong branching spike of small flowers prettily spotted with purple.

Cœlogyne lentiginosa.

Many of the small species of Cœlogyne bear a considerable resemblance to one another, but the subject of this note is always distinct in appearance, and pretty. When the flowers first expand the sepals and petals are of a pale lemon colour, but they gradually deepen to a clear golden yellow. The lip, on the other hand, is marked with a double orange-coloured blotch on its upper half, and the side lobes have a peculiar brownish orange shade. The flowers are produced on short upright racemes, and are very effective at this season, but would be more highly valued were they somewhat longer. Their beauty, however, cannot be ignored by any grower of this class of plants. It is now gay in the collection of F. G. Tautz, Esq., Studley House, Hammersmith.

Cypripedium Schlimii.

About thirty-six years ago was this beautiful little species first discovered, but it did not make its appearance in this country till some years later. So weak in constitution was it said to be, that there was great difficulty in importing it alive. Its constitution is believed to be enfeebled by its being habitually self-fertilising. We, however, noticed a large plant in the fine collection of F. G. Tautz, Esq., at Studley House, Hammersmith, and which has been in flower for the past three months. It is still in full vigour and bears ten flower-scapes. The lip is rose-coloured, with a small orbicular opening, and the base of the petals is also rose, but the rest is white. The form originally introduced had the sepals and petals more or less spotted and stained with rosy pink, but there are many intermediates between this and the extreme variety which has been named C. S. albiflorum. Mr. Cowley finds the latter very difficult to grow at Studley House, whereas the ordinary form grows vigorously without any trouble or special treatment.

Lælia anceps alba.

Amongst the numerous fine varieties of L. anceps now in cultivation, the white one, L. a. alba, will always be a leading or standard kind from its definite and decided shade of colour. It is pure white with the exception of the crest, which is yellow. Improved forms may, and generally do, turn up in importations that are pure albinos, as in the case of Lycaste Skinneri alba in its best forms. Yellow being a primary colour, is always the last to disappear from a flower when losing its tint, and this in Orchids is nearly always characteristic of the disk, so that we frequently find albinos with a yellow disk, while every other part of the flower is pure white. The variety under notice is sometimes called L. a. virginalis. It has been flowering for some past in the Studley House collection.

Cypripedium callosum.

This bold Cypripedium has been in the collection of F. G. Tautz, Esq., Studley House, Shepherd's Bush, almost since its introduction from Cochin China, and nowhere is it better grown than there. The flower scapes attain a length of from 18 ins. to 24 ins., and Mr. Cowley obtains a large percentage of scapes with twin flowers. One plant especially produces two flowers on all the scapes. The foliage is variegated or marbled with grey and dark green, in the same way as that of C. Lawrencianum, but C. callosum grows even more vigorously, and increases at a faster rate than that species. It is particularly notable for the great size of the standard or upper sepal, which is white, with green lines in the centre and purple ones towards the margin. The petals are not very highly coloured, but are made conspicuous by a line of black warts along the upper edge, while the lip is purplish.

Cœlogyne cristata.

The Chatsworth variety of C. cristata is usually considered the latest one to flower, but a fine specimen in full bloom now with Mr. B. S. Williams, proves that its season of flowering is pretty much a question of cultivation. It is a very fine type, and easily distinguished from others by its brown bracts.

THE ROYAL HORTICULTURAL SOCIETY'S COMMITTEES.

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Ballantine, H., The Dell Gardens, Egham
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Druery, C. T., 16, Philpot Lane, E.C.
Fraser, John, Lea Bridge Road, Leytonstone, E.
Girdlestone, T. W., Sunningdale, Ascot
Goldring, W., 52, Gloucester Road, Kew.
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Leach, W. C., Aldbury Park Gardens, Guildford
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Mawley, E., Rosebank, Berkhampstead
Nicholson, G., Royal Gardens, Kew
Noble, C., Sunningdale Nursery, Bagshot
O'Brien, James, West Street, Harrow-on-the-Hill
Paul, George, The Old Nurseries, Cheshunt
Pilcher, Charles, 84, Ringford Road, Wandsworth, S.W.
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Ross, F., Pendell Court Gardens, Bletchingley
Turner, H., Royal Nurseries, Slough
Walker, J., Whitton, Middlesex
Williams, H., Victoria Nurseries, Holloway, N.
Williams, W. H. (Keynes & Co.), Salisbury
Wynne, B., 17, Catherine Street, Strand, W.C.

Fruit and Vegetable Committee, 1889.—*Chairman* will be appointed after the election of the Council, February 12th, 1889. *Vice-Chairmen*, Sir Charles W. Strickland, Bart., Hildenley, Malton; John Lee, 78, Warwick Gardens, Kensington; R. D. Blackmore, Teddington. *Secretary*, Archibald F. Barron, Chiswick.

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Fairgrieve, P. W., The Palace Gardens, Dunkeld, N.B.
Ford, Sidney, The Gardens, Leonardslee, Horsham
Goodacre, J. H., Elvaston Castle Gardens, Derby
Hogg, Dr., LL.D., F.L.S., 99, St. George's Road, Pimlico
Haycock, C., Goldings, Hertford
Hudson, J., Gunnersbury House, Acton
Lane, F. L., The Nurseries, Berkhampstead
McIndoe, James, Hutton Hall Gardens, Guisborough
Moore, F., Blendon Hall Gardens, Bexley
Miles, George T., Wycombe Abbey, High Wycombe
Norman, G., Hatfield House Gardens, Hatfield
Pearson, A. H., The Nurseries, Chilwell, Notts
Roberts, J., The Gardens, Gunnersbury Park, Acton
Ross, Charles, The Gardens, Welford Park, Newbury
Saltmarsh, T. J., The Nurseries, Chelmsford
Sherwood, N. N., Dunedin, Streatham Hill, S.W.
Smith, James, The Gardens, Mentmore, Leighton Buzzard
Sutton, A. W., Reading
Veitch, H. J., Royal Exotic Nurseries, Chelsea
Warren, W., Worton Gardens, Isleworth
Weir, Harrison, Sevenoaks
Wildsmith, W., Heckfield Place, Winchfield
Willard, Jesse, Holly Lodge Gardens, Highgate, N.
Wright, John, 171, Fleet Street
Wythes, G., Syon House Gardens, Brentford.

Members of the Council are members of all the committees.

NOTES ON VEGETABLES.

Dandelions.

Now and again we hear of the use of this old-fashioned vegetable as if it were again coming to the front, and there is much to be said in its favour, for when blanched, the leaves become very palatable. Dandelion leaves are actually at present a marketable commodity, and may be obtained in Covent Garden. They are, however, green, and look as if they had been collected from the fields—an idea which is not unlikely, seeing that they would cost nothing except the trouble of collecting. Plants are, however, regularly raised from seed at the trial grounds of Messrs. J. Veitch & Sons, Chiswick, where the roots are taken up in autumn, and stored, so that they can be introduced to the forcing pit at any time, whether the ground be frozen or not. At present a quantity of the roots are potted up, and stood in a forcing pit used in summer for growing Cucumbers. They are covered over so as to exclude the light and blanch them. The size the roots and crowns attain from seed in a single season under good cultural treatment is astonishing, and the larger the roots the more leaves they will produce when forced.

Chicory.

By forcing this vegetable in winter, a very tender and agreeable subject for the salad-bowl can be obtained, and which will be the more acceptable as Endive and Lettuce become scarce. The method of culture required is to sow seeds in the open ground in May or June in a piece of rich well-cultivated soil. The plants should be thinned out to 6 ins. apart or more, and the soil kept clean and well stirred all through the summer, so as to obtain strong crowns or roots that will be able to produce a good quantity of leaves when forced. At the trial ground of Messrs. J. Veitch & Sons, Chiswick, the roots are lifted and stored in November until they should be required for forcing. They were taken from the store the other week and potted up, placing eight roots in a 10-in. or 12-in. pot, and stood on the side stages of a small forcing pit. In order to blanch them, a temporary framework of a few sticks is set up, and then covered over with mats to keep them perfectly dark. The kind chiefly used is the large-rooted, having fleshy tap-roots similar to a Parsnip. By means of this the plant is able to produce a good quantity of leaves, which are temptingly crisp and tender. Instead of pots, boxes may be used, covering up the roots with soil. Another kind grown there is the large-leaved Brussels, also known as Witloof, or Witloef.

QUESTIONS AND ANSWERS.

Begonias for Bedding.—*J. L. C.:* You can hardly depend on these for bedding purposes the first year, as great part of the summer must elapse before they can attain a good flowering size. Towards autumn, if the summer has been a favourable one, the plants will flower magnificently. But the beds can be properly filled at a much earlier period of the year following, owing to the tubers being already of some considerable size. The best plan would be to sow the seeds at once, and as soon as they can be handled, prick them off into boxes 1 in. apart each way; and when the proper bedding time arrives, place them in good soil in a thoroughly open but sheltered situation to enable them to make good growth and tubers. Then you can determine their merits as they come into flower, giving them a number or mark by which you may know what they are when lifting them in the autumn, so that they may be selected for preservation and future propagation if so required.

Cool Orchids.—*A. R.:* Under the conditions you mention you could grow cool Odontoglossums, such as O. crispum, O. Pescatorei, O. Rossii, O. luteo-purpureum and the race of kinds allied to it, O. Lindleyanum, O. constrictum, O. Sanderianum, O. odoratum and others; also Masdevallias, Lycastes, Maxillarias, Disa grandiflora, Cypripedium insigne, C. venustum, C. spectabile, C. pubescens, C. occidentale, C. macranthum, and others of that class. We should not put the plants out till June, and it would not be safe to leave them out much longer than the end of September, unless the weather were favourable and rather constantly mild. The lights had better not be taken off, but merely tilted up, especially if the summer is dry and warm, or it will prove a great labour to you to keep them properly moist, especially as your frame has a southern aspect. They must also be carefully shaded from 8 or 9 a.m. till 4 or 5 p.m., or even 6 p.m., according to the state of the weather, and which every good cultivator should be able to judge for himself. As the sun rises or the temperature increases so you must admit more air, and we should leave a certain amount of air on all night, unless the weather should prove unusually cold or otherwise inclement. All this can only be determined from day to day, as one summer is no criterion of another. Many Orchids can be grown entirely in the open air during summer, but they must be partially shaded by trees, and overhanging running water if possible, so as to ensure a certain amount of atmospheric moisture, and a considerable amount of syringing would be required.

Names of Plants.—*A. H. Wills:* Odontoglossum Lindleyanum.

Propagating Streptocarpus.—*A. George:* You can certainly increase your stock of these flowering plants by division, but we

should not recommend the method generally. A better plan would be to make cuttings of the leaves, and insert them in moist sand or sandy soil. Even this method does not always give satisfaction, because in many cases the tubers produced fail to develop a bud when put into heat the following spring, even if they have outlived the winter. The best plan of all is, undoubtedly, to save seeds, by which you may increase your stock as fast as you like. By getting a white species or variety, and crossing the blue with the white, or *vice versa*, you will be able to get considerable variety, and some will, no doubt, turn out to be both beautiful and useful.

Stock and Virginian Stock.—*H. Hanley:* The perennial stocks, as you say, are varieties of Mathiola incana, still to be found on the chalk cliffs at a few places on the south coast. The Virginian Stock, so called, is an annual, but it is not a species of Mathiola at all. It is a pretty annual, and there are several varieties of it, all of which would serve the purpose you mention very well. The flowers individually are smaller than those of the true Stocks under cultivation. Botanically it is called Malcolmia maritima.

Communications Received.—W. S.—W. D.—W. J. M.—E. M.—W. H.—B. C. R.—J. L.—A. H. R.—E. S. D.—H. W. W.—F. D. H.—A. O.

TRADE CATALOGUES RECEIVED.

H. Cannell & Sons, Swanley, Kent.—Floral Guide for 1889, and Catalogue of Flower and Vegetable Seeds.

M. Cuthbertson, Public Park, Rothesay, N.B.—Vegetable and Flower Seeds, Hardy Florist Flowers, &c.

T. Sibbald, Market Place, Bishops Auckland.—Kitchen-Garden and Flower Seeds.

Dicksons & Co., 1, Waterloo Place, Edinburgh.—Flower and Vegetable Seeds, &c.

M. de Reydellet, Valence (Drôme), France.—Chrysanthemums for 1889.

Harrison & Sons, Leicester.—General Seed Catalogue.

S. Fox Armitage, High Street, Nottingham.—Flower and Vegetable Seeds.

Strachan & Thomson, 145, Union Street, Aberdeen.—Vegetables and Flower Seeds, Florist Flowers, &c.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending Jan. 19th was 30·02 in.; the lowest reading was 29·55 in. at the beginning of the week, and the highest 30·26 in. on Thursday evening. The mean temperature of the air was 37·8°, and 0·8° below the average in the corresponding weeks of the twenty years ending 1868. The mean was below the average on each of the five days of the week, but showed an excess on Friday and on Saturday. The direction of the wind was variable, and the horizontal movement of the air averaged 7·4 miles per hour, which was 6·2 miles below the average in the corresponding weeks of sixteen years. Rain fell on two days of the week, to the aggregate amount of 0·02 of an inch. The duration of registered bright sunshine in the week was 1·5 hours.

COVENT GARDEN MARKET.

January 23rd.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	1 6	3 0	Pine-apples, St. Michaels.....each	2 0	7 0
Cobs .. per 100 lbs.	100 0		Pine-apples, Eng., lb.	1 0	1 6
Grapes .....per lb.	0 9	2 6			

Canadian and Nova Scotia Apples, per barrel, 7s. to 14s.

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ..per dozen	1 6	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 3
Cabbages .... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	2 0	3 0	Radishes ..per dozen	1 6	
Celery....per bundle	2 0		Small salading, punnet	0 4	
Cucumbers ....each	0 6	0 9	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos ....per lb.	1 3	1 9
Herbs ....per bunch	0 2	0 4	Turnips ....per bun.	0	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys. 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Anemone, French, per doz. bnchs.	2 0	6 0	Paper White Narciss, 12 sprays	0 9	1 0
Arum Lilies, 12 blms.	5 0	9 0	— — — French, doz. bunches	3 0	6 0
Azaleas ....12 sprays	0 8	1 0	Poinsettia, doz. blms.	4 0	6 0
Bouvardias, per bun.	0 6	1 0	Primroses..doz.buns.	1 0	2 0
Camellias, 12 blooms	2 0	4 0	Primula, double, bun.	0 9	1 0
Carnations, 12 blooms	2 0	3 0	Ranunculus, French, per doz. buchs.	2 0	4 0
Chrysanthemums, 12 blooms	1 0	4 0	Roman Hyacinths, 12 sprays	1 0	1 6
— 12 bunches	4 0	12 0	— — French, 12 bun.	2 0	6 0
Cornflower, 12 bunch.			Roses, Tea, per dozen	1 0	3 0
Cyclamen..12 blooms	0 6	1 0	— Red .....per doz.	1 0	2 0
Eucharis ..per dozen	4 0	6 0	— Red, French, dozen	2 0	3 0
Gardenias, 12 blooms.	12 0	30 0	— Saffrano ..per doz.	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	— Safrano, French per doz.	1 0	3 0
Lapageria, 12 blooms	2 0	4 0	Tuberoses, per dozen.	2 0	3 0
Lilium longiflorum, 12 blooms	5 0	9 0	Tulips ....12 blooms	0 8	1 6
Lily of the Valley, 12 sprays	0 9	1 3	Violets ..12 bunches	1 0	1 6
Maidenhair Fern, 12 bns	6 0	9 0	— Parme, French, 12 bunches	5 0	7 6
Marguerites, 12 bun.	3 0	6 0	— dark French, bun.	1 6	3 0
Mignonette, 12 bun.	2 0	4 0	Wallflowers, 12 bnchs,	4 0	8 0
Mimosa, French, per basket	4 0	6 0	White Lilac, French, per bun.	5 0	7 6
Pelargoniums, 12 spys.	1 0	1 6			
— scarlet ..12 sprays	6 0	9 0			

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	6 0	18 0	Hyacinths ..per doz.	8 0	12 0
Arum Lilies..per doz.	9 0	18 0	Lilies of the Valley, per doz.	18 0	30 0
Azalea.....per doz.	24 0	42 0	Marguerites per doz.	6 0	12 0
Cyclamen ..per doz,	0	18 0	Palms in variety, each	2 6	21 0
Cyperus, ..per dozen	4 0	12 0	Pelargoniums, scarlet, per dozen	6 0	9 0
Dracæna term., doz.	30 0	60 0	Poinsettia ..per doz.	9 0	12 0
— viridis, per dozen	12 0	24 0	Primula sinensis, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Roman Hyacinths, per doz.	9 0	12 0
Ferns, in var., per doz.	4 0	18 0	Solanums....per doz.	6 0	12 0
Ficus elastica ..each	1 6	7 0	Tulips ..... per doz.	8 0	10 0
Foliage Plants, various .....each	2 0	10 0			

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Next Week's Engagements.

THURSDAY, Feb. 7th.—Sale of Lily Bulbs, Greenhouse Plants, &c., at Protheroe & Morris's Rooms.

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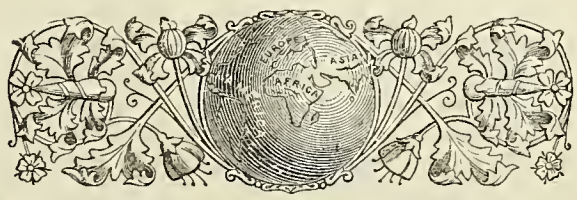


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, FEBRUARY 2, 1889.

THE WINTER'S TAIL.—There is a good deal of diversity existing in the minds of the weatherwise as to the probable nature of the remainder of the winter. Whilst some regard the weather so far as certainly indicative of what the tail of the season will be, others are assured that February, at least, will give us a compensating taste of hard weather in repayment for the pleasant time so far experienced. Both cannot be right, neither may be either exactly; but it is certain that gardeners generally would give much to know what sort of weather they may look for during the ensuing two months.

It seems impossible that we can go on to the end of March with the comparatively open mild weather that has made the month of January one of the most agreeable of its name, although at times wet or foggy. But should the open weather continue, there is very much danger that the condition of the soil will lead to somewhat premature operations in sowing seeds, and otherwise performing labour perhaps best left for a month later. We must, judging by precedent, expect a prolonged winterly spring. We almost always find both April and May to be, if not cold months, yet cold relative to season or time of the year; and very early sown seeds have a long and arduous struggle with cold soil, easterly winds, and white frosts, from which too often the seedling plants emerge indifferently well. Sown later, with soil warmer, longer days, and greater sunshine, seeds which may perish if committed to earth in February would yet do admirably if sown in March.

A good deal of useful work in planting and replanting hardy things, in thoroughly preparing the soil for seeds, or in other ways facilitating such work as must absolutely be performed, may be done earlier. Very adventurous spirits, however, attempting to fly before fully fledged—that is, before the proper season—invariably come to grief.

MARKET PEAS. — The indifferent crop of Potatos of last year has induced market growers to lay down large breadths of early Peas. Whilst the first or early December sowings are fairly well through the ground, those in succession have sprouted well, and the drill is being utilised largely for getting in other sowings, the soil generally working pretty well. There are Sangsters, William the First, Eclipse, Earliest of All, First and Best, Day's Sunrise, and other earlies, sown or being sown, pretty much according to the house with which the market grower deals, each one, of course, having the best and earliest strain. Soil and situation will, however, be found to command precocity presently, quite as much as the sort, perhaps more so.

However, we are most concerned with the fact that so many Peas are being sown. These are elements of which it is hard to find rivals yet, for the fresh green Peas of the kingdom cannot well be competed with by the productions of warmer and, of course, distant climates. Early Peas do not now command the high prices once obtained in the market, however. The grower who can, by dint of sort and situation favouring, rush a load into the market but a day before his fellows, makes a stiff price, but often at considerable cost, as the "slats" are rarely half filled, and often are very immature. Thus the pleasure of catching the market early is often outweighed by loss in bulk later.

It is rare that good early Peas get into market before the first week in July. No matter how early sown, there is always the terrible ordeal of late spring frosts to pass through, for these are sometimes very injurious to the blooms. We do not find that earliness in field culture has been at all accelerated during the past twenty years. The market growers' books show that fact too plainly. Perhaps raisers of new Peas, satisfied that we have as many, if not more mid-season and late sorts than we want, will now turn their attention to the production of really early varieties — sorts that will excel by several days that old and favourite variety, Sangster's No. 1.

COOKED POTATOS. — Potatos have seldom boiled worse than this winter. The wet, sunless summer, with severe visitations of the disease, so disastrously affected the quality of the tubers, that complaints of their cooking have been abundant. It is useless to complain of what could not be helped, and we may hope for better results during the coming season. But all Potato consumers do not think of such misfortune, and rail against cooks, placing the fault of quality on the shoulders of unfortunate people. Now, some

have great faith in boiling tubers with their coats on, but it is not possible in that case to detect, until too late, what disease may be dormant in the Potatos. The astringent flavour of the skins also boils into the flesh of the tubers, and destroys their natural quality. On the whole we prefer tubers peeled, washed in clean water, placed into the saucepan with just enough water to submerge the tubers, boiled quickly, a pinch of salt being added, and the water so equalised, that by the time the tubers are well done it has practically disappeared; they are then in superb condition for dishing up.

DAFFODILS.—We may very soon learn that our Daffodil friends, the fiery enthusiasts of Narcissi fame, have once more begun their annual worship of a very varied, very lovely, and very interesting flower. Already the spear-like points of the leaves are getting well through the soil, and there seems to be about them an element of strength promising a fine bloom. We shall soon see whether excessive moisture, as found last year, has proved to be more beneficial than the considerable drought of the preceding year, when bulbs, left in the ground, or even lifted and stored, received a moderate roasting. Also we shall learn whether a mild winter is provocative of precocity or otherwise. At all events, there seems to be great promise now of an early and abundant bloom. It seems a pity that our markets should be so flooded with foreign flowers before those of our own growth come in, as the charm incidental to freshness and novelty is thereby greatly discounted.

PLANTING.—If nurserymen have not been doing a good trade in trees and shrubs this winter, it cannot be because the weather has hindered them. There have been some occasional floods of rain or visitations of frost, but, on the whole, these have not occupied more than one-fourth of the winter season from October onwards, whilst all the rest of the time has been generally favourable. January, for instance, has been as good a month for planting as November often is; and that is at once a remarkable fact as well as a wonderful gain. If stiff soils be still rather sticky, all other soils have been working remarkably well; and because the winter also has been free from wind storms, planting has been exceptionally favoured. Gardeners have found the winter, so far, wonderfully helpful in promoting opportunities for alterations and transplanting, all of which can be performed with assured safety.

Mr. Henry Eckford, late gardener to Dr. Sankey, at Boreatton Park, Baschurch, and well known as a raiser of new varieties of Culinary and Sweet Peas, has left Boreatton, and gone to reside at Wem, Salop, where he has established himself as a Pea merchant.

Profitable Fruit Culture on Farms. — A paper on this subject will be read by Mr. R. Dean, at a meeting of the St. Albans Farmers' Club, to be held this day (Saturday), at half-past four o'clock, in the Council Chamber of the Town Hall, St. Albans.

Preston and Fulwood Horticultural Society.—At the twenty-first monthly meeting of this society, to be held this (Saturday) evening, Mr. George Blench, of The Gardens, Witton Park, Blackburn, will read a paper on "The Strawberry: its culture under glass and out of doors."

The Rose Conference at Chiswick.—In anticipation of a number of distinguished foreign horticulturists being in England to attend the Rose Conference at Chiswick on July 2nd and 3rd, it is proposed that the President, Council, and Fellows of the Royal Horticultural Society should welcome them at a reception and dinner on the evening of the first day of the conference. Fellows willing to co-operate in this matter are requested to communicate with the secretary of the society, the Rev. W. Wilks, Shirley Vicarage, Croydon.

To Preserve Parsley.—It is not always easy to procure Parsley in winter, to the great despair of the gardener and the *chef*. An agricultural journal recommends growers in the season when the precious condiment abounds, to dry little bouquets in the shade, and place them in a box with a moist cover. Parsley thus preserved will be analogous to fresh Parsley—the same colour, the same flavour, and the same stimulating properties. Here is a method of preservation within the reach of all, and yet we dare not guarantee it.—*Le Jardin.*

Crystal Palace Flower Shows.—The Crystal Palace Company have just completed their fixtures for the 1889 Flower and Fruit Shows. The Spring Exhibition of Plants and Flowers will be held on the 23rd March; the Great Summer Exhibition on May 11th; the National Rose Society's Grand Exhibition of Roses on July 6th; the Fruit Exhibition and Grand National Dahlia Show on 6th and 7th September; the Great Autumn Fruit Show on 10th, 11th, and 12th October, and the Grand Chrysanthemum Exhibition on the 8th and 9th November.

White Flowers.—The French paper *Le Jardin* says that white flowers being above all things sought after by the florists of Paris, here is a means of procuring them with little expense. The Rose Noël, which produces beautiful rose-coloured flowers, gives blooms almost entirely white when cultivated in a cellar or any other obscure place. The bouquetists of Paris serve themselves with flowers prepared in the following way to imitate Camellia buds—namely, by fitting a Hellebore bud into a completely expanded flower of the same plant, and of which the organs of reproduction have been cut away. This subterfuge is more innocent than the employment of fuchsine to colour wine.

The Surrey Chrysanthemum Society.—On the 22nd ult. about fifty members of this society dined together at Grove House, Camberwell, the founder of the feast being G. Searle, Esq.—a generous supporter of the society. The chair was taken by Mr. G. T. Houghton, and the vice-chair by Mr. G. Vaughan, West Dulwich, both of whom are effective workers on the society's executive. The dinner was followed by a vocal and instrumental concert, interspersed with a few short speeches on matters relating to the society's work, and from which it was pleasant to gather that after struggling for some years it is now growing into strength and usefulness, and gives promise of soon attaining a prominent position. It has a most energetic secretary in Mr. Springett.

Royal Horticultural Society.—The members of the Council who retire at the forthcoming annual meeting are Mr. W. T. Thistelton Dyer, Prof. M. Foster, Dr. Hogg, Sir E. C. Loder, Bart., Mr. H. J. Veitch, and Mr. G. F. Wilson, and the gentlemen nominated (by eight members of the existing Council) to succeed them, are Mr. J. R. Bourne, agent to the Duke of Bedford; Mr. W. Coleman, Eastnor Castle Gardens, Ledbury; Sidney Courtauld, Esq., Bocking Place, Braintree; Mr. H. J. Pearson, Beeston, Notts.; Mr. T. F. Rivers, Sawbridgeworth; and Sir Charles Strickland, Bart., Hildenley, Malton. Sir Charles Strickland and Mr. Courtauld are the only two who have been members of the governing body before. The officers recommended by the Council for election are Sir Trevor Lawrence, Bart., M.P., as President, Mr. D. Morris as treasurer; Rev. W. Wilks, M.A., as secretary; and Messrs. G. Deal, W. Richards and H. Turner as auditors.

Gardeners' Orphan Fund.—At the committee meeting on the 25th ult., the honorary secretary stated that among other sums received during the month were 5 guineas each from Mr. Deal and Mrs. Barron, £5 from Mr. Macmillan, £7 6*s.* 10*d.*, collected in money boxes by Mr. J. Hughes, Birmingham; £2 7*s.* 8*d.* collected by Mr. Divers, Ketton Hall, Stamford; and £5 5*s.* from Mr. Rose, as the result of an entertainment given at Lockinge, &c. The receipts from all sources during the preceding six months amounted to £549 3*s.* 6*d.*, which showed a satisfactory increase on the subscriptions and collections made by local secretaries during the corresponding half of last year. It was also announced that arrangements have been made for a ticket benefit, in aid of the fund, to take place at the Royal Princess's Theatre, Oxford Street, the tickets sold being available for either of the afternoon performances on the 6th and 9th inst., or the evening performances on the 6th, 7th, and 8th. An intimation was also received to the effect that the committee of the Croydon Horticultural Society have decided to hold a Rose fair and sale of Roses in connection with their exhibition on July 3rd. This is an excellent and eminently practical scheme, which we trust other committees will adopt.

CHRYSANTHEMUM NOTES.

I NOTE that in a contemporary Mr. Molyneux suggests that some varieties of the "Rundle" class should be staged in triplets, which is a very excellent suggestion, but what is wanted is more variety than he stipulates, viz., Mrs. G. Rundle, Mrs. Dixon, and Mr. G. Glenny. No doubt these would make very attractive stands, but why not have other varieties with more colour, leaving it to the framers of schedules to enumerate the sorts that exhibitors may show, say in this way, "a stand of twelve in not less than six or eight varieties," which should be named. That would be thirty-six blooms, and staged in the way Mr. Molyneux suggests, I am convinced would be an improvement on those stands shown at Portsmouth, which he mentions. I name a few which I venture to think might come into such a class in addition to the above:—Pink Pearl, Lord Derby, Eve, Crimson Velvet, Abbe Passaglia, Rev. J. Dix, Mrs. Halliburton, Mr. Cullingford, and Plenipo. It would be the means of keeping these smaller but none the less beautiful varieties before the Chrysanthemum-growing public, and perhaps Mr. Molyneux would mention other varieties that are now considered too small for the best stands, and which, good and pretty as they are, stand no chance in competition with the larger varieties.—*Southdown.*

LATE-FLOWERED CHRYSANTHEMUMS.

In Mr. Kipling's paper, read at the last meeting of the N. C. S., he asks growers to give the names of any varieties that flower late, in addition to those he mentioned. I will add Edouard Audiguier and Florence Percy. I saw at Christmas last some blooms of both those varieties. Edouard Audiguier had bloomed early in November, and numerous side shoots showing, they were allowed to develop, and were found very useful. This variety had been grown on the single-stem system, but Florence Percy had been cultivated for ordinary decoration and the shoots stopped. Late in autumn they were placed in a house having a northern aspect, from which frost is merely excluded, with the result that a nice lot of bloom was forthcoming when particularly wanted. Several of the singles are late flowering—notably, Alba lutea and America.—*Southdown.*

GARDENIAS.

AMONG the useful plants of the present day these hold a foremost place for two reasons, one being the rich perfume they yield, and the other, the rich appearance the blooms possess when cut and blended with other flowers of a similar character. To grow Gardenias to perfection, one thing essential is that they should be kept free from insects of any kind, and in a mixed collection this will be found a difficult matter. Both mealy bug and brown scale are very partial to them, not to speak of green and black fly, which will almost worry them if not looked after. When possible, these plants should have a house to themselves where they can have special treatment.

In selecting wood for cuttings, which strike very freely, some of the most vigorous shoots should be taken and inserted in well-drained pots, plunged in a good bottom heat, and kept close in a case or under a bell-glass. When rooted, pot off into small pots, and return to a very warm growing house, shading from sun until the young plants are well established. When they are well filled with roots they will require shifting into larger pots. Never let the young stock become pot-bound until you have the plants large enough to suit your requirements, taking the precaution at the same time that the plants are being potted on, to pinch out the points of all the strongest shoots, which will cause them to form good busby plants.

Young and thrifty plants may be expected to yield one crop of flowers in a year, but a supply of these may be looked for at various times, according to the vigour of the plants, as they advance in size. If planted out in a good, well-drained border, their shoots will be more vigorous, and consequently more flowers may be expected, but if grown in large pots the growth will be shorter and firmer, but still a fair supply of flowers may be cut from a plant in a 12-in. pot in a season. The syringe should be always at work amongst these plants, and if a small quantity of paraffin oil be put into the water at times and kept well mixed up it will have a great tendency to keep down the ravages of insect pests. For a compost in which to grow them, I prefer equal parts of peat and loam, with an occasional dose of liquid manure when well established in their pots. At all times pot firmly, and in the case of young plants, where practicable, they will benefit by being plunged in a steady bottom heat.—*W. G.*

HARDY PLANTS FOR POT CULTURE.

The Tenby Daffodil.

In the open ground this is one of the first to come into flower, so that if the bulbs are potted up in autumn, and plunged in ashes or coco-nut fibre in a cool frame, it may be had in bloom considerably earlier than those under more natural conditions. They may be transferred to a warm corner of the greenhouse, and gently stimulated by artificial heat, but not forced, in the strict sense of the term, unless desired particularly early, because the flowers lose both in size and substance. Good soil should be used, and the cultivator will be well rewarded with the results. As a Daffodil, it is widely distinct from all others of its class, owing to the corona being short, stiff, very wide, and of a bright yellow colour. The segments are paler, but are short, broad, spreading, and altogether very distinct in appearance. The name Tenby Daffodil is applied to different forms of the common wild Daffodil; but botanically it is a form of Narcissus Pseudo-Narcissus major sub-var. obvallaris, or simply N. obvallaris, by which it is best known.

Narcissus pallidus præcox.

The plant now widely known under this name is also a form of the common Daffodil, as in the above case. Its leading characteristics are that it is the earliest of all to come into flower, and is very pale in colour. With these exceptions, it is not so distinct as the Tenby Daffodil, while in structure it cannot be compared to the bold outline of the latter. The segments are of a pale sulphur-white, while the corona is very little darker; but the variety well merits cultivation on account of its earliness. It may receive the same cultural treatment as the Tenby Daffodil, and be very acceptable at this season, either for the decoration of the greenhouse or the windows of the dwelling-house. Being so very hardy and so readily amenable to pot culture, not only these but many of the Daffodils merit being taken in hand, especially by those having little heat at command.

Iris Histrio.

Having been introduced as recently as 1873 from Palestine, this species has not become disseminated so widely in gardens as the English and Spanish Irises, if indeed it ever becomes plentiful. Like the latter, it belongs to the Xiphion section of the genus, having bulbous instead of rhizomatous rootstocks, like the German Flag Irises. In size and habit it may be compared with I. reticulata, to which it is closely allied, and has the same narrow grass-like and quadrangular deep green leaves. When grown in a pot the flower is produced on a stem about 3 ins. above the surface of the pot. The individual flowers are comparatively large for the size of the plant, and have deep blue, somewhat jagged stigmas, and narrow standards of the same colour. The falls are the most striking and attractive feature of the flower, and in the boldness of the spotting of the broad apical portion may be compared to the spotting on a peacock's tail, being irregularly blotched, spotted, and reticulated with deep blue on a paler blue and white ground. Beautiful markings of purplish blue on a white ground are continued to the base of the segments. It is the earliest of this section to come into bloom, and is certainly handsome when brought into the greenhouse when in flower. Any cool house from which frost is excluded will suit it admirably.

Saxifraga Burseriana major.

Few can conceive a prettier rock plant than a tuft of this in full flower in March. It is equally amenable for pot culture, and in fact is not so liable to be lost during summer when grown in this way and stood in a pit facing north, than when left pretty much to chance on a hot day, and on an exposed part of a rockery, or in an herbaceous border, where it is liable to be lost through damp or other contingency. Under a system of pot culture it can be introduced to the genial atmosphere of a greenhouse, where it will come into flower during February, and appear to better advantage than when exposed to a spell of bad weather out of doors. In potting it use a compost of loam with a good portion of silver sand, and broken pieces of porous sandstone to render the soil gritty.

Lenten and Christmas Roses.

Both these different classes of Hellebore give great satisfaction when grown in pots throughout the year, and introduced to the greenhouse or other cool structures where they will receive plenty of light for the sake of the foliage. The true Christmas Roses (Helleborus niger and its varieties), are the first to bloom, and commence in autumn or early in winter under favourable conditions. These are now mostly out of flower, and should be stood in cold frames, or some similar place till all danger of frost is over. Large pieces grown in tubs look handsome, and after the weather becomes favourable should be stood in a partly shaded position to save watering to some extent during the warmer months of the summer. Lenten Roses, both in pots and out of doors, are flowering freely. They add greatly to the appearance of a conservatory or other cool house at present, and deserve more extended cultivation. When kept continually in pots or tubs they do not suffer that root disturbance which they otherwise would if lifted annually and potted up for indoor work. Some of the best are Helleborus abchasicus, H. colchicus, H. olympicus, H. orientalis, and its varieties H. o. antiquorum and H. o. guttatus, the last being beautifully spotted, and H. atrorubens, with rosy purple flowers. Pot them in loam, leaf-soil, some well-decayed cow manure, and a fair proportion of silver sand.

The White Hoop Petticoat Daffodil.

Botanically this is known as Narcissus Bulbocodium monophyllus, or Corbularia monophylla. Suffice to say it is the prettiest of all this section, and should be grown by everyone who can afford it greenhouse temperature. Being a native of Algeria it is not at all suited to the exigencies of our capricious climate in the open air; but under glass it thrives satisfactorily, and flowers in a very attractive way. The segments and corona are white, and the blooms are borne on peduncles about 3 ins. above the surface of the pot. The great width of the corona, which is more or less

Narcissus bulbocodium.

deeply notched, makes the flowers appear large and simply charming. The deep green rush-like leaves are at first erect, but after flowering attain some length, and spread about on the ground. Our figure illustrates the typical Narcissus Bulbocodium, from which the beautiful variety under notice differs chiefly in the corona being more expanded and more decidedly notched at the apex, as well as being more slender in the elongated leaves, and in the colour of the flowers, which is the most important feature from a horticultural point of view.

HOYAS.

A very pretty and elegant class of plants that may be called either climbers or trailers. In H. carnosa we have a distinct climber that will often grow as well in a good greenhouse as it will in the stove, the only difference being that it may not make its shoots quite so long, nor yet produce bloom so early as it does in the stove. As a covering for a wall it is a very serviceable plant, the shoots clinging to the wall as they grow, like Ivy will do. In H. bella and H. Paxtoni we have two very distinct and beautiful plants suitable for suspending in baskets, and if this means of growth be adopted, they show their fine trusses of waxen flowers to advantage. For bouquet or button-hole work these flowers are very chaste. They will bloom continuously through the summer season, and should be placed in a good position to make their growth. They are very ticklish plants at the root, and at no time must they be potted in a retentive soil; it should be of a loose and gritty nature, something that the roots can easily work among.—*W. G.*

NOTES ON VEGETABLES.

A few notes may not be out of place at a time when many are making out their seed order for the coming season.

Peas always take a prominent part in the list. Of these we depend upon William I. for our early supply. I have grown this variety for some years, and have tried others against it, and although some more recent introductions may be a few days earlier, yet in point of usefulness we find Wililam I. to be the best. It has a good constitution, and is very prolific. Dr. Maclean was sown for a succession and rotted in the ground, when another sowing of William I. was made, and saved us from any lengthened gap in the supply. Telephone, Duke of Albany, and Champion of England followed; of these the two first did us good service. We always rely upon Ne Plus Ultra for our general and late crop, and so far have had no reason to regret doing so. We had a magnificent supply the whole of the season, as, in spite of the frost early in October, which played such sad havoc in the gardens, we continued picking peas till well into November.

Kidney and Runner Beans were very good; of the former we grow Osborn's Prolific and Ne Plus Ultra for forcing and early supply, and depend upon Canadian Wonder for main crop; these sown twice will keep up the supply till cut down by the frost. The old Scarlet Runner still holds its own where monstrosities in the way of Beans are not desired.

Beet.—Carter's "Extra Early" Crimson Ball Beet is a decided improvement upon the old Turnip-rooted Beet, and deserves to be largely grown. It is fit for use in less than three months from the time of sowing, and is of a splendid colour when cooked.

Brussels Sprouts.—Scrymger's Giant and Craigo Favourite Brussels Sprouts are excellent varieties for general use, producing firm and compact sprouts of a medium size.

Celery.—Sutton's White Gem Celery is rightly named; it is indeed a gem. Major Clarke's Solid Red and Leicester Red are as good as one could wish for main and late crops.

Carrots.—We grow six varieties of Carrots, the best being Sutton's Early Gem and their New Scarlet Intermediate.

Cabbage.—Ellam's Early is a first-rate variety; Nonpareil comes in well after Ellam's, whilst Rosette Colewort should not be lost sight of.

Cauliflowers.—Walcheren and Veitch's Autumn Giant Cauliflower are sufficient for all ordinary purposes.

Endive and Lettuce.—Improved Round Leaved Batavian Endive is the best; whilst amongst Lettuces, Paris White Cos and Hicks' Hardy White comes in well after the old Bath Cos, and cannot well be beaten.

Onions.—Amongst the many excellent varieties of Onions offered, we find that Banbury Improved, White Spanish, Brown Globe, and James's Keeping answer our purpose as well as any; these, with Flat Italian White Tripoli, give us a supply all the year round.

Turnips.—Carter's Jersey Lily and Extra Early Milan are, perhaps, among the best Turnips for early sowings; whilst Early White Stone and Veitch's Red Globe form good successions; for storing for winter we generally endeavour to get some of the old green Round or Globe, from the farm bailiff.

Savoys.—Amongst Savoys, Gilbert's Universal finds great favour for the dining-room; Drumhead, though large for small gardens, is an excellent variety, probably one of the best for general crops.

Kales.—Asparagus Kale, Cottager's, and the Green Curled are all hardy, and invariably give a good lot of greens at a time when vegetables are none too plentiful, whilst with

Broccoli, no one will be far wrong in planting such varieties as Veitch's Self-Protecting, Snow's Winter White, Cooling's Matchless, Wilcove's Improved, Knight's Protecting, Veitch's Model, and last, but not least, Sutton's Late Queen.—*Thomas Nutting, The Gardens, Childwickbury, St. Albans.*

Purple Sprouting Broccoli.

Of all winter vegetables none seem hardier or more capable of withstanding the winter in the neighbourhood of London and other large or smoky towns than the Purple Sprouting Broccoli. In the same districts it is rivalled perhaps only by Chou de Burghley in its hardiness. Independently of the cold, there is something in a smoky atmosphere, including no doubt sulphur and charcoal, which act injuriously on vegetation, causing it to succumb, whereas, in districts more remote from town, there is generally a much greater wealth of various kinds of vegetables. The

foliage of Purple Sprouting Broccoli is dark in colour, stiff, and in every way presents the appearance of vigour, and when it has been planted in rich well-cultivated ground in an open position the quantity of sprouts or little heads produced by a single plant is something remarkable. The colour of the sprouts is not very tempting compared with the ordinary white-headed Broccolis or Cauliflower; but when cooked the whole becomes green, and as the flavour is excellent, few can have any objection to this useful vegetable. A fine breadth of it is now in bearing in the trial grounds of Messrs. J. Veitch & Sons, at Chiswick.

LEEKS.

Most stress seems to be attached to the blanching of Leeks in private establishments; but desirable as they may be when so treated, they are found most serviceable in some places in the green state for stewing. When properly done, and well flavoured with condiments, they make a most relishable dish at a time when green vegetables are getting very scarce—say in the months of March and April. Several kinds may be seen at present in the trial grounds of Messrs. J. Veitch & Sons, Chiswick. They are grown under similar conditions, and presumably were planted at the same time, but the variety named The Lyon has by far the broadest leaves of any, and produces altogether a greater bulk of foliage. Two others, named respectively London Flag and Musselburgh, have narrower leaves, but they are much darker in colour, and apparently equally good kinds. The last named is a very popular variety in the north.

ORCHIDS AND THE FOGS.

THOSE growers of Orchids who live far enough away from London to be free from the sad effects of the fog ought to be very thankful, for here, in such a season as the present, flowers which open in the morning are disfigured before night. It is very disheartening to see flower buds turn yellow and drop off after having been tended well for the previous twelve months, and especially when something good has been anticipated. The marvel is, that the plants themselves, in leading nurseries, look so well in spite of the thick choking atmosphere, which cannot be kept out of the houses, and which, on departing, leaves such a deposit as to make frequent washing of the houses absolutely necessary. The Cypripediums seem better able to endure fog than most kinds of Orchids, and it is fortunate that the bulk of Cattleya Trianæ are not yet far enough advanced to be much injured, so we hope to see them later on. Lælia anceps has been crippled badly this season by fog, and it seems advisable to try and retard some of them in future so as to have two batches, for in several collections known to me they were all spoiled about Christmas-time, which for the time, created quite a dearth of flowers in the Orchid houses. Odontoglossum blooms here do not appear to have suffered, except that they are not quite so stout as in clearer weather. Cattleya and Lælia flowers have experienced brief lives for their portion; while Odontoglossum Rossii majus, O. aspersum, and O. Humeanum have proved good fog resisters.—*William Parks, Fernside, Bickley.*

GARDENERS OF THE FUTURE.

I AM glad to see that gardeners are taking more interest in the future welfare of our rising young men. The remark is heard on all sides that something should be done to prevent incapable men from foisting themselves into positions which they are not fit to occupy, and who bring nothing but disgrace upon the fair name of gardeners. I heartily endorse many of the remarks of your able correspondents, and especially those of "O." (p. 339) on the want of a Union. This Union might be in connection with a horticultural technical institution, which, I think, is greatly needed. I would suggest that young men, after serving an apprenticeship for three years in some leading garden or nursery, should feel it imperative for him to attend the institution for at least two years, in order to further his knowledge by means of a good garden attached to it, and attending its classes in botany, chemistry, physiology, geometry, drawing, &c. These subjects are very important to him in his future career, especially the three former, which he should pass satisfactorily. After this term, or longer if he chose to stay, he should have every facility afforded him to enter some good garden or nursery as journeyman or foreman. At the expiration of a few years he would feel competent to undertake some responsible post, with honour to himself and to the credit of horticulture generally.

It would be to the advantage of gentlemen to give preference to men who have undergone a course of examinations, perhaps not too severe for a few years, but these examinations should eventually be severe enough to be a real test of efficiency. This would prove an obstacle in the way to those men who, after they have been to "So.and-so's place," think themselves capable of anything, and who manage to ride over the shoulders of men of greater ability, but having less self assurance.

It is very much to be desired that we should, as a body of gardeners, unite together for our own interests and that of horticulture. We see on the Continent and in America the formation of societies to promote horticultural commerce, and British horticulturists should not be left behind. Then rouse, brothers! let us be up and doing; horticulture has made rapid strides these past fifty years, but progress should still be our motto. We must not flag, or get weary in its cause. Mr. Alfred Gaut made a remark some time ago about the want of unity among gardeners, which I cordially endorsed, but a correspondent ventured to disagree, and rightly so, if it were intended to unite together against our employers. That was not intended either by Mr. Gaut or myself, but a society or brotherhood, to promote the interests of horticulture, practically and scientifically, as well as for the benefit of its members. If such a society were formed, I venture to say that we ought to include the employer as well as the employed. This could be established in connection with a horticultural technical institution, and would be the means of securing the support of all connected with horticulture.

I firmly maintain that if we are, as British horticulturists, to hold our own against the world, some of our leading men must step forward boldly and quickly. The Gardeners' Orphan Fund has shown what they can do if they will only come to the front, and say they are in earnest. Noblemen and gentlemen there are who will render assistance to those, who by their labour, are striving to make gardening profitable as well as a pleasure to their owners. If every gardener would give a donation of 1 guinea, a handsome sum would be realised, and gentlemen would come forward in the good cause, because they would see we meant business. The result would prove that we should be able to support two institutions instead of one, which might be situated in the north and south of England. Brothers of the spade! come forward and help on the day when we shall be an united body, and ready to maintain our supremacy in the horticultural world.—*Hortus.*

IXORAS.

HERE we have some of the finest of stove plants, and which are subjects that require all the plantsman's skill to bring them to perfection. To grow these well they must have plenty of heat both top and bottom, and as they are not very quick-growing plants, they also require a certain amount of patience as well as skill before they can be called perfect. If mealy-bug is at all about, it will find the Ixoras out, and soon cripple the tender young foliage. Thrip and brown scale are also very partial to them, therefore it behoves the grower to keep a watchful eye on their plants. Keeping the syringe constantly at work, provided the temperature is well kept up, is a good means of getting rid of thrip, and to a certain extent, of bug; but independent of this, they must be continually gone over with a light brush, and some mixture of insecticide used to keep the bug down. They thrive best in a good rough sandy peat, and consequently do not want excessive, but careful watering, giving enough at one time to go through the whole ball of earth. See that the drainage is perfect, for they will not do with the smallest amount of stagnation.

They strike from cuttings freely, but some of the weaker kinds may be grafted upon the strong-growing variety known as I. amboyensis, which in itself is a good high-coloured autumn-flowering sort. I. coccinea is one of the finest coloured varieties yet grown, but it has such a very bad constitution that many growers prefer some of the newer sorts to it. The better-growing kinds, such as I. Williamsii, I. Fraseri, I. Pilgrimi, I. princeps, &c., seem to find more favour with cultivators than what some of the older sorts do.

At the Royal Horticultural Society's show, held at Liverpool in the summer of 1886, some very fine examples of Ixoras were exhibited, good both for size and for being well flowered; but as I have not my notes by me that I then made, I cannot say what sorts they were that were shown, but I have no doubt reference to THE GARDENING WORLD of that date would give the kinds exhibited, as a very full report was made of the show on that occasion.—*W. G.*

THE GARDENERS' ORPHAN FUND.

I CONFESS to some disappointment respecting this fund, that the excellent move made at Chiswick and at Chesterfield in promoting entertainments, soirées, concerts, &c., in aid of the fund have not been followed up, and the anticipation that a considerable addition to the fund income would have remitted from that source, does not look like being realised. Why that which was found so easy of accomplishment in one or two places, with a financial benefit of some £40, should not have been followed up almost with eagerness in many other directions is hard to explain, as there has been ample evidence given, since the establishment of the Orphan Fund, that it has supporters, and many very earnest ones too, in all parts of the kingdom.

I hope the encouragement given to local committees, whether of gardeners or horticultural societies, by the comparatively modest yet substantial product of the Chiswick soirée last October, was not rather deflected by the more ambitious product of the Chesterfield concert. It is certain that in a majority of cases the modest £5 or £10 is easier obtained by local effort than is the considerable sum of £30.

The fund specially recommends itself to the support of gardeners on account of its being so economically managed; still farther, because it is applied to the support of little ones, of none of whom can it be said that they have themselves to thank for their misfortunes. Children are peculiarly helpless, and these merit all our warmest sympathy; whilst, therefore, the winter is still upon us, I hope the concert and soirée element will be materially utilised for the benefit of the Orphan Fund.—*A Subscriber.*

A TWICKENHAM NURSERY.

THE houses at the Amyand Park Road branch Nursery of Mr. W. Gordon, Twickenham, are entirely devoted to the cultivation of Orchids. A great display of bloom can hardly be expected, least of all in winter, seeing that the shop in town has to be kept continually supplied with cut flowers. Every corner of the houses is, however, filled to overflowing with all the leading and most showy species of this popular family, while the roof overhead is closely hung with baskets. It is difficult to see where fresh importations can be stored, yet these are continually being made. Some grand pieces of Lælia purpurata, newly added to the stock, consist of from 100 to 200 pseudo-bulbs, each with about two dozen leads. A large batch of Cypripedium callosum in good condition has lately been secured.

Amongst established Orchids is a fine piece of Angræcum eburneum superbum, about 4 ft. high from the top of the pot; three spikes carried from eighteen to twenty flowers each. A piece of Dendrobium speciosum, when in flower, may turn out to be the variety D. s. Hillii, judging from the strength of the pseudo-bulbs. Some fine pieces of Renanthera coccinea are firmly established on pieces of charred wood, having been so treated by the natives where the plant grows. A fine piece of Oncidium sarcodes gives evidence of good cultural treatment, judging from its pseudo-bulbs, which are from 6 ins. to 10 ins. long, and the flower spike, which is 4 ft. long, and carries twelve good branches. Other species of Oncidium include healthy pieces of O. crispum, O. Forbesii, O. flexuosum, O. prætextum, with a beautiful form of O. fuscatum.

The spring-flowering Cattleyas are just commencing to bloom, C. Eldorado and C. Trianæ taking the lead. C. Mossiæ and C. Mendelii, now showing their sheaths strongly, will soon follow. The leading varieties of Lælia anceps, namely, L. a. stella, L. a. Schroderiana, and L. a. Sanderiana, have just been cut after flowering well. A very pretty variety of L. albida is almost as highly coloured as the variety named L. a. bella. There are fine established pieces of Lælia crispa in baskets, as well as of other favourites. The white-flowered Pilumna nobilis gives out its Gardenia-like scent, for which alone it would deserve a place in a collection. A large quantity of Sophronitis grandiflora, in pots and baskets hung up near the light, flowers almost continuously; this is a plant which amateurs would do well to possess, as it requires little heat, and occupies space not appropriated by tall-growing kinds.

Several houses are devoted to the growing of cool Orchids, including a large number of Odontoglossums. In a patch of O. vexillarium just becoming established some fine varieties may be expected as they come into flower. One already opened exhibits deep rosy purple petals and lip, the latter organ being specially fine. In the same house were some fine pieces of Oncidium

leucochilum, with flower scapes 3 ft. to 4 ft. long, and Miltonia cuneata 18 ins. long. In another small house alongside of this was a beautiful variety of Odontoglossum Pescatorei, with numerous violet spots. A good form of the sweet-scented O. Sanderiana, grown in a basket, is also flowering freely; its flowers are very much larger than those of O. constrictum. A handsome plant of O. blandum, also grown in a basket, can hardly fail to attract the onlooker as one of the gems of the genus. The sepals and petals are spotted with brown, and the lip with purple on a white ground. The apex of the latter organ is curiously fringed or toothed. Amongst the pieces of O. gloriosum in flower in a third cool house are some forms wherein the ground colour (which is usually of a creamy tint), is of a fine deep yellow. Here also O. crispum and O. luteo-purpureum are grown in considerable quantity. The most popular Masdevallia at this dull season is M. tovarensis, with pure white flowers.

Dendrobiums are extensively grown, one of the largest or widest houses being devoted to their accommodation. Many cultivators complain of the difficulty of growing D. Falconeri satisfactorily; but a large quantity of it is grown here in small baskets hung up near the glass, and make a good growth, which gets well ripened, and flowers well. It is watered chiefly by means of the hose pipe. D. cretaceum, flowering now, is also suspended in baskets, as is a remarkable variety of D. primulinum, named D. p. giganteum, with stems of unusual thickness even for this species. A large variety of D. japonicum is grown in pots, and a larger importation even of D. formosum giganteum, D. Jamesianum, D. Farmeri, and the true D. Brymerianum are grown in teak baskets hung up to the roof. There can be no doubt of the last named being the best variety, as the stems are from 2 ft. to 3 ft. high. Some fine varieties of D. nobile come into flower from time to time, as well as of D. Wardianum.

A large collection of Cypripediums is grown in a low and narrow span-roofed house, where they receive very favourable treatment with regard to light. Specially noticeable is a large batch of small plants of C. caudatum in very healthy condition, fully established, and ready to be added to anyone's collection. What appears to be a very curious sport of C. Sedeni occurs in the collection. The tips of the petals are very deeply coloured, while the lip is irregularly splashed and blotched with the same colour. Amongst the species are C. Lawrencianum, C. venustum pardinum, C. hirsutissimum, C. Veitchii, C. villosum, C. Spicerianum, C. Elliottianum, C. Godefroyæ, C. concolor, and C. Curtisii with its foliage beautifully tesselated with deep green. There are also healthy plants of a large number of hybrids, including C. Io, C. almum, C. selligerum majus, C. Harrisonianum, and others.

Popular and useful old kinds now flowering are Cœlogyne cristata and Lycaste Skinneri, so well known as to need no description. Cœlogyne Parishi is by no means a common Orchid, however, but is an exceedingly curious one. The pseudo-bulbs are from 3 ins. to 6 ins. long, and are bluntly four-angled, while the flowers resemble those of the curious C. pandurata in miniature. The colours are similar, and the disk of the lip is furnished with singular-looking black spots, similar to those of its congener. A batch of Goodyera japonica, in pots, forms very pretty tufts, having its leaves beautifully marbled with silvery grey on a deep green ground. A batch of Disa grandiflora, recently imported, is just commencing to make good rosettes of leaves. A similar one of Disa racemosa is rather more advanced, and already the two can be distinguished by a different shade of green in the foliage. When this species becomes better known, it can hardly fail to meet with popular favour, for it is really a pretty species, with racemes of rosy purple flowers.

CYPRIPEDIUMS.

(Concluded from p. 339.)

In growth and habit the members of this genus fall into two very distinct groups. First, those with short stems, the leaves arranged in a two-ranked manner, with no pseudo-bulbs or tubers, but simply the ordinary fleshy roots, these comprising all the tropical species cultivated under glass. Secondly, those with taller herbaceous stems and tuberous roots, including the natives of North America and Europe, hardy in this country. Necessarily, these require very different cultural treatment, and the plants possess very different garden value; but though the heat-loving species with their varieties and hybrids are so much more numerous and highly prized by amateurs, some of the hardy species, especially C. spectabile, when in suitable situations out of doors, thriving and flowering freely, are no mean rivals in floral beauty.

The usefulness of many Cypripediums has been amply proved by cultivators, not so much by reason of the colour of the flowers, as by their duration, which is remarkable in some like C. insigne. Flowers of this species cut and placed in water will last for three weeks or more in a warm room, while on the other plants they last even longer. Some also are almost constantly in flower, C. Sedeni being a notable instance of this, for strong plants are rarely without flowers at any time of the year. The peculiar and sober tints prevailing in Cypripediums, together with the strange form of their flowers, render them rather unfit for arranging with other flowers; but alone, or with suitable foliage, they have a good effect. The colours also present a series of quiet harmonies in shades of brown, green, and purplish crimson, the tints becoming much brighter, with a preponderance of rose, in C. spectabile, amongst the hardy species, and in the South American or Selenipedium group, with its hybrids, such as C. Sedeni.

Cypripediums at Home.

From tropical humid Borneo to the colder drier regions of the northern United States and of Europe, representatives of the Cypripedium family are found scattered here and there, not in great quantities anywhere, and some of them strangely local in their distribution. But their chief home is in eastern tropical Asia, comprising the Philippine Islands, the Malayan Archipelago and Peninsula, up to Burmah and Nepal in one direction, and Hong Kong in another on the Asiatic continent. All from this region, except a few of the more northern, require under cultivation a high temperature and a constant supply of moisture, both in the atmosphere and at the roots; in fact, they have no season of rest as compared with other Orchids, because having no pseudo-bulbs a ripening period is not required, and attempts at treating them in this way have often resulted in the loss of the plants.

It would be impossible in this paper to refer to all the species from the Old World tropics, but a few of them merit a passing note. Two from Borneo are of especial importance, the first, C. Stonei platytænium, for its beauty, rarity, and consequently high value; the second, C. Lawrenceanum, for its bold characters, good constitution, and genuine usefulness. The first was imported from Sarawak in 1863 with plants of the ordinary C. Stonei, and from that one specimen all the examples now to be found in Orchid collections have been derived. It has never been introduced since, and of course it is impossible that the plant thus accidentally obtained was a solitary seedling variation, in which the petals had become greatly enlarged. The other, C. Lawrenceanum, was found by Mr. F. W. Burbidge, in 1878, in North Borneo, so that it has barely had ten years in England, yet it has become one of the most popular, owing to the handsome appearance of the flowers, which is largely due to the broad, rounded, and boldly-striped dorsal sepal.

Another pair of species from the Old World are beautiful, and both are interesting from a similar circumstance—namely, they have only been once found in a wild state, their habitat is unknown, and all the cultivated plants have been derived from these original introductions. C. Fairieanum, one of these, has handsomely-marked flowers, the dorsal sepal being veined and reticulated with purple on a light ground; but as it is of somewhat weakly habit it is much scarcer than the other, C. superbiens (C. Veitchii), though both have been in this country about the same length of time—namely, thirty years. C. superbiens has a peculiarly elegant flower, the dorsal sepals streaked with green, the petals having numerous dark spots. Both these plants have been repeatedly searched for in vain, and possibly they are representatives of those, which in a wild state are becoming extinct.

One group of Asiatic Cypripediums supplies several very interesting species or variations—namely, that comprising C. concolor, C. Godefroyæ, C. bellatulum, and C. niveum, which furnish a chain of gradations, of which the first and last-named are the two extremes, and seem to point to a common origin. Somewhat curiously, too, in distribution C. concolor is the most northern, and C. niveum the most southern, on the Malay peninsula, C. Godefroyæ being found at an intermediate situation, and C. bellatulum is probably from a similar locality, though its introducers have not recorded its habitat. From the yellow C. concolor to the white C. niveum, numberless gradations have been introduced, some with a yellow ground-colour, others with a pure white base, the spots and blotches differing as much in size, number, and depth of colour. C. bellatulum is one of the most beautiful of these intermediate forms, but the whole series presents an interesting study, quite apart from the horticultural value of the plants.

In the majority of the Old World Cypripediums the petals are but little larger than the sepals, or at least not exceeding 3 ins. or 4 ins., but in C. Parishi, C. philippinense, and a recent introduction, C. Sanderianum, there is a remarkable elongation of the petals, which become in the last-named as much as 2 ft. in length, narrow, ribbon-like, and approaching closely to the form of those in a geographically widely separated group, the Selenipedium species of South America. It is for this reason that they are mentioned here as constituting a kind of connecting link in the chain of species in the Old and New Worlds. The Selenipedium group, which has been considered by some authorities as a distinct genus, is mainly confined to the northern and western sides of South America, from Guiana to Costa Rica, and thence southwards through Columbia, Ecuador, and Peru. They are distinguished from the Old World Cypripediums by the ovaries being three-celled, bearing the seeds at the centre instead of on the walls of the one-celled ovary, as in the true Cypripediums. The best known of these is C. caudatum, which, like C. Sanderianum just mentioned, has long narrow petals, which have been known to reach the length of 30 ins., frequently growing after the expansion of the flower at the rate of 2 ins. a day until their full length has been reached. This peculiarity was first observed by Mrs. Lawrence, the mother of Sir Trevor Lawrence, Bart., and something of a similar character has since been noted in C. caricinum, one of the same section, and the singular Uropedium Lindeni. The last-named has been considered as a distinct genus, but is now ranked as an abnormal variety of C. caudatum, in which the lip, instead of being pouched like that of other Cypripediums, is narrow and elongated like the petals of the assumed parent; there is also a third anther on the column. Altogether it is structurally a most interesting plant. C. Schlimii, already incidentally noted, is another of the same group with C. longifolium and C. Lindleyanum.

The terrestrial herbaceous species with tuberous roots have their principal home in North America, but some are found in Japan; while in our own country and several parts of Europe the pretty little C. calceolus—described by the older writers as Calceolus Mariæ—is a representative of the same group, though it is now becoming very scarce in England, being confined to a few districts in the northern counties, and even there it is rarely found, and in several of the "British Floras" it is recorded as nearly extinct. It is rather more plentiful in some parts of northern Europe, and as it extends through northern Asia, it may be regarded either as an escape from the North American flora or as representing a much wider distribution of the terrestrial Cypripediums.

The actual habitats of Cypripediums vary greatly. Some species are found upon trees, others on limestone rocks, and still others (some of the hardy species) in or near swamps; but taking the family generally, none is fitted for the block system of culture adopted for epiphytal Orchids. Good peat and sphagnum suit the tropical species, with the exception of a few that require a little limestone, while the terrestrial species prefer a light compost of leaf-soil and loam with lime added, and a drier situation for C. calceolus.

Hybrids.

My notes have been extended too far to permit much being said about the hybrids, interesting as they are. Some of the most beautiful and valuable members of the family have been produced by artificial cross-fertilisation, and many curious facts have been observed. Crosses have been readily obtained between the Old World species, also between the Selenipedia, but it has been found more difficult to cross species of these two groups, and though seed has been secured and seedlings raised, none have yet flowered to prove whether a genuine cross had been effected. One of the best known and most useful hybrids yet raised is C. Sedeni, from C. Schlimii and C. longifolium, which has become a garden plant of inestimable value. There are many others of even greater beauty, which must, however, long continue scarce, because they are of slow increase. It would take too long to deal with the hybrids in these notes, and I can only refer those who wish for more information upon the matter, as well as upon Cypripediums generally, to Messrs. Veitch's admirable *Monograph*, containing a record of their experiments in hybridising, and with the fullest descriptive historical and cultural notes on the genus that have yet appeared.

FLORICULTURE.

The Kilmurry Yellow-ground Carnations.

THE following transcript of notes made during the bloom may be of interest.

The varieties are all from home-raised seed. Mrs. Gyles says:—"The only seeds I kept distinct were those from Sultana and Mrs. Colman. From Sultana I raised Sovereign Lady, Queen of Hearts, Dulce, and, I believe, Gretchen. From Mrs. Colman, Patricia, Tournament, and Nancy. Other seeds obtained from Lady Rosebery, Lady Armstrong, Sunbeam, Sir Garnet Wolseley, R. Alegatière, Andalusia, Florence, and Eleanor were mixed," so that the mother parentage cannot be fixed, but probably whilst Nora, the sweetest primrose self I know, comes from Lady Rosebery, Alfred Grey, Alfreda, Exile, Rachel, and Troubadour owe much of their brilliant markings to more or less of the blood of Alegatière.

Alfred Grey.—Gold-yellow ground, richly flamed or flaked with scarlet; full and full size; extra fine.

Alfreda.—Much like the former, save that the colours, both of the ground and markings, are slightly varied.

Dulce.—Delicate buff-apricot self, with a warmer centre; very pleasing.

Exile.—Soft yellow ground, richly feathered, flaked and flamed with rose; full and well formed, very fine.

Gretchen.—Delicate straw-yellow, sparsely flamed on some of the petals with soft rose; exquisite.

Nancy.—Delicate primrose ground, picoteed with rose down the centre of the petal; full size and well formed.

Nankin.—Warm apricot, flamed and edged rosy red; thin; useless as a flower for competition, but of the highest value to the seedling raiser. Fine also as a cut flower.

Nora.—Bright primrose self, of fine form and habit; very refined.

Patricia.—Bright yellow, sparsely marked with fine lines of red down the middle of the petal; large, fine.

Queen of Hearts.—A glorious variety, rich apricot ground, large, finely shaped petal, with a distinct flame or flake of red down the centre; of full size and fine form.

Rachel.—Soft yellow ground, richly marked with rose, petals large, smooth, and finely formed; of full size and great refinement.

Sovereign Lady.—Fawn-apricot self, full and well formed; will be seen at its best in a warm bright season.

Tournament.—Primrose-yellow ground, finely picoteed with rosy red; large, full, and fine form.

Troubadour.—Apricot-yellow ground, edged and flamed with red; petals well formed, size medium.

Ursula.—Primrose ground, with picoteed markings of bright red; fine, shell-shaped, large petal, of good form and size; not full.—*E. S. Dodwell, Stanley Road, Oxford.*

Chinese Primulas.

WE have received from Messrs. James Veitch & Sons a box of blooms of their grand strains of Primula sinensis, which exhibit a wonderful variety of colouring. Specially noticeable for size and delicacy of colouring is the old variety named The Queen, together with two new hybrids or rather crosses from it. The flowers of the type are of a clear soft pink, paler round the eye, of great size, and raised into strong undulations where the segments meet. The eye is of great size, orbicular, and orange-yellow, tinted with green in the centre. The green-stemmed cross from this variety has also large flowers of a delicate pink, with the same undulations, although not so strong, and a somewhat angular eye. The red-stemmed cross has similar flowers of an almost pure white shade. Chelsea Rose is a large clear rosy pink almost flat flower, with a pale green-angled eye. Chelsea Blue is very little inferior in point of size to the last, and the lobes of the corolla are much imbricated.

Veitch's White is a flat flower of great substance, but somewhat smaller than any of the above named, and delicately tinted with pink, with a very conspicuous five to six-lobed orange-yellow eye. Chelsea White is a very chaste pure white flower, which is shown off to great advantage by a bright green angled eye. A smaller flower than the last is Alba magnifica, faintly tinted with blush, and having a five-lobed greenish yellow eye. It is rendered pretty and interesting by its beautifully frilled overlapping segments. Double White is a semi-double variety, with flowers coloured similarly to those of the Queen, but rather paler, and would no doubt prove useful for cut-flower purposes. The blooms are, moreover, of good size and substance.

Of dark-coloured varieties, the brightest is Chelsea Crimson, a medium-sized flower of a brilliant crimson-red. Double Crimson is a semi-double variety, with rather small blooms of a very intense colour—in fact, darker than those of Chelsea Crimson. Chelsea Scarlet is a larger flower than either, and although, strictly speaking, not scarlet, is a very near approach to it. The blooms are perfectly flat, with a small angular eye. The largest-flowered variety amongst dark kinds is that named Chelsea Carmine, which well describes itself, as the blooms are of a deep rosy carmine, somewhat paler towards the nearly orbicular greenish yellow eye. Veitch's Red is very little smaller, and is several shades darker, with a much smaller greenish yellow eye, surrounded with a narrow crimson line. The blooms of all the dark varieties are flat, with the exception of Chelsea Carmine, which is slightly undulated, and the semi-double crimson form.

THE R. H. S. COMMITTEES.

WITHOUT doubt the recent decision of the Council of the Royal Horticultural Society to the effect that Fellows only shall henceforth be members of the adjudicating committees has produced some soreness. The impression prevails in some quarters that the Council are more anxious to secure subscriptions than ability. No doubt the Council, especially now that there is the reduced annual subscription of one guinea available, can find an ample range of fitting persons within the Society's membership to sit on the various committees, but all the same a good deal of the very best talent and most practical knowledge may be practically shut out.

To many persons, membership of a R. H. S. committee, if the duties associated with it be conscientiously performed, of itself entails very considerable expense, perhaps from £5 to £10 yearly, a formidable item certainly, and all spent out of pure love to horticulture. It seems, therefore, unduly hard that in addition to such pecuniary burthen, the sum of yet another guinea should be added ere the member may be permitted to discharge the duties he is fitted to undertake. The secretary of the society recently asserted that in no other society were members of committees non-subscribers; but then it must be remembered that there can hardly be found beyond the National Chrysanthemum Society, and its floral committee (but with its very moderate annual subscription of 5*s.*) any which have committees that have absolutely no administrative functions, but are purely judicial in character.

When horticultural societies obtain judges for their shows, experts who are not members are almost invariably selected. Members of the Fruit and Floral Committees of the R. H. S. are practically judicial experts, and the best should be got for the work irrespective of subscription.—*L.*

SEEDLING BEGONIAS AS BEDDING PLANTS.

I OBSERVE in your last week's paper that you advise an inquirer not to depend upon Tuberous Begonias as bedding plants in the first year. As an amateur who annually beds out many hundreds, I thought you would not object to my saying a word or two on the subject, even if I should presume to offer advice contrary to your own. I say that provided there is a house which can be kept at about 70° during the first three months of the year, I would by all means advise dependence upon seedlings. Begonias have improved so rapidly lately that seedlings should be considerably in advance of tubers in general merit, and with proper treatment should make plants big enough to please everyone by the end of July.

Last season was trying enough, as everyone knows, yet the beds here showed a fair sprinkling of bloom during June; while in July, and more notably in August and September, they were a sight to be remembered. No bedding plants I am acquainted with would have covered the ground so thoroughly in the same time. At all events, if your inquirer has the heat at command, and can find time to sow at once, I should recommend him to try the experiment. It will be unnecessary to do anything in the way of potting. We prick out the seedlings in batches into pots or pans, and when they crowd one another, repeat the operation into boxes, where they can have more room. Towards the beginning of May they go into a cool house for a week or two, and later still we stand them out where the boxes can be sheltered at night if necessary.

Instead of moving them into a greenhouse, they can, if preferred, be planted out in leaf-soil and loam on the mildest of hot-beds, where they will grow freely, and from which, after gradual hardening, they will lift readily, with good balls bristling with roots, and with every advantage over pot-bound plants of their own age. Coco-nut fibre to the depth of an inch or two is spread over the borders immediately after planting. If the weather proves dry and hot, it keeps the roots reasonably moist; if wet, neither flowers nor foliage are splashed with mud. The seed pods are picked off as they appear, and some form of liquid manure is given from time to time.

I do not contend that all this does not involve more trouble than buying or growing tubers for the purpose, but it is the kind of trouble most amateurs delight in, while it offers the possibility—so appreciated by all gardeners—of raising distinct varieties of a flower, the development of which may be truly said to be advancing "by leaps and bounds."—*Somersetshire Rector.*

THE SEED TRADE AND THE MERCHANDISE MARKS ACT.

WE quote the following remarks on a subject of great importance to the Seed trade, from a letter written by Mr. James Elder, of Haddington, and published in *The Scotsman*, of January 23rd:—

"First, allow me to quote some of the clauses of the Act, which is called 'An Act to Consolidate and Amend the Law relating to Fraudulent Marks on Merchandise (23rd August, 1887.)'

"Section 2, clause 1 (*d*), says:—'Every person who applies any false trade description to goods shall, subject to the provisions of this Act, and unless he proves that he acted without intent to defraud, be guilty of an offence against this Act.'

"Clause 2.—'Every person who sells, or exposes for, or has in his possession for sale, or any purpose of trade or manufacture, any goods or things to which any forged trade mark or false trade description is applied, or to which any trade mark so nearly resembling a trade mark as to be calculated to deceive, is falsely applied, as the case may be, shall, unless he proves'—(here follows the extenuating circumstances, such as having no reason to suspect, &c.)—'shall be guilty of an offence against this Act.'

"Clause 3.—'Every person guilty of an offence against this Act shall be liable (*i*) on conviction on indictment to imprisonment with or without hard labour for a term not exceeding two years, or to fine, or to both imprisonment and fine,' &c.

"I have quoted enough to show the nature of the Act, and I fear it is not so well known as its merits deserve it should be. Cases under this Act have now and again appeared in the newspapers, but if it were better known amongst traders, and more courageously brought into operation, a great service would be rendered to the genuine trade of the country.

"It is with the view of bringing it before the public that I have thus troubled you, and with the view of appealing to the retail members of the seed trade to be on their guard against, and on the look-out for, any infringement of this Act. Infringements, I fear, often happen. This is a year, however, in which such infringements can be easily detected.

"It is well known that, of all the Red Clovers, the English saved seed is as a rule the best, and commands the highest price. But besides being grown in England, Red is saved in several of the continental countries, and in America. The seed of these, however, commands a relatively lower figure, and a standing temptation naturally exists for wholesale houses to send out the foreign, either by itself or mixed with English, as pure grown English seed. This year the crop of English-saved Clover is almost nil. We will require to fall back on yearling seed if we want English. From a recent report of a large London wholesale house, I notice that they had only received an offer of 2 cwts. of new English seed up to the time of the issuing of the report. Notwithstanding this, I have within the last two weeks come across many samples of new seed sent out from England, offered as English, but which lacked the character of genuine English. Indeed it was not difficult to tell their nativity. Some of these samples I retain.

"It will be well, therefore, if the trade be on its guard, and where unmistakeable evidence exists as to wrong description, let it bring the Merchandise Act into operation. To allow or blink at infringements of this kind is to do an injustice to the trade in general, and through the trade to the farmers, who have to rely on the respectability and word of their merchant.

"A seed and nursery trade association exists for the purpose of looking after the trade's interests, but

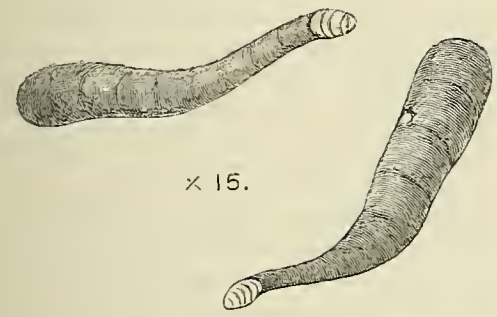
beyond meeting once a year and drinking to the brotherhood of mankind it seems to do very little good, if we except perhaps its recent action in calling the attention of the trade to the "non-warranty clause."

"At the general meeting last year, I called attention to the infringement of the Merchandise Act in the case of Italian Rye-grass—where the French-saved Italian seed, which is such a favourite with hay growers, was often mixed with Irish-saved seed. It is difficult to bring home a case of this kind, but this year there should be no difficulty, and I am confident the evidence will not be difficult to secure."

ON SOME REMARKABLE SCALE INSECTS FROM BRITISH GUIANA.

By S. J. McIntire, F.R.M.S.

A little information upon certain foreign coccidæ which probably will, sooner or later, find their way into our greenhouses and stoves where tropical plants are grown, to bother our gardeners, may prove interesting to the readers of The Gardening World. With the remedies to be applied in case they appear it is not my province to deal, as there is abundance of literature on that subject easily accessible. How they came under my notice was as follows:—G. S. Jenman, Esq., F.L.S., the head of the Botanic Gardens, George Town, British Guiana, desired information as to the name of *one* that was particularly destructive to Mangoes, Oranges, and Orchid plants, so he caused some leaves to be sent to me through the agency of my friend, Mr. Robert Ward; but the subject was one I could not deal with by myself, though I felt it to be very interesting. After a time, however, I got into communication with J. W. Douglas, Esq., F.E.S., who knows more, perhaps, about this family of insects than anyone in the kingdom; and he very courteously gave me all the information in his power, and referred me to authorities on the subject; therefore, what I now communicate I wish to be con-



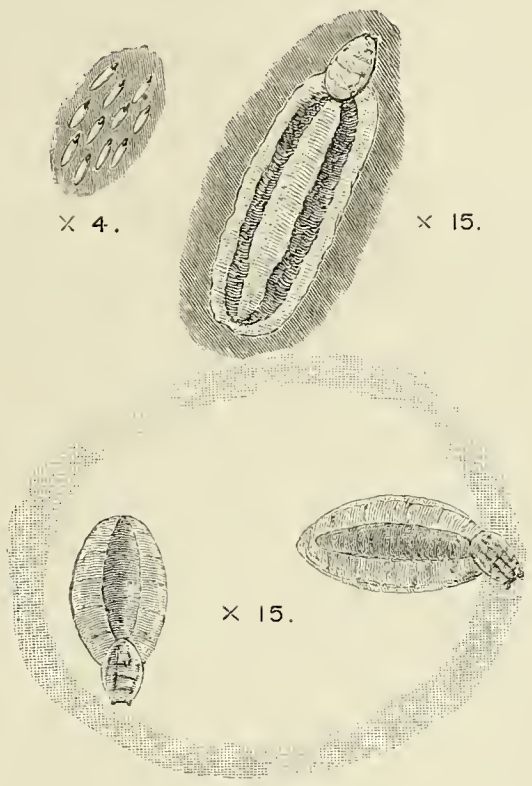
Ischnaspis filiformis.

sidered as the result of correspondence with him. The subject is by no means exhausted, as the examination of the leaves is not completed even now.

One fact has been gathered—namely, that one of these insect pests has obtained a good footing at the gardens of the Royal Botanic Society, Regent's Park (*Ischnaspis filiformis*); and I learn from Mr. Watson, Kew, that another (*Vinsonia stellifera*) has, to the best of his belief, been in former times seen by him in Kew Gardens. The others are, at present, quite exotic, but they may come across the herring pond upon imported plants from British Guiana at any time, and being, in their larval stages, active little insects of microscopic size, they can defy detection until they arrive at the mature condition.

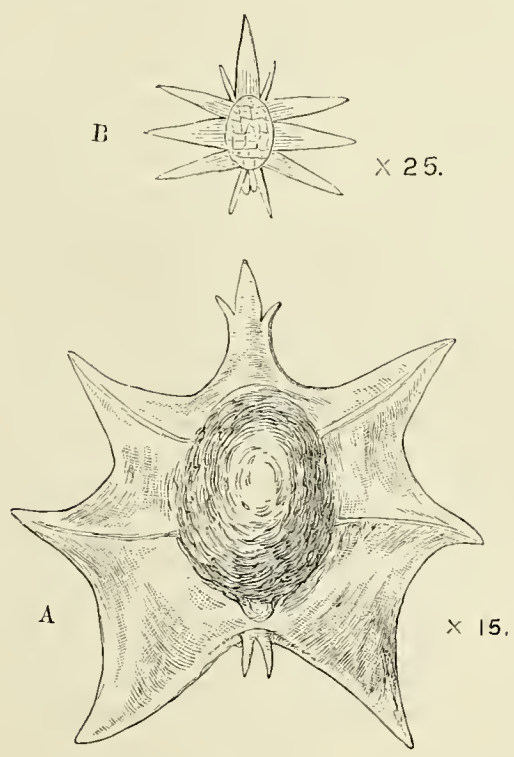
The first I shall allude to is *Diaspis cymbidii* (so far as can be determined at present). The male scales are very different from the female scales. Both, however, retain attached to them the larval scales. The males form carinate waxen cases, in extensive clusters, upon the leaves attacked—generally Mango or Orange—and the fruit of the Orange seems to be particularly liable to the irobnoxious presence. When mature, a minute two-winged fly emerges from each scale, unless the tiny ichneumons (which these leaves give plenty of evidence of the presence of) have done their useful work. The female scale is boat-shaped, and stationary in one place till her death, and then from under her dead body start a host of larvæ, very active and very minute, running all over the plant attacked, just as we see our English scale insects do upon our Apples, Ivies, &c., until they find a suitable place to attach themselves. This species, judging by the leaves sent, must be a perfect pest, and it is to be hoped it will not find its way into this country. The next species is *Ischnaspis filiformis*. It is a black coccid, very narrow, and not easily distinguished by the naked eye. It has for some time past given trouble at the gardens in the Regent's Park, but its native country was not known until this consignment of leaves arrived. This coccid, like *Diaspis*, generally has the larval scale attached to one end of it. I have not seen the male.

Our next specimen is *Vinsonia stellifera*, and were it not that gardeners must be stern, and root out all vestiges of it, we might recommend them to pause, and admire its beauty and extraordinary transformations. Signoret, who was the first to see it, in 1870, on Mango leaves from Reunion, was so impressed with its



Diaspis cymbidii on Mango leaf.

beauty that he wrote his opinion of it as "cette magnifique espèce." The immature insect is covered with a star-shaped waxen shield, which gradually alters in form until, in the adult, it becomes a testudinate transparent pellicle, like a tiny tent pegged down at six or seven points. This coccid seems to revel upon certain



Vinsonia stellifera. A, female scales; B, male scales.

Orchid leaves and on Mango. The male is not known to science in its imago form.

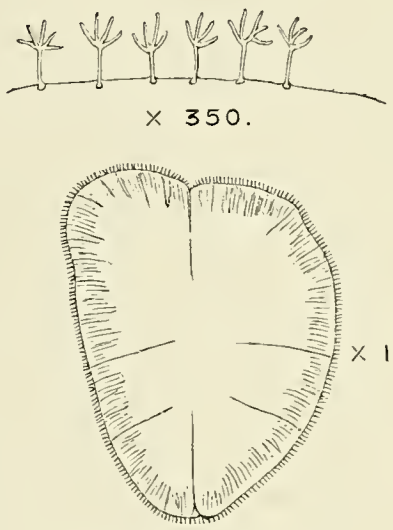
Lastly, I have to mention *Lecanium acuminatum*, a flat scale adherent to the leaves of Mango chiefly. The examination by Mr. Douglas of this coccid is not completed, and there may be more to say in the future.

The Entomologists' Monthly Magazine, December, 1888, and subsequent numbers, and the *Journal of the Quekett Microscopical Club*, may be consulted by those who wish to get all the information which has been obtained on the subject of these coccidæ up to the present time.

ZONAL PELARGONIUMS.

When offering a few remarks on the show Pelargonium, at p. 324, I mentioned the fact of the great improvement that had been effected in the zonals, and it applies both to varieties suitable for pot culture and bedding purposes. They are indispensable to the flower garden during the summer months, and they may be had in bloom the whole year round under glass, provided they receive proper treatment, and suitable structures exist for their cultivation. Plants that have been kept somewhat dry for some time will now require to have their long shoots cut back, and any short young ones breaking up from the base should be left. They should then be accorded a light position in a temperature of 50°, and enough moisture be allowed to help them to break.

When they have made a fair start, turn them out of their pots, and considerably reduce the old ball, giving them a soaking if dry previous to re-potting. Clean pots, of a suitable size, should be used, allowing sufficient drainage, for even a free-growing plant like the zonal Pelargonium soon becomes sickly if water-logged. Pot firm in sandy loam. I do not care about adding leaf-soil in the case of those plants intended to flower in pots, as they make too much foliage in it, at the expense of hard, solid, short-jointed growth to produce plenty of bloom. Moreover, during the summer time, they require more water, and sooner feel the effects of drought at the root than plants that are potted solely in a good holding loam. As to manure in the soil, that has a similar effect, and it is very easy



Lecanum acuminatum.

to give liquid stimulants at the time they are producing their flower trusses.

After potting, keep the plants rather close, and slightly shade if requisite until root formation is actively performed, when they should be gradually inured to more air and a cooler temperature to promote strong healthy growth. Plenty of light and air on all favourable occasions are necessary to produce short-jointed shoots, also to produce bloom that will stand; if grown in a high moist temperature, such flowers soon fall to pieces, especially the single varieties. I prefer to have three sets of plants to bridge over the season, another batch to start during March for autumn flowering, and another lot for winter blooming, which latter should be shifted into their flowering pots during July, be grown in a sunny position outdoors, be well attended to as regards watering, and sprinkling them overhead in the evening during hot weather. In September they should be removed to pits or frames, affording them plenty of ventilation.

During the latter part of October remove them to their winter-flowering quarters; a light span-roofed structure is preferable, where the plants are near the glass, and a temperature of 50° to 55° can be accorded them. If not possessing such a structure, a brick pit having flow and return pipes will suffice, raising the plants on pots or staging to throw them near the glass and to keep them drier. I should add, that during the summer, plants for winter flowering should have all flower trusses pinched off as they appear, and strong shoots should be stopped to make them bushy. When in their winter quarters a little air should be given on all favourable occasions, and the pots being full of roots liquid manure should be applied.

As to varieties, their names are legion. But I will name some of the best from my own collection, and as doubles are most useful for cutting, I will place them

first, not that they are necessarily so in point of beauty in my own estimation :—Admiral Seymour, Charles Darwin, General Billot, and Magenta King, purple coloured ; Grand Chancellor Faidherbe, General Millot, and Gustave Weidemann, crimson ; F. V. Raspail, Erl King, and Pirate, scarlet ; Lord Mayor, Rosea superba, Lord Derby, Emile de Girardin, Loveliness, and Mdme. Thibaut, pink of various shades ; Belle Nanceune, Mdme. Hoste, and Carillon, salmon ; Mdme. Leon Dalloy, blush-white ; Candidissimum plenum and La Cygne, white.

Amongst singles, reds of different shades are Lord Rosebery, Favourite, Emperor, Lord Chesterfield, and Mrs. Johnson ; Mrs. Millar, dark crimson ; Norah and Edith Little, blush ; Mrs. Naish and Mrs. Moore, white, red centre ; Lady Chesterfield, Kate Farmer, and Fanny Catlin, salmon ; Mrs. Strutt, Eurydice, Kate Greenaway, Mrs. Robertson, and Olive Carr, pink, various shades ; Queen of the Belgians, Niphetos, and Eureka, white.—*George Potts, Junr., Northiam.*

The Amateurs' Garden.

Daffodils.

Those who have been provident enough to supply themselves with a quantity of bulbs of these beautiful hardy flowers will soon be able to enjoy their beauty if the bulbs were potted up early, and afterwards forwarded in a warm corner of the greenhouse, or in a similar position in the dwelling-house, transferring them to the window when it became necessary to subject them to the kindly influences of light. The sooner they are removed to a light position after the leaves appear above the soil the better, otherwise the latter will become drawn, and unable to support themselves without staking, which is a disadvantage both to the plants and to the owner. They never appear so neat and tidy as when gradually brought on under the influence of a clear light, as all the parts then become properly developed, and being dwarf and sturdy, always look well. Little ventilation is actually necessary during winter for window plants, unless the room is kept at a very high temperature during the day. After the leaves commence to develop, the plants should be placed at some distance from the fire, so as not to come under the arid influence of the latter, which is directly injurious in proportion to the dryness of the atmosphere. Some of the earlier kinds that will come into flower with comparatively little forcing are Narcissus pallidus præcox, the Tenby Daffodil (N. obvallaris), N. minor, N. nanus, and N. minimus. The last-named is a very small kind, and is most suitable for rockeries in the open air. Several kinds are already in the market, and can, of course, be obtained by those who do not object to the expense ; but one always appreciates what is raised by oneself more than those grown by others.

Hyacinths.

Examine the frames from time to time where bulbs are stored in ashes or coco-nut fibre, and remove those that are sufficiently advanced to a light position. Some amateurs, for want of better convenience, store their bulbs in a cellar, or some warm out-of-the-way corner of a house, and where such is the case the same rule applies as to those stored in coco-nut fibre. Do not leave them a day longer in the dark after the leaves or crowns have made 1 in. or 1½ in. of growth. It makes all the difference between well and badly grown plants, while the cost and trouble of obtaining the bulbs and bringing them into flower is the same. Well-grown plants have always a presentable appearance, and recoup the cultivator for his trouble.

Greenhouse Plants in Flower.

Of hard-wooded or shrubby kinds, generally spoken of amongst gardeners as New Holland plants, there is no lack, if amateurs would only make a point of getting acquainted with them. There are several kinds of Heaths, of which Erica hyemalis may be described as the commonest and most easily cultivated. Then there are numerous garden forms of Epacris, which are equally beautiful in a cut state as for the decoration of the greenhouse. Their conditions as to culture are similar to those of the Heaths, that is, they must be kept cool, and moderately but continuously moist; the latter condition being of paramount importance. A very old-fashioned plant is Coronilla glauca, with yellow, pea-shaped flowers, arranged in umbels or little crowns, as expressed in the generic name. A variegated form, named C. g. variegata, is even more interesting and pretty, as the leaves are distinctly variegated with creamy yellow, giving additional attractions to those of the flowers. Cytisus racemosus is even more easily cultivated, and has similar flowers, arranged in erect racemes ; after flowering it can be cut back into the desired shape before the next year's wood commences to form. Several very handsome Acacias will flower from now onwards till late in the spring. The best now in flower is A. Drummondi, which bears a profusion of yellow flowers in spikes.

Besides Daffodils and Hyacinths already mentioned, by a little forcing or forwarding in gentle heat, or at the warmest end of the greenhouse, Paper White Narcissus, Lily of the Valley, Tulips and Crocuses may be had in flower. Chinese Primulas and Cyclamens in great variety are also plentiful, and create a glow of colour that makes their presence indispensable in any well-regulated greenhouse.

Selaginellas.

Several of the Selaginellas are so well suited for greenhouse culture, that the wonder is they are not more largely adopted, on account of their evergreen character, and the freshness they give, when fairly well grown, to a general collection of plants. The impression with many is that they are hothouse plants, requiring a high temperature for their well-being, but such is far from being the case. It is true they will not grow so rapidly ; but they will be more robust, dwarf, sturdy, and durable than such plants as are grown in a stove temperature. Some of the most suitable kinds for greenhouse culture are S. Martensii, and numerous forms of it, including S. M. robusta variegata and S. M. robusta itself; also S. Braunii, with feathery branching stems about 1 ft. in height ; S. caulescens and its even prettier variety S. c. minor, which seldom exceeds 6 ins. in height, forming compact tufts of great beauty. There are also several other beautiful forms of it. The old creeping S. Kraussiana is generally one of the first to be taken in hand, and proves particularly suitable for the edgings of walks, and for the front of the staging, or for covering the surface of flower-pots, for which it is very popular where decorative work has to be done.

Herbaceous Plants.

The weather continues open, although not particularly mild, and the ground is in a cold, wet and sodden state. Nevertheless, although the conditions are not very inviting for planting operations, yet much may be done, and many alterations made, that for want of time cannot be properly attended to later on in the season, when gardening operations of all kinds demand immediate attention. Many spring flowers that have not been transferred to the positions where they are wanted to flower may, when the soil is dry, be planted. Amongst these may be mentioned Wallflowers, Daisies, Primroses, and Forget-me-nots from the seed bed. The wood Forget-me-not (Myosotis sylvatica), both blue and white, is perhaps the most extensively used for spring bedding, because it flowers early and most profusely. Although a perennial it gives most satisfaction if raised from seeds every year, or allowed to sow itself, and the seedlings transplanted to where they are wanted.

The herbaceous border proper should be overhauled before it receives its annual manuring and forking over. Plants requiring re-arrangement, according to their respective heights, should first be seen to ; then those that have grown too large for the space allotted to them, should be reduced to their proper dimensions, and the surplus either planted in a reserve piece of ground for distribution amongst friends, or placed in vacant and suitable positions in the shrubberies, or even planted in the less well-kept part of the garden, which we may for convenience sake describe as the wild garden. Many of the stronger-growing kinds are particularly well adapted for this kind of work.

Employment of Parasites for the Destruction of Insects.—It has already been known for a long time that certain insects are destroyed in great numbers by parasitical fungi, which take up their abode in their tissues. The common fly and certain caterpillars furnish frequent examples of it. There is also the proposal of the artificial employment of these parasites by sowing their spores, in view of the destruction of noxious insects ; this is only one step. Mr. Charles Brongniart, in a note read at the Academy of Sciences, wishes that it were possible to create the use of Entomophora for the destruction of crickets, locusts, &c. We recall to mind that this view has been heard before it had been formulated, and that in Russia, Mr. Sorokine has found out, for some time past, how to produce in notable quantity spores of parasitical fungi, which have been employed with an assured success against the multiplication of divers animals, enemies of our cultures.—*Le Jardin.*

Gardening Miscellany.

Habrothamnus elegans.

A correspondent ("R. D.") writing on Habrothamnus elegans, says it needs to be grown in a shady situation. It probably does well enough in such a place, but we generally strike a few cuttings every year, and plant out in the open ground about June in a fully exposed position. When frosts come we take them up, usually using 10-in. pots, these being about the smallest size we can get them into. By putting them into an intermediate house the plants bloom about the 1st of December, and by keeping a stock in the retarding house we can have flowers all the winter. Treated in this way we get immense bunches of bloom. Two or three plants were left to test their hardiness, and they easily endured 10° of frost.—*T. D. Hatfield, Wellesley, Mass. U.S.A., January 15th.*

Staphylea colchica.

One of the features of the conservatory at Camden Wood, Chislehurst, just now, is a fine plant of Staphylea colchica, nearly 3 ft. high and as much in diameter, literally smothered with its white waxy flowers. Tillandsia Lindeni splendens is also very effective in the same house.—*W. P.*

The Silver Wattle.

Although originally introduced in 1820, Acacia dealbata, or the Silver Wattle, as it is popularly called, is comparatively a neglected plant in this country. A reaction in its favour seems to be gaining ground in some establishments, and if it continues a great gain will have been made. Its value is well recognised in the south of France and other countries bordering on the Mediterranean, from whence large quantities of the flowering branches are annually sent to the London markets. It made its appearance again some weeks ago, and the supply will continue for many more weeks. The foliage is of that kind which folds up at night when in a dry condition, and is popularly spoken of as going to sleep. The silvery white of the underside of the leaves is well seen in these market specimens ; but owing to their being folded up, they are of less value than the flowers, which retain their yellow colour and fresh appearance for many weeks after being cut and quite dry. They may thus be used for decorative purposes much in the same way as Everlastings. A cool conservatory is the best place to grow the plant in this country, and if it can be planted out it appears to best advantage, producing an enormous quantity of flowers annually, after which it may be cut back to retain it within due bounds.

Wintersweet.

Several exotic members of the Dogbane family are amongst the most beautiful occupants of the stoves of this country, and not a few of them are notable for the strong and generally delicious odour that pervades the house in which they may be grown. In this category the subject of this note, Toxicophlæa spectabilis, or Wintersweet, as it is popularly termed, may be placed. It forms a shrub about 4 ft. or 6 ft. high, with leathery evergreen leaves ; but if so desired it may be grown as a stove plant, from 18 ins. to 24 ins. in height, and successfully flowered. Indeed, the greater part of the annual growths are furnished with clusters of flowers in the axils of their leaves, forming beautiful sprays from 1 ft. to 2 ft. in length or more. After the plant has flowered it may be cut into shape before starting it into fresh growth. Flowering as it does in winter it is especially valuable for the decoration of the stove or warm conservatory, when it makes itself particularly noticeable by its powerful fragrance, and for this, as well as its white flowers, it is highly esteemed by all who grow it.

Gardening by the Sea.

The following quaint communication has lately been received by Mr. A. Dean, from "one who goes down to the sea in ships" :—"I am sure you think it strange at not hearing from me, but as Dr. Johnson of old used to say, 'sailors are half their lives in a prison with the chances of being drowned,' and this has just been my case since the middle of last month. My return home is almost rejoiced over, not only by my own family, but by all our old neighbours who hold garden plots beside me, and I see they have not neglected my farm during my absence. I must tell you my farming neighbours are old sailor-men, and my oldest chum

was actually in the good ship Marco Polo in the year 1861 on her passage home from Melbourne, when she ran into an iceberg in the middle of the night, and which you can see recorded in the *Leisure Hour* about that date. My other neighbours have been in the Fruit and Onion business at the Azores, St. Michael's, Terceria, and Bermudas, and have also cultivated their own gardens in New Zealand, but they all seem to say they always felt a sort of longing for dear old England to lay their bones in. I see they have been giving all my Asparagus and Sea Kale beds a dose of salted sprat refuse that comes from the sardine factories. We yesterday sent you two packages of burnt shell dust which I hope will arrive all right. If ever you should stroll this way I shall have much pleasure in escorting you round the neighbourhood, and as my particular old friend, ———, chief sketcher for the ———, says, during his periodical visits to this place in summer time, 'it is most enjoyable to take a ramble amongst the beautiful gardens of this locality.' I happen to be a member of the Cottage Garden Society here, and it often gives the other members pleasure in hearing me relate what we see on board ships, both flora and fauna. I am sure you would enjoy being amongst us."

Anthracite.

I SHOULD be glad if some of your readers would kindly give me their experience as to the most economical way of burning anthracite. I have been told that it lasts longer and gives more heat when broken up small, but, in my opinion, its lasting power is the greater when put on in lumps as large as will go in the furnace. I use it in one of Weeks' upright tubular boilers, which has a good draught. — *A. Hawkes, Gardener, Bishopshalt, Hillingdon.*

Davallia Tyermanni.

AN important feature of this class of plants is their rhizomes, and the variations they present in thickness, rambling propensities, and last but not least, the colour of the scales with which the most of them are densely clothed. In this particular case they are white, or nearly so, which gives them a clean and interesting appearance. They are about twice the thickness of a goose quill, and ramble pretty freely, so that it is more suitable for basket culture than for pots. The fronds are evergreen, very dark in colour, of moderate size and triangular in outline, so that taken altogether it is an ornamental and highly useful species, and one that should not be omitted from a collection where Ferns are grown in any quantity. We noticed it the other day doing well at Tower House, Chiswick.

FORMS OF LEAVES.

(Continued from p. 338).

STRUCTURE AND VENATION.

Upon the direction, nature, and strength of the principal nerves depends the form of the leaf and its divisions, if there are any; and in leaves that are simply toothed or wholly entire, the direction and nature of the venation bear a direct relationship. Zoologists talk in a similar strain with regard to animal structure, and observe that the bones of the head, for instance, assume a certain shape, determined by the shape of the brain, the eyes, and the auditory organs they have to lodge and protect. The nerves and veins constitute the framework and support of leaves; but, unlike bones, they serve as channels for the rapid conveyance of water and nutriment to and from all parts of the leaf.

RELATIVE SIZE OF LEAVES IN REFERENCE TO THEIR PETIOLES AND INTERNODES.

Taking the common Lime tree (Tilia vulgaris) in illustration of this, we find the leaves are obliquely heart-shaped, a peculiarity common to most species of Lime. The explanation is by no means easy, but I would suggest the following: The tree has long, spreading, or pendent branches, and in order to ensure a proper exposure to light, the leaves are all directed to the upper side of the branches and arranged more or less regularly in one plane. They are usually, in healthy trees, so closely placed that one leaf will overlap the posterior side of the one next above it, and examination proves this to be the smaller half. It would be wasted energy were the tree to develop this part without ensuring for it a proper exposure to light. Further, the leaves being unequal-sided, they offer less resistance to a strong wind, and, consequently, during severe gales it is an advantage to them to turn on one side so as to avoid being damaged or torn to pieces. Tilia cordata has much smaller leaves, and in order to utilise space and sunlight the internodes are shorter, and a greater number are arranged in the same area. A third species, also British (Tilia platyphyllos), has much larger leaves than either of the foregoing, and consequently fewer in the same area. Another striking peculiarity is that the foliage has a venation characteristic of lobed or palmate leaves, and yet normally remains undivided. Instead of running straight to the margin and forming lobes, the principal nerves become incurved, much branched, and lose themselves within the margin. An exotic species from Amurland shows a considerable advance on our natives, and has equally heart-shaped leaves, with the three principal nerves straight, and running out so as to make them distinctly three-lobed.

The Oriental Plane is a magnificent tree, with large palmate leaves, and attains a height of 60 ft. to 80 ft. in this country, developing a large spreading head with horizontal or drooping branches. It withstands the smoke of towns well, and thrives in the very heart of London, and ought to be extensively planted wherever there is sufficient space to develop its magnificent proportions. The typical form has five long finger-like lobes to its leaves, giving them an elegant appearance, but this form, as well as a variety with distinctly wedge-shaped leaves, namely, P. orientalis cuneata, is inferior in point of size and magnificence to the Maple-leaved Plane (P. o. acerifolia); this latter is the commonest form in Britain, and almost exclusively that planted in the streets of London. The leaves on healthy young specimens attain a handsome size, and having broad lobes never present the finger-like appearance of the type. The venation is precisely similar in all the forms, and has three strong nerves with a strong branch from each of the lateral ones; this gives the five-lobed outline of the leaf. They run straight to the tips of the lobes, giving the leaves their characteristic palmate appearance, and they, as well as their sub-divisions, are well arranged for the rapid conveyance of nourishment to all parts of the leaf. The three primary nerves have been inherited from a long line of ancestry, and are traceable from the first miniature, wedge-shaped leaf of the seedling to those of the adult tree. The latter are beautifully arranged in one plane, so as to utilise a maximum of the sun's rays; and the horizontal branches in young trees especially are strikingly bent in zigzag manner, so as to assist the leaves in taking their positions alternately. Owing to the great size of the leaves, the internodes are much longer than those of the Lime tree, consequently the branches are much fewer, and altogether the tree presents a less twiggy appearance after the fall of the leaf than the Lime. The Plane is considered by some good authorities to be a lineal descendent of the Saxifrage family, with a much reduced inflorescence and seed vessel.

The size of leaves and their arrangement may be further illustrated by reference to two of the commoner species of Sumach in English gardens, namely, the Venetian Sumach (Rhus cotinus), and the Stag's-horn Sumach (Rhus typhina). The former has simple, obovate entire leaves, with incurved nerves that fork and branch before reaching the margin, which is surrounded by a colourless cartilaginous border. This form of venation is very characteristic of undivided leaves, and may always be expected where they are wholly entire or merely toothed. The leaves being here small are numerously arranged on the branches. A very different case is presented by Rhus typhina, which has feathery, pinnate, drooping, Fern-like leaves that attain a length of 1 ft. to 3 ft. under favourable conditions. Owing to their size the leaves are arranged umbrella-fashion at the apex of the stem and branches. The venation is highly developed, and not only are the primary and secondary nerves straight, but the tertiary ones run straight into the marginal teeth, offering facilities for further division, and this actually happens in Rhus glabra, another closely allied species. Rhus typhina inherits this tendency to divide at a very early age, and the first true leaf of the seedling is deeply three-parted and cut. The leaves of the Sweet Chestnut are closely arranged, but being long and narrow do not overlap or interfere with one another to any extent. The leaves of the common Barberry are small, and arranged in clusters on short lateral branches. The primary ones on strong-growing shoots are reduced to the condition of three-parted spines that serve for the purpose of protection, from browsing animals for instance. In striking contrast to this may be noted the common Mahonia (Berberis aquifolium), with truly pinnate leaves whose marginal teeth run out into spines like those of the Holly, for the common good of the plant. Widely different as both these species of Barberry appear, they present the same form of leaf in the seedling state. This is roundish or heart-shaped, and the Mahonia, after producing four to five of this form, develops one with three leaflets, and from thence progresses to the adult state.

The Honey Locust (Gleditschia triacanthos) exhibits a remarkable instance of variability in the leaves. They are pinnate or bipinnate, not only on the same tree but on the same branch, and an individual leaf is sometimes pinnate at the base, bipinnate in the middle, and again simply pinnate at the apex, while some leaflets are half cut up into secondary ones, leaving the other half undivided. In all this invariability nature shows how she can sport at will, and demonstrates unmistakably how a bipinnate leaf can originate from a pinnate one. The explanation of this variability, on examination of trees of different ages, points to its being a mode of adaptation to conditions and surroundings. The large bipinnate leaves are most abundant on young, fast-growing trees, and on vigorous branches, while the pinnate leaves generally clothe the bases of the branches where the internodes are short, or form rosettes on the short snaggy spurs of old trees or branches. The simply pinnate leaf is a convenient reversion to a more primitive condition, as the bipinnate form is more liable to damage from exposure to winds, and if produced on the short snaggy branches would shade one another to a damaging extent. Gleditschias have existed since the Pleiocene Flora of the Tertiary system lived.

INSECT-CATCHING PLANTS.

AT the annual meeting of the Manchester Field Naturalists and Archæologists Society, held last week, Mr. Leo H. Grindon delivered an address on this interesting subject, from which we take the following extracts:—The first notice in books of insect capture by plants is in old Gerard, A.D. 1597. Describing that pretty garden annual, the Silene Armeria, he says, 'If flies do light upon this plant they will be so entangled with the limyness [of the stalks] that they cannot flie away; insomuch that in some hot day or other you shall see manie flies caught by that meanes, whereupon I have called it catch-flie or lime-woort." (Herbal, p. 482.) In conformity with botanical usage, all the other species of Silene are now called Catchfly in the vernacular, whether or not agreeing with S. Armeria in respect of properties. Silene, it may be remarked, points in a way too obvious to need mention, to the self-befouled old drunkard of classical mythology. Of similar examples of capture by means of simple stickiness of surface it is easy to find plenty. They occur among the Cape Ericas, the corollas of which often present crowds of unfortunate little wretches glued fast to the outside, and in a way that cannot be of the slightest use to the plant, merely annoying the gardener. In the open air we find similar havoc made among the midges and their kindred by the common yellow Azalea, and yet more conspicuously by some of the American species of that favoured genus. No plants, even among those provided with special apparatus for slaying, are more cruel or more greedy than these sticky-flowered Azaleas. The corollas abound with viscid hairs, once setting foot among which there is no release. In the present instance, the poor innocents appear to be lured to their doom by the odour of the flower—assuming, that is, that the olfactory powers of insects correspond with our own, the odour in that case being analogous in its deadly invitation to that of the toasted cheese in the mouse trap. But too much must not be made of the supposed seductive power of flower scent, for the Ericas present no such bait, being altogether devoid of perfume; they lure and kill notwithstanding. Struggling to escape simply makes matters worse, the captive then becoming another Gulliver among the Lilliputians. Several of the Saxifrages capture in the same way, by means of sticky peduncles and calyces. So do several of the Rubi, Rubus odoratus, and R. phœnicolasius in particular. So do most of the plants which have for their specific appellation, "viscosus."

This will suffice for the destroyers which can hardly be supposed to profit by their work. I do not deny that they profit by it. He is a bold man who denies even the simplest proposition until possessed of good evidence of its falsity, so that in days to come it may be discovered perhaps that some good use is really and truly subserved. For the present, however, that anything comes of such captures is eminently doubtful.

The illustrations of special mechanism having insect-capture as the result, are various, and met with in quite

different orders of plants. The first to be observed was the well-known Dionæa, or Venus' Fly-trap, indigenous to the southern United States, and the original mention of which we have in 1768. The leaves of this wonderful plant in figure resemble an ordinary rat-gin. Upon the palm of each lobe there are three green hair-like bodies, so exquisitely sensitive that the slightest touch causes the lobes to draw together, the fringes of strong bristles interlocking, so that the prisoner is doomed for ever. I have many times watched the Dionæa imprison a large fly. Shortly after 1768, attention was attracted in England to our own beautiful little Sundews, inhabitants in myriads of every peat bog. Withering tells us that in August, 1780, both the Drosera rotundifolia and D. Anglica had been observed by a friend of his in Derbyshire to capture insects, just as we have all of us seen for ourselves upon Carrington Moss and Lindow Common, by means of the diamond-like but viscid drops at the extremities of the so-called hairs. "Hairs" they are not, but special prolongations of the substance of the leaf, very delicately organised, and exceedingly interesting when viewed with the microscope. Withering speculates upon the possibility of the Droseras putting their prey to some good use, in that case after the manner of the American Dionæa.

Singular to say, from this time forward, the very minimum of attention seems to have been given either to the Dionæa or the Droseras for a very considerable period. At all events the notices in books are few and far between. I dealt with the subject in my *Manchester Walks and Wildflowers*, published in 1849, and hazarded the remark that the gaseous matter given off during the decay of the corpses of the captured insects might perhaps supply the plant with some kind of nutriment. I was greatly strengthened in my belief by finding that Sundews kept in saucers of wet bog-moss, and fed with fibres of raw beef, were decidedly fatter and happier than those in saucers alongside from which animal diet was withheld.

But other plants addicted to fly-catching were meanwhile becoming known. One of the earliest was that very pretty herbaceous perennial, the Tutsan-leaved Dogsbane (Apocynum androsæmifolium), another North American, and a very old inhabitant of English gardens. The abundant pink flowers exhale, like the Azalea, a powerful honey-like odour, and to this may also be legitimately attributed, perhaps, the crowding to the plant of little flies. The spectacle when the plant is in full bloom, is enough to make one shudder. Such, at all events, was my own experience when possessed of a garden. Two or three, even four or five poor wretches may be seen fast, all at once, to a single flower, some dead already, others in mortal agony, striving by frantic efforts to disengage themselves. On a good-sized plant as many as fifty have been seen, simultaneously, in this most miserable plight, hung up, as it were, *in terrorem*. The capture comes of the very peculiar structure of the flower, by which the harder the creature pulls more certainly is escape prevented. Doubtless the process of fertilisation is furthered by what goes on, but it is rather hard upon the unsuspecting little visitors, benefactors at the same time, that they should have to starve to death in captivity. I have noticed that very small insects walk about in the flower with impunity, also that bees enter and depart without difficulty, and at their convenience.

Very soon, we may reasonably suppose, would follow observation of the now familiar Sarracenias, natives again of North America. The life history and the structure of these plants are both now so well known, especially to students and friends who have listened to my teaching at the Botanical Gardens and at local flower shows, that there is no need here to recapitulate the details. I may invite attention, however, to a specimen upon the table, out of which I scooped as many corpses as would half fill a tea-cup, with a wasp or two at the top, and an utterly humiliated dragon-fly, whose rash visit would have brought to mind, perhaps, had he been a reader of Dante, the famous and dreadful inscription over the entrance to Pluto's world,

"All hope resign all ye who enter here."

Repetition is not needed either, in reference to those most wonderful productions of nature, the East Indian Pitcher plants, botanically called by the generic name of Nepenthes. Every particular respecting these has many times been given minutely at Old Trafford and elsewhere, and what may be desired is easily got from the text books. Observe, however, that there is a very curious plant, with illustration before you, called Dischidia, one of the climbing Asclepiads, which also produces pitchers in figure not unlike those of the Nepenthes, but which are entirely destitute of capturing and retaining power. Insects go in, look round, and come out when they are so disposed. The use of the pitchers in the Dischidia seems to be purely that of water-tubs for private and personal comfort.

Very curious pitchers are produced by the Australian Cephalotus, a plant which I have also many times pointed out when at the Botanical Gardens, and with illustration now upon the table. The process of insect-capture appears to be much the same here as in the Nepenthes and the Sarracenia, and with similar results to the victims.

Then we have that very elegant and desirable evergreen climber from South America, the Physianthus albens, another of the order Asclepiadaceæ, a plant producing wreaths of ivory-white and crispy flowers so abundantly throughout the summer and autumn that it ought to be found in every greenhouse. In the south of England it will grow out of doors. The flowers are again very fragrant, and abound in honey. Such is the construction, that in order to reach their sweet contents, any insect desirous of a taste has to insert its proboscis through a curious narrow cleft. But to withdraw it is quite another matter. This seems to be impossible. The insects chiefly captured are of the lepidopterous class. The plant is without question the most deadly of moth-traps. Six or eight, even as many as twenty, of the Plusia gamma in particular, may often be seen held fast in different parts.

Upon peaty hill-sides we commonly find that very pretty flower which from its form and colour has been named the Snowdon Violet; botanists call it the Pinguicula vulgaris. The leaves of this plant are so organised as to exude a clammy fluid, which implies insect-capture of the same general character. In pools of water we find its very near relative, the Utricularia, or Bladder Wort, so called from the number of little vesicles upon the branchlets. These vesicles, carefully examined, are found to be ingeniously organised traps, designed to capture animalcules, the decay of which, it is presumed, provides nourishment for the plant.

I must also leave the subject of the digestion of the remains, expressing my belief only that assimilation, implying positive advantage to the plant, is by no means universal, perhaps quite the exception. Digestion may take place. Darwin and other writers insist that it does so. But it does not follow that there is assimilation of the products, unless in special cases, as that of the Droseras, when fed with beef. To find that there are insect-traps among plants and flowers, which still derive no sort of personal advantage from their action, would be in no degree more surprising than the fact that there are so many traps in human nature, in the shape of vicious longings and desires, which bring no advantage to the unfortunate men and women whose natures contain them, but only do mischief. Avarice, the love of drink, the passion for gambling, are the insect-catching plants of the human heart. Think not that the botanical plants and flowers capture and destroy purely with a view to deriving nourishment from what they kill. Their conduct is but another expression of the infirmities of human nature. There are more Azaleas and "Venus' Flytraps" in Manchester alone, than grow in gardens.

NOTES ON FRUITS.

Golden Noble Apple.

Well-grown specimens of this Apple have a telling effect in a collection on the exhibition table. Its bold outline, as well as the clean and clear golden yellow skin, give it a tempting appearance, although it is only considered as a cooking Apple. The fine acidity which it possesses makes it particularly suitable for this purpose, and agreeable to the palate of most people. In the fresh state the flesh is yellowish, but when cooked it becomes of a clear amber, juicy and melting, still retaining its pleasant acidity. The fruit varies from a medium to a large size, and is freely produced on healthy well-grown trees. It succeeds remarkably well in the southern counties grown as a standard and not pruned in the ordinary acceptation of the term. If permitted to grow freely, and the weak or superfluous wood merely cut away from time to time, the fruits attain a large size and are produced in great quantity. It is in season from October to February when grown in the south, and ripens later as might be expected when grown in the north, being yet in fine condition.

ORCHID NOTES AND GLEANINGS.

The Burford Lodge Collection.

In Sir Trevor Lawrence's superb collection at Burford Lodge something of great interest is always to be seen. At the present time amongst the many plants in flower, the following are worthy of notice, namely, the curious Bulbophyllum picturatum and B. auricomum, many good Cypripedium callosum, C. calophyllum, C. Dauthieri, C. macrochilum, C. politum, C. Thibautianum, C. Warnerii, C. Williamsianum, very fine, reminding one of C. villosum and C. Harrisianum, of which it appears to be a hybrid. Dendrobium splendidissimum is a gem, and is the best of the hybrids from the parentage of D. nobile and D. aureum, which are also the parents of D. Ainsworthii and D. Leechianum. Other fine hybrids are in flower between D. Findleyanum and D. Ainsworthii—one called D. Chrysodiscus being very distinct, and a grand addition to the Dendrobium family, partaking of intermediate characters of its two parents.

The recent importation of Oncidium splendidum is also partly in flower; but the plants all vary more or less. They are, however, all types of O. splendidum, the only difference being, as far as my memory serves me, that they are not all so compact in the spike, nor so rich in the colour of the labellum as the old variety; but still they are good things, and those who purchased the imported plants will not regret having done so. The curious Saccolabium bellinum, from Burmah, in the way of S. calceolare, is also in flower, the blooms being larger than that variety.

Many Cattleyas are showing for flower, also Lælias, of which there are the latest novelties—the pure white form, Lælia Hillii, L. anceps Schroderæ, L. a. Dawsoni, many forms of Cattleya Percivaliana, a fine C. Trianæ, just open; Odontoglossum Sanderianum, many forms of O. Alexandræ, O. Andersonianum, O. aspersum, O. gloriosum, O. cucullatum, O. Rossii majus, Lycaste Skinneri, and several Masdevallias, both of the Chimeræ section and M. Harryana, make an interesting and imposing display at this dull season of the year. Some fine hybrid Calanthes are just past flowering, and judging from the few blooms left, I should say there are some very fine things amongst them.—*Rusticus.*

Odontoglossum blandum.

This charming Odontoglossum is always admired by lovers of the genus not only for its chaste colouring, but also for its deliciously fragrant flowers. Owing to the difficulty in getting it imported to this country in a living state, it is still very scarce, and seldom met with in collections; and when it is seen it is generally in a small state, little plants with one solitary spike bearing six to eight flowers. Being a great favourite of mine, I was much gratified the other day on receiving, through the kindness of Mr. W. Sharp, gardener to A. Curle, Esq., Priorwood, Melrose, a spike of fifteen flowers of large size and good form. I was prepared to hear of exceptional returns from such well-grown plants as I saw there last August, and which I described in your columns at the time, but I was scarcely prepared to hear of specimens bearing thirty spikes, yet such is the case, and it is probably the best result yet obtained. Mr. Sharp has reason to be proud of his success with this little gem. A good many growers have lost their plants of O. blandum by keeping them too dry. It delights in an abundance of moisture, as in its native country, New Granada, at an elevation of 6,000 ft., the atmosphere is continually charged with moisture, hence the difficulty in getting the plants imported alive.—*R. C. Fraser, Ardarroch.*

Odontoglossum crispum.

Along with the spike of O. blandum, alluded to above, I received a flower of a variety of O. crispum, perfect in shape, of great substance, and of a shade of colour I have not previously noticed in this species. The ground-work is pure white, shaded with a delicate tint of mauve, which has a beautiful effect, the whole flower being densely spotted with a bright reddish brown. Perhaps the most interesting feature about this grand variety is the fact that the flower before me is one of forty on the same spike. No wonder O. crispum is universally admired.—*R. C. Fraser.*

The Camden Wood Collection.

Although situated on a hill at Chislehurst, Mr. Vanner's garden does not quite escape the fogs, and on the 8th ult. he lost a good many of his Orchid flowers; but there is now a nice show, comprising Phalænopsids and Cypripedes in variety, and two good plants of Spathoglottis Kimballiana are coming on. There are also several good forms of Cattleya Percivaliana, good

pans of Cœlogyne cristata maxima, with eight flowers to the spike; a splendid plant of Dendrobium splendidissimum grandiflorum, D. Endocharis, well bloomed; D. Wardianum, D. crassinode, D. moniliforme, a few good forms of Odontoglossum crispum, O. Rossii majus, Sophronitis grandiflora, and various Masdevallias.—*W. P.*

ODONTOGLOSSUM VEXILLARIUM LEOPOLDII.

THIS perfectly unique variety was on view at Stevens' Rooms on the 24th ult., and although there was only one bloom on the small plant, there was enough to show its remarkably distinct character from all other varieties of O. vexillarium. The body colour of the flower is a rich deep rose, and for its specially distinctive feature, has a triangular-shaped blotch of deep crimson, with its base line immediately under the column, and a small oval blotch of the same colour about ¼ in. from the apex of the triangle, to which it appears to form a pendant. It is one of the many good things which Mr. Sander manages to secure, and when put up for sale the biddings ran up to 60 guineas, at which figure it was bought in, the reserve not being reached.

A CHANCE CYPRIPEDIUM.

I HAVE by same post sent a Cypripedium bloom, the history of which is as follows:—About four years ago a sport appeared upon a plant of Cypripedium barbatum nigrum, having the foliage beautifully marbled with cream-colour, and being quite distinct from the rest of the plant. When well established it was taken off and potted, and this year it has bloomed. The plant is still a very small one, with a couple of breaks, as the leaves are not 2 ins. long; but the slow growth may be accounted for by the lowness of the temperature in which it has been grown—an average of 50°. I have carefully examined the original plant of C. barbatum nigrum, and I find on it another similar sport, with identical foliage. It is, however, very small at present, as I never noticed it until I looked the plant all over yesterday. I have taken off a small leaf, which I enclose. The larger ones are much more distinctly marked.—*George Weir Cosens, Bronpadarn, Llanbadarn-Fawr, Aberystwith.* [The flower and leaf received do not appear to have any connection with C. barbatum at all; but as far as we can tell from the materials before us, we should suspect it to be a badly-coloured form of C. Hookeriæ Bullenianum. As the plant gains in strength, it will, no doubt, improve.—ED.]

CALANTHE SANDHURSTIANA.

IT will interest Orchid growers who have the misfortune to live in localities more or less visited by fogs in winter, to know that in Mr. B. S. Williams' nursery this pretty hybrid keeps its colour better under such conditions than any other variety, and has this season been the darkest coloured of all. It is a rich deep shade of rose, almost a self-coloured flower, and contrasts well with C. Veitchii, which has a pale lip. At the present time, C. Williamsii, with its richly-coloured lip, is also maintaining its good character in the same nursery.

THE ORCHID GROWERS' CALENDAR.

As Lælia anceps, L. autumnalis, and their allied kinds go out of flower, they should be rested or kept quiet for a time until growth commences to push again. This may be done by placing them in a cool airy position, and withholding water, but not to such an extent as to cause the pseudo-bulbs to shrivel. All that is meant is simply to avoid extremes, so as not to destroy the roots by too much moisture, nor to subject them to that baking process which is equally harmful, to evergreen subjects especially.

Such plants as require it should be re-potted or basketed, as the case may be, when they commence to push young growth. Amongst those that may be seen to as they pass out of flower are the Cypripediums, the pots or pans of which are too cramped, for want of space, to develop their offshoots; on the other hand, over-potting should be avoided. A good compost will consist of equal parts of fibre taken from partly-decayed and mellow old pasture turf, fibrous peat, and sphagnum. The Cypripediums are rather gross feeders, and require liberal treatment. Accordingly, we find some growers using crushed bones in the bottom of the pot, while others use a small quantity of well-decayed cow-dung in the compost.

Ventilation and thorough cleanliness are most essential at this season of the year. On mild and warm days, such as we have been favoured with recently, a good plan is to open all the doors, so that there may be a free circulation of air from end to end of the houses, even if it should only be for half an hour. Keep a sharp look-out for aphides, which seem to multiply more at this season than any other, quickly crippling or injuring the flowers as they expand, as well as disfiguring them by their secretions. White flowers show the effect of them sooner than dark-coloured ones.

Those kinds but slightly affected may be cleaned by the use of a small brush, with which to remove insects from the centres of the flowers. Others may be shifted to a house by themselves, where they can be gently fumigated with tobacco-paper on two successive nights. Or, if need be, the whole house may be subjected to fumigation, removing choice kinds temporarily into an adjoining compartment. Fogs have been unusually severe during the winter that is now rapidly passing away, and we may reasonably expect fewer and less dense visitations of that kind after this date. It will therefore be of great importance to have the glass thoroughly washed outside, so as to remove the sooty deposit which now blackens the glass and greatly hinders the ingress of light, so important at this season of the year. Every ray of light should now be economised, not only to enable the last year's growth and foliage to pull through without further weakening, but also to encourage a vigorous development of young growths now commencing to push.

THE TEMPERATURES FOR FEBRUARY.—The warm or East Indian house should stand at 60° by night with a rise to 65° to 70° by day; the Cattleya or intermediate house, 55° at night, with a rise to 60° to 65° by day; the cool Odontoglossum house should range from 45° at night to 50° or 55° by day.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

STOVE AND GREENHOUSE FERNS.—An annual overhauling of these subjects is of immense advantage to the plants, regulating not only the drainage, but putting fresh vigour into specimens the size of which it is desired to increase by re-potting them in fresh soil. This annual overhauling also affords an opportunity of breaking up specimens that have grown too large for the requirements of the place, such as the Adiantums, and especially those that have been much cut up for decorative purposes. Give abundant drainage in view of the heavy watering they require while making their growth, and particularly during the summer months. Davallias may be increased by dividing their rhizomes, being careful to have a growing point on each piece, and, if possible, a few roots to each. Should the old plants be put in a larger pot, the rhizomes must be pegged down on the soil, so that new roots may be thrown out to assist them as they elongate. Many of the Aspleniums, Pteris, and other subjects may be increased rapidly by means of spores; but in private establishments a sufficient number of those kinds that bear young plantlets on their fronds can be obtained by taking a few of the proliferous fronds and pegging them down on coco-nut fibre in a propagating pit, where the heat and moisture will cause the buds to develop rapidly, producing serviceable little plants in a short time after being potted up.

SALVIAS.—As the various species go out of flower they may be cut down and placed in heat to furnish young wood for cuttings for next year's supply of plants. Comparatively little water will be required by plants after being cut down till the young shoots commence to push vigorously. If it is desired to increase the stock of Salvia patens, the tuberous roots may be transferred to a propagating pit or other warm house where forcing is being carried on. The white variety, S. p. alba, is yet comparatively scarce, and may be increased by introducing it to heat in order to obtain cuttings. They will be fit for bedding out with other subjects at the proper season.

THE FORCING HOUSES.

VINERIES.—The pot Vines in the earliest house will now be sufficiently advanced to require thinning. For this crop the thinning need not be severe, as very large berries are never looked for from the early pot Vines. Compact bunches, although only of moderate size, are preferable to large and loose ones. Later houses must be attended to when the Vines come into flower. The temperature may be allowed to run up a few degrees higher during the day, and the evaporating pans may be allowed to go dry, so as to favour the dispersion of the pollen. Tapping the rods during the early part of the day when the temperature rises will also favour the operation of setting the fruit considerably. As soon as this has been effected, re-fill the evaporating pans, using a quantity of liquid manure or guano in the water to supply ammonia in the atmosphere. It has also a beneficial effect in keeping down red-spider.

STRAWBERRIES.—Considerable difficulty will be experienced at present in keeping Strawberry and other forced plants in a healthy progressive condition, owing to the almost chronic occurrence or rather prevalence of poor light at this important season of the year. In ventilating the house, care should be taken that cold air does not come in direct contact with the expanded flowers and young fruit. Except when the weather is mild, air should be given at the top only, and if the plants are near the ventilators, a piece of tiffany should be placed over the opening, so as to moderate the current of cold air.

THE KITCHEN GARDEN.

THE FORCING DEPARTMENT.—Early Potatos, if grown in pots, must be placed in a favourable position with regard to the light, otherwise a good development of tubers cannot be expected. The structure in which they are grown should also be ventilated on all favourable occasions, and the soil kept in a moderately moist condition. Introduce fresh batches of Rhubarb, Sea Kale and Asparagus as those in beds show signs of soon becoming exhausted. Force and blanch Chicory and Dandelions in the same way. Early sowings of Radishes and Early Horn Carrots may be made in frames occupied with early Potatos, and forced by means of fermenting dung and leaves.

HORTICULTURAL SOCIETIES.

Manchester Horticultural Improvement.

AT the usual monthly meeting of this society, held on January 24th, Mr. Bruce Findlay presiding, the paper of the evening was upon "Floral Decorative Work," and was read by Mr. W. Elkin, who said the subject was a most interesting one, and he was not unmindful of the fact that there were some present who had attained considerable success at the Manchester exhibitions and elsewhere with their tasteful groups arranged for effect. The offering of prizes for these groups had, in his opinion, done much to give valuable instruction to the rising generation of gardeners. If a man cultivated good flowers and plants he ought to know how to arrange them to the best advantage; and if he had good taste in their disposal, he would always possess a decided advantage over the man who knew nothing about it. The subject of decorative work was coming more and more to the front, and young gardeners, by giving serious attention to it, would be adapting themselves to the times. The main point in arranging groups of flowers and plants for effect was to have an undulating surface, a good feathery groundwork of Maidenhair Fern, and prominent plants. Palms and Crotons were almost invaluable for house decoration. People who had a profusion of plants and flowers were almost certain to overdo their decorative work. In the decoration of halls and rooms this should be particularly remembered. Here the gardener was not called upon to add to already existing grandeur, but to relieve, enliven, or tone down with suitable foliage and flowers. It was the taste, culture, and the skilful blending of colours that gave pleasure, and not the prodigal use—he might even say abuse—of what otherwise ought to be beautiful.

The most fashionable and fascinating part of the art at the present time was dinner-table decoration. The present arrangement of the table—so unlike that of twenty-five years ago—gave more scope for the work. The object desired was to make the dinner-table more social. The tables themselves were much narrower than formerly, and the decorations were kept much lower, the principal point to avoid being any suspicion of excess. If plants were used for this purpose, they should be light-leaved, feathery, and graceful, such as a person could see through. If they were at all densely foliaged, they formed a most objectionable barricade down the centre of the table, which prevented people sitting at dinner either seeing or being able to converse with their friends opposite. Plants, however, were almost gone out of fashion for this branch of decorative art, flowers being better appreciated. In the making up of brides' bouquets, as in all other floral arrangements, there had been a marked improvement during the last quarter of a century, the style now being altogether more graceful and natural than in former years.

A discussion followed, in which Messrs. E. G. Hughes, Adams, W. Plant, W. B. Upjohn, Rogers, J. Edwards, and H. Driver took part.

QUESTIONS AND ANSWERS.

BEGONIAS.—*T. D. H.*: Yes, towards autumn.

CYPRIPEDIUM HARRISONIANUM.—*A. C.* states that he has a twin-flowered scape of this hybrid, and asks if this is not an unusual occurrence. We can only say that we have not ourselves seen one, but we should be glad to hear from any of our readers who have.

HERBACEOUS PLANTS.—*J. T., Ruthin*: From a botanist's point of view, an herbaceous plant is any subject not having woody stems, and the term therefore includes everything with the exception of trees and shrubs. Bulbous, tuberous, and succulent-leaved plants, such as Sedums, Sempervivums, &c., would therefore come under the term of herbaceous plants. There are many herbaceous plants that may be had in flower by the end of March, and as you do not say for what purpose you are about to employ them, it is impossible for us to make any selection. The following are, however, good—namely, Orobus vernus, Solomon's Seal, Diclytra spectabilis, Narcissus bicolor and its numerous fine forms, such as N. bicolor Horsfieldi, N. b. Empress, and N. b. Emperor; also Gold-laced and other Polyanthus, Auriculas, Lily of the Valley, and Astilbe japonica (Spiræa japonica). To these may be added the common Primrose and all the kinds that cluster around it, including many European, Himalayan and other Primulas, not forgetting P. denticula, P. Sieboldii, &c.; also Forget-me-nots, Leucojum, Snowdrops, Scillas, Dog's-tooth Violets, several species of Narcissi, Sisyriuchium, Saxifragas, &c.

NAME OF ORCHID.—*E. Barber*: It is impossible to say exactly what your plant is from the roots and bits of stems sent, but it is no doubt a Cattleya of the C. guttata type, or a Lælia of the L. purpurata or L. elegans type. Much less can we tell its value without flowers. To do this you must establish and flower it. From the specimens sent we presume that it is a newly imported piece. You had better put it in a well-drained basket, using fibrous peat, sphagnum and broken crocks as a compost. Keep the stems moist by frequent syringing till the buds push, roots develop, and the plant commences to grow freely, when you may supply the roots with water in proportion. Put it in the Cattleya or intermediate house, and consult our columns at the beginning of each month for the temperature required during the same.

NAMES OF PLANTS.—*Mrs. Leadbetter*: 1, Dendrobium primulinum; 2, D. Pierardii. *Richard Colles*: 1, Polystichum aculeatum; 2, Polystichum angulare; 3, Polystichum angulare proliferum sub-var; 4, Goniophlebium appendiculatum.

SYSTEMATIC BOTANY.—*P. H.*: Henfrey and Masters' *Elementary Course of Botany*, published by Van Voorst, Paternoster Row, London, price 15*s.*; Oliver's *Elementary Botany*, published by Macmillan & Co., Bedford Street, Covent Garden, W.C., price 4*s.* 6*d.*; Lindley's *School Botany*, price 6*s.*, and Lindley's *Elements of Botany*, price 9*s.*, both published by Bradbury, Aguew & Co., Bouverie Street, London, E.C. There are no good books solely devoted to the subject of carpet bedding, but you would probably find what you want by getting the *Guide to Hampton Court Gardens*, by Mr. Graham, Superintendent of the Gardens, Hampton Court, Middlesex.

COMMUNICATIONS RECEIVED.—N. F.—F. R. H. S.—E. L.—R. C. F.—G. E.—H. O.—G. W. H.—C. B.—J. C. & Co.—H. & S.—C. L. A., New York.—A. O.—C. F.

TRADE CATALOGUES RECEIVED.

JAMES COCKER & SONS, 59, Nicholas Street, Aberdeen.—Vegetable and Flower Seeds, Florists' Flowers, &c.

B. R. DAVIS, Hendford Hill, Yeovil.—New, Rare, and Beautiful Begonias.

THE WEATHER.

AT the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending Jan. 26th was 30·21 in.; the lowest reading was 30·01 in. on Sunday at noon, and the highest 30·32 in. on Wednesday morning. The mean temperature of the air was 38·5°, and 1·1° below the average in the corresponding weeks of the twenty years ending 1868. The mean was below the average on each of the first five days of the week, but showed an excess on Friday and on Saturday. The direction of the wind was variable, and the horizontal movement of the air averaged 8·5 miles per hour, which was 5·4 miles below the average in the corresponding weeks of sixteen years. Rain fell on two days of the week, to the aggregate amount of 0·15 of an inch. The duration of registered bright sunshine in the week was 5·3 hours, against 7·5 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a steady sale for Agricultural Seeds; French Red Clover is dearer; English Red and Cow Grass almost exhausted; White Clover, Alsike and Trefoil, steady; Rye Grasses, unchanged; Rape Seed, scarce.

COVENT GARDEN MARKET.

January 30th.

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0		Lettuces ..per dozen	1 6	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 3
Cabbages.... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	2 0	3 0	Radishes ..per dozen	1 6	
			Small salading, punnet	0 4	
Celery....per bundle	2 0		Spinach, per strike ..	2 0	
Cucumbers ....each	0 6	0 9	Tomatos ....per lb.	1 3	1 9
Endive, French, doz.	2 6	3 6	Turnips ....per bun.	0	
Herbs ....per hunch	0 2	0 4			

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys. 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemone, French, per doz. bnchs.	2 0	6 0	Paper White Narciss, 12 sprays	0 9	1 0
Arum Lilies, 12 blms..	3 0	6 0	— — — French, doz. bunches	2 0	5 0
Azaleas ....12 sprays	0 8	1 0	Poinsettia, doz. blms.	4 0	6 0
Bouvardias, per bun.	0 6	1 0	Primroses..doz.buns.	1 0	2 0
Camellias, 12 blooms	2 0	4 0	Primula, double, bun.	0 9	1 0
Carnations, 12 blooms	2 0	3 0	Ranunculus, French, per doz. bnchs.	2 0	4 0
Chrysanthemums, 12 blooms	1 0	2 0	Roman Hyacinths, 12 sprays	1 0	1 6
— 12 bunches	2 0	6 0	— — French, 12 bun.	2 0	6 0
Cornflower, 12 bunch.			Roses, Tea, per dozen	1 0	3 0
Cyclamen..12 blooms	0 6	1 0	— Red .....per doz.	9 0	18 0
Eucharis ..per dozen	4 0	6 0	— Red, French, dozen	2 0	3 0
Gardenias, 12 blooms.	12 0	30 0	— Saffrano ..per doz.	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	— Safrano, French per doz.	1 0	3 0
Lapageria, 12 blooms	2 0	4 0	Tuberoses, per dozen.	2 0	3 0
Lilium longiflorum, 12 blooms	5 0	9 0	Tulips ....12 blooms	0 8	1 6
Lily of the Valley, 12 sprays	0 6	1 0	Violets ..12 bunches	1 0	1 6
Maidenhair Fern, 12 bns	6 0	9 0	— Parme, French, 12 bunches	5 0	7 0
Marguerites, 12 bun.	3 0	6 0	— dark French, bun.	1 6	3 0
Mignonette, 12 bun.	2 0	4 0	Wallflowers, 12 bnchs,	4 0	8 0
Mimosa, French, per basket	4 0	6 0	White Lilac, French, per bun.	5 0	7 0
Pelargoniums, 12 spys.	1 0	1 6			
— scarlet ..12 sprays	6 0	9 0			

No alteration in prices of FRUIT and PLANTS IN POTS.

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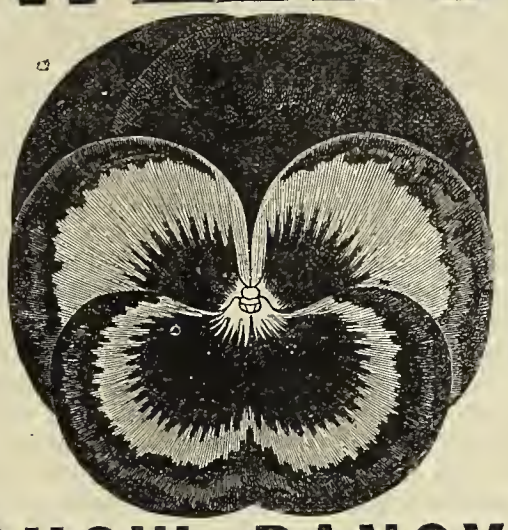

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From Mr. W. BROCKWELL, Chatham, February 13th.

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From the *Gardeners' Chronicle*, September 1st.

"THE DANIELS POTATO.—A few weeks ago you kindly made mention of a Potato called DANIELS, and how well the variety looked when growing, giving great promise. We had a small local exhibition here the other week, and I was tempted to dig up my DANIELS. They exceeded my expectations. I staged two dishes, and was awarded two Prizes, in a strong competition with different varieties in both classes. A friend of mine was present when I took up two roots to be weighed, on one of which we found twenty-one Potatos, and twenty on the other. On weighing the best root it was found to turn the scale at 6 lb., all good, sound tubers, clean and free from scab. After exhibiting at Keighley they were put to the test of being cooked for the table, and they were found to be all that could be desired.—F. G. EPWORTH."

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NEW INCURVED CHRYSANTHEMUM—ALFRED LYNE, two F. C. C., 2s. 6d. each. L'AUTOMNE, F. C. C., N. C. S., 2s. 6d. each. Descriptive Catalogues on application.—G. STEVENS, Chrysanthemum Grower, St. John's Nursery, Putney, S.W.

Next Week's Engagements.

MONDAY, Feb. 11th.—Annual Meeting of the United Horticultural Provident and Benefit Society. Sale of Lily Bulbs at Protheroe and Morris's Rooms.

TUESDAY, Feb. 12th.—Royal Horticultural Society: Meeting of Fruit and Floral Committees at 11 p.m.; Annual Meeting at 3 p.m. Sale of Imported Pieces of Oncidium macranthum at Protheroe & Morris's Rooms.

WEDNESDAY, Feb. 13th.—Sale of Orchids, Roses, Shrubs, &c., at Stevens' Rooms.

THURSDAY, Feb. 14th.—Sale by Sample at Protheroe & Morris's Rooms.

FRIDAY, Feb. 15th.—Sale of the Barvins Park Collection of Orchids at Protheroe & Morris's Rooms.

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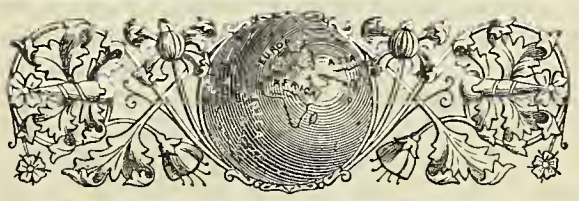

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, FEBRUARY 9, 1889.

PRIVATE MARKET GARDENS.—It is with exceeding regret that we have learned recently of more than one leading private garden being practically converted into a market gardening establishment. Death, loss of income, or other grave causes have from time to time seriously affected the financial status of many of our old county families; and many a grand garden, of which it had long been the pride of both owner and gardener to be enabled to say that they sent a pound of nothing to market, have been driven by sheer necessity into the vortex of trade, and become market gardens pure and simple. Obviously, this change from that which was distinctly noble to that which is almost venial is an exceedingly painful one. Some sentiment must, of course, cluster round those stately homes of England, which financial necessities have driven from their high estate into the plebeian courses of petty trading. What we fear is, that sentiment, however powerful, will hardly be strong enough to save any of our fine and beautiful gardens from a similar fate but a few years hence.

To those *bonâ fide* market gardeners whose very life and prosperity is existent upon trade, all these private gardens present problems full

of doubt and distrust. It is so hard to compete with such places when enormously handicapped by rents, rates, taxes, labour, tithes—indeed, by endless burdens which are so hard to endure, that every new competitor for favour in the field comes not as a straw, but as a beam wherewith to help break the backs of the legitimate grower. The wealthy banker or broker, or the millionaire trader may now, if he chooses so to display the power of the almighty dollar, offer to his guests, for their delectation, choice Pines from the gardens of the Duke of Bumpshire; the finest of Grapes from those of the Marquis of Sandown; soft, rich-cheeked Peaches from the Earl of Weston's gardens, and Pears from Lord Hardup's. In the face of such brilliant trading titles, what chance, even if their fruits be of the finest, have such *bonâ fide* growers as plain Jones or Smith?

The National Chrysanthemum Society.—Much interest was felt among members of this society in the recent annual general meeting—the proceedings of which we briefly report elsewhere—because of the known fact that a sub-committee had been appointed to revise the rules of the society, and submit a report in respect of such revision. The revised rules submitted, after being well discussed by the general committee, were also dealt with fully by the general body of members, and although in some respects the confining of the discussion to just two or three persons was to be deplored, yet it was evident that every point was followed with interest by all present.

The most important of the alterations made relates to the introduction of the offices of chairman and vice-chairman of the committees—posts which were very admirably filled up, but which leaves open the filling of the offices of president and of vice-presidents by gentlemen of position and influence, who it is hoped will bring to bear on the society much that is desirable to make it into that national society which it aspires to become. That under the circumstances it was found desirable to adjourn the selection of president and vice-presidents for yet a month later was not to be wondered at, and whilst the sub-committee which prepared the revised rules is engaged in obtaining the names of gentlemen worthy as well as willing to occupy the positions named, it is equally open to any member of the society to suggest names also, and to make propositions at the adjourned meeting.

All the same it would be more satisfactory if any suggestions of the kind indicated were made immediately to the sub-committee, so as to enable that body to weigh the suggestions thoroughly, and ascertain the wishes of the persons named. The officials should be widely representative, and we trust that the eventful election will show that national rather than local aspirations have dominated.

The National Chrysanthemum Society's Floral Committee.—Beyond the desire expressed at the annual general meeting held last week, that the Floral Committee should not be strictly bound by the words in the new ninth rule—"Plants or cut-flowers"—to limit its powers to such things alone, but should have a wider range given to it, we have evidence that some such extension of powers would be widely appreciated. A correspondent, in referring both to the limit the words above quoted give, as well as the appellation of "Floral" to the committee, suggests that some consideration should be shown to the fact that whilst the society is essentially one for popularising the Chrysanthemum, yet that it offers considerable encouragement to other things even beyond plants and flowers, for its fruit and vegetable show in November is the finest of its kind now held in London.

But beyond that, the society, since it has taken the appellation of "National," has also secured not merely a remarkable expansion of its members, but has also obtained a large amount of public confidence. That confidence and support will increase just in proportion as the society broadens its aims, and open its doors to gardeners generally, as well as to Chrysanthemum growers in particular. Then, as there is no divine right given to any one body of horticultural experts more than to another to adjudicate upon the merits of horticultural subjects, new or old, our correspondent thinks that the decision of the committee of experts of the National Chrysanthemum Society will in time be held in as high esteem as those of any other body, and therefore he hopes "that at the deferred general meeting it will be agreed to alter the restricting term of 'Floral,' as applied to that committee, to that of 'Certificating' Committee; and in the place of the words 'Plants or cut-flowers," to substitute 'Plants, flowers, fruits, vegetables, and allied subjects,' and thus enable the committee to deal with all garden subjects. To this end the committee might meet somewhat oftener during the year—say once a month at least." We are afraid it is too late to make the suggested alterations, and the necessarily fresh arrangements that such alterations would involve, for the coming season, but the committee of management would do well to carefully consider the matter before another annual meeting comes round.

The Gardening of Story Writers.—When authors and story writers diverge into gardening, they display an amount of ignorance of common things which is as absurd as it is deplorable. An instance of the slovenly allusions of which some writers are guilty is seen in a tale of some pretentions now running through that excellent serial, *Cassell's Saturday Journal*, in which the novelist tells of a man who, training some bloodhounds, buried bones in his garden beneath the prickly branches of an "Auricula." That was amusing enough, and might very well have passed for a printer's error, as it was obvious that an Araucaria was the tree referred to. Later in the story, however, the error was several times repeated, the dogs, in their efforts to unearth the bones, pricking themselves with the branches of the "Auricula," so that they howled savagely. Such absurd blunders as this one, on the part of intelligent authors, are quite inexcusable.

Railway Rates.—A fresh complaint as to the increase of rates for the transit of farm produce by one of our great railway companies has just been made. The levelling-up here has been done with a vengeance, so that all affected by the alterations are crying out against this new stab in the dark for agriculture. The Board of Trade, evidently aroused to the injury likely to be done to the internal trade of the country, and especially to the interests of land cultivators, by the adoption of such tactics on the part of railway companies, has issued a notice to the effect that in the case of increase of rates by such companies, the same must be not only advertised in a local paper largely circulating in the district affected, at least fourteen days before the increase takes effect, but it must also be fully placarded for a period of twenty-eight days at all the affected stations of the company's railway. That order, of course, only commands the granting of full notice to the public; but the public all the same remain, just as before, at the mercy of the railway authorities.

County Councils.—Mr. Page, the well-known market florist of Teddington, was last week elected on the Middlesex County Council after a stiff contest with a fellow-townsman. Horticulture seems to have given so few members to the County Councils that we must make the most of those we have to represent garden interests where necessity arises. It has been quite wonderful to see the intense anxiety shown on the part of the "upper ten" to have charge of our main roads, to supervise lunatic asylums, deal with allotments and sanitary matters, and other diverse but not very heroic functions. We prefer to believe that all these very mundane matters would have been better dealt with by plain, practical, business men rather than the aristocracy. Probably there is at the bottom of all this desire on their part to serve, some fear that the Councils may deal too liberally with questions relating to the land, the incidence of rating, &c., in the interests of the occupiers.

The Fruiterers Company.—A reference which we made not so long since to the Fruiterers Company—its somewhat wanton extravagance in sending a rich present of fruit to the Lord Mayor (of all persons) annually, and its apparent utter incompetence to assist in promoting fruit culture nationally—seems to have had some effect in the right quarter, judging from an announcement recently made in the *City Press*. The company pleads poverty as an excuse for inactivity. That would have been a good reason for refraining from making costly presents, but some good influence might long since have been exerted in the right direction. The present Lord Mayor is desirous of helping the company to do something for hardy fruit culture. We expected so much from Lord Mayor Whitehead, who is something more than a city alderman. All the same we shall wait with interest the development of this new-born zeal on the part of the company to assist in fruit culture.

Gardening Engagement.—Mr. Charles Denning, gardener to the Earl of Chesterfield, Holme Lacy, Hereford, as gardener and bailiff to R. K. Hodgson, Esq., Ash Grove, Sevenoaks, in succession to Mr. Thorne, who has been at Ash Grove for thirty years.

United Horticultural Benefit and Provident Society.—The annual meeting of the members of this society will be held at the Caledonian Hotel, Robert Street, Adelphi Terrace, Strand, on Monday evening next, at eight o'clock.

Royal Horticultural Society.—If the weather should be mild, it is anticipated that the meeting of the society on Tuesday next will be an interesting one, as several persons, both amateurs and nurserymen, have already signified their intention of sending exhibits. The Fruit and Floral Committees will meet in the Drill Hall, James Street, Victoria Street, at 11 a.m., after which the Hall will be open to all Fellows at 12. At 3 p.m. the annual meeting will be held in the library at 117, Victoria Street. Any persons wishing to join the society at this meeting should send in their names to the secretary, 117, Victoria Street, S.W., on or before Monday, February 11th.

The Hammersmith and District Gardening Society.—Two shows are held annually by this Society, a summer and an autumn one, the latter being for Chrysanthemums. This rather taxed the funds of the society last year to meet its expenses and pay the prizes. In order to make up the deficit, it was proposed to organise a concert, which took place recently in St. Peter's School, Hammersmith, when "the house was crowded." A reading was given by Mr. Richard Dean, Ealing, and the rest of the evening was occupied with musical and other entertainments. It has since been ascertained that a sum slightly exceeding £11 was raised by the scheme, and which was quite sufficient to meet the expenses.

Ealing and District Gardeners' Mutual Improvement Society.—The members of this society, at their usual weekly meeting held on the 1st inst., established the first of a series of monthly conversaziones in the Girls' Schoolroom, at Ealing Dean. There was a good display of plants and curios on the tables, and two prizes offered for competition were awarded to Mr. Cox for a basket of Chinese Primulas, in which the semi-doubles were very fine; and to Mr. Gates for a remarkably fine dish of Mushrooms. Among the contributions sent, not for competition, Mr. Chadwick, Hanger Hill, Ealing (the hon. secretary), showed a fine lot of small plants of Crotons, well coloured and arranged in a groundwork of Ferns. On the table were two microscopes, under which were exhibited, by Mr. Wright, Devonhurst, Chiswick, some of our garden pests, viz., the Eucharis

mite, yellow thrip, which is so destructive to Gloxinias, Orchids, &c., where it once gets a footing; green-fly, mealy-bug, &c. Also sections of Monocotyledonous and Dicotyledonous plants, Antheridia and Archegonia of Marchantia, &c., kindly lent by Mr. Fraser, Kew Green. As this was a social meeting, great interest was taken in the various objects exhibited, and a good number of the members took part in a discussion which was initiated. It was also decided at the same meeting to hold a musical entertainment in connection with the society, the proceeds of which are to be handed over to the Gardeners' Orphan Fund.

The Royal Horticultural Society of Southampton.—The annual general meeting of the members and subscribers of this society was held in the Philharmonic Rooms on Monday last, when the chair was taken by the president, W. H. Myers, Esq., J.P. From the report of the Council, presented at the meeting, we gather that through the very inclement and continuously wet season with which the society had to contend last year the result is a statement of accounts showing a considerable balance on the wrong side. On the occasion of the summer show, the extraordinary cold and dampness of both days entirely neutralised the extra exertions made by the Council to attract a large attendance. The takings on Bank-holiday were the lowest recorded for many years. The Council were equally unfortunate, in this respect, in the evenings selected for the promenade concerts and sports, and in their other efforts to make the society's grounds at Westwood Park self-supporting. From these adverse causes, the Council had to seriously consider whether the Chrysanthemum Show should be abandoned, or whether the payment of the prizes should be entirely contingent upon the receipts at the door, all other expenses having been first met. At the express desire of many exhibitors, who were anxious, in the interest of the society, that the show should be held as usual, the latter course was adopted. The Council have great pleasure in drawing attention to the action of the exhibitors on that occasion, because the show was in every respect equal to any of its predecessors, and one of which the most flourishing society might be proud—notwithstanding the certainty that, under the most favourable circumstances, the competitors could only receive a very small amount in prize money. Although unfortunate, financially, during the last two years, the Council hope, if favoured with finer weather in the coming season, to place the society in a better position, and confidently appeal to the public to assist them in their endeavours.

The Reading Flower Shows.—The exhibitions of the Reading Horticultural Society will take place as follows:—Spring show, May 29th; and Summer show, August 28th. As is usual, the exhibitions will take place in the Abbey Ruins and Forbury Gardens. The annual Chrysanthemum show will take place on November 14th, in the Town Hall. This is distinct from the Reading Horticultural Society, and is managed by a special committee, Mr. Richard Catchpool being the honorary secretary. This show has been held at the Town Hall for a few years past; but in the autumn, on application being made to the Borough Council, as usual, permission was refused on the ground that the presence of plants for two days generated moisture, which had injuriously affected the organ, and caused the pipes to rust. This statement was questioned, and Mr. Catchpool made a second application to the council, backed by letters from Manchester, Birmingham, Huddersfield, the Crystal Palace at Sydenham, and the Royal Aquarium at Westminster, which went to show that though flower shows were frequently held in buildings where there were organs, no complaint whatever had been made as to any injury done through damp. The council therefore rescinded their former resolution, and granted Mr. Catchpool the use of the Town Hall, as heretofore.

APPLES FROM CUTTINGS.

What seems to be a very absurd suggestion has been made again—for it has been made scores of times in the past—namely, that we should propagate Apple trees by means of cuttiugs. Now, it is obvious that could such a method have been found practicable it would have been adopted long ago; but because it has been tried over and over again, and has always failed, it has become clear that nothing is to be gained by an attempt to perform the impossible. It is true that some kinds of Apple trees—notably of the Codlin type, but especially trees which burr or produce knotty or gnarled protuberances on their stems—will, if cut off in the form of branches and sunk 9 ins. into the soil, in time produce roots.

I have seen such trees, and never found one robust or a decent sample of cultivation; indeed, it is but the more worthless kinds that are amenable to that method of propagation. Good rooted stocks, no matter whether budded or grafted in their proper seasons, will always produce in the end finer, handsomer and more productive trees than any form of cuttings will do.

It has also been urged that we should propagate Roses far more largely by means of cuttings than we now do. That is very good advice—not very acceptable to the trade perhaps, but easily carried into practice by gardeners. Still, there are many Roses which not only root indifferently as cuttings, but even when rooted will make but weakly plants. The hardier and more robust kinds will strike root freely enough if the cuttings be properly made from good sound wood, plant edat the proper season, and protected through

Lastrea Filix-mas cristata angustata.

severe weather. All the same, Rose growers prefer budding or buying to troubling with cuttings. Some of the sucker-producing Roses, like the old red Moss for instance, may be increased just as readily as Raspberries are, and in precisely the same way.—*A. D.*

TWO HARDY LASTREAS.

Of the common Malo Fern there are several very beautiful varieties that never fail to please when well grown. One of these, which we illustrate, is Lastrea Filix-mas cristata angustata. When hardy Ferns were more popular amongst professional growers than they are at present, this beautiful variety was held in high estimation because it is a hardy and beautiful sort, either for outdoor culture or for cultivation in pots.

Lastrea opaca.

What can be more elegant than a healthy piece of this for a hardy Fernery among a collection of other choice subjects? Its value, however, is greatly increased when grown under glass, either in a cool fernery proper, or in a conservatory where there is no heating apparatus. It is peculiarly adapted for the latter place when situated on the northern aspect of a dwelling-house, where flowering plants altogether fail, especially in winter. Under these conditions it becomes strictly evergreen, maintaining its fronds till new ones are produced. The fronds are linear lance-shaped in outline, crested on all the pinnæ, and elegantly tasselled at the apex. It is a garden variety of a British Fern.

The other species illustrated is an exotic, a native of Japan, and hardy under favourable circumstances in this country, but succeeds best when grown under glass in a cool house. It has thick, leathery, evergreen fronds, triangular in outline, and once or twice cut or divided. The stalks and midribs of the fronds are clothed with black, chaffy scales, and the numerous black sori on the under-side of the pinnæ render the plant interesting. It may be grown in a pot or basket. In both cases they like plenty of water while making growth.

PRUNING GOOSEBERRY BUSHES.

In very many gardens the Gooseberry is very hastily and but indifferently pruned, perhaps owing to the great stress of work during the spring months, aud also besides being one of our commonest fruits will bear fair crops under indifferent pruning, and yet no fruit will more amply repay a proper and careful attention in this respect. Of course, there are many bright exceptions; in some places the Gooseberry occupies a high position in the estimation of the owner or grower, and receives all the attention it deserves, but I have seen bushes hacked and cut about most unmercifully, breaking off some of the branches with the feet when they were thick, and even clipping them over with a pair of shears. In some instances they have been scarcely pruned at all from one year to another, and consequently present quite a confused entangled mass of young and old wood, often with innumerable suckers spriuging up from the roots, with masses of bindweed, which under such circumstances it is difficult to eradicate.

The fruit of the Gooseberry is produced on wood of the previous year's growth, and it is well to properly consider this in whatever method of pruning we adopt. Some prefer the spur system, cutting down the young wood to within three or four eyes at the bottom of the branches, but I do not think this the best way, because such a system would naturally produce a superabundance of young wood during the ensuing summer, which would not admit sufficient light and air, so necessary to highly-flavoured, good-coloured, and well-developed fruit, and also to properly ripen off the young wood which is required for future crops. The best way, in my opinion, and in which I have seen the most successful results, is to thin out the old and young wood every year to proper distances, having due regard to the proper symmetry of the bush, well cutting out the centre to admit plenty of air, and leaving as much young wood as possible in order to secure a good crop without cutting it back at all; but that which it is necessary to take out, cut back as close as possible to the old wood, in order to prevent an over-quantity of young growth starting, which would have the effect of thickening the bush too much. But should this take place, a portion of it may, with advantage, be rubbed out by hand when an inch or two long. Under this system we should secure abundant crops, with plenty of vigorous young wood year by year for after-produce.

In order to properly carry out this system, and to train them in the way they should go, it is necessary to start with young bushes, with clean stems 4 ins. or 5 ins. long, and to prune rather severely the first year or two, and on no account to allow suckers to grow. I do not think it necessary to say anything about pyramids or standards, and other fantastical methods of training, which are more for fancy than profit. When it is necessary to train late kinds of Gooseberries on north walls for late use, the same method of pruning as is adopted for Peaches and Nectarines should be practised, that is, nailing in the young wood as much as possible in all parts of the bush at proper distances, but not to attempt too much disbudding, as they will not bear it. The early part of the month of March is universally considered to be the best time for pruning Gooseberry bushes, because sparrows and bullfinches are rather fond of the buds. In order to prevent this, they should be well watched during the winter and spring months, and the bushes syringed at times with lime and water, containing something bitter or distasteful in it, such as naphtha, paraffin, camomile, or Feverfew plants, &c., steeped in hot water, and afterwards mixed with the lime, which will effectually prevent these attacks.—*Alfred Gaut.*

PELARGONIUM, BRILLIANT.

When reading the list of successful candidates for the pension of the Gardeners' Royal Benevolent Institution, though regretting the necessity for her application, I was pleased to see that Mrs. Helen Lessels had been returned, for it was to the late Mr. Lessels, when gardener at Formack Hall, Burton-on-Trent, that we owe the origination of the old Brilliant Pelargonium. It is now an old variety, and not much grown, having been superseded in the march of improvement that has been going on in variegated Pelargoniums. The origin of Brilliant took place before my time, but I have heard that there was some controversy in the horticultural press, owing to Brilliant getting into other hands, Mr. Lessels asserting that it was purloined by some young men who came to look round the place;

but such was not the case. The facts are these. A few young men from neighbouring gardens visited Formack, and when going round with the foreman, were shown a plant of the old Tom Thumb which had produced variegated shoots, and were offered cuttings by him. Some accepted them, and during the journey round, a cutting was observed peeping out of the pocket of one of the party. By way of a joke this cutting was taken by one who did not accept any from the foreman. It was taken to Bretby Park, the seat of the Earl of Chesterfield, where it was struck, and eventually others were propagated from it. The then gardener at Bretby, seeing, I suppose, that it was an acquisition—which it was at that time—sent a plant or so of it to the Royal Horticultural Society, and the official report of it was that it had a better flower than Flower of the Day, but the variegation was not so good. It was eventually sent out by Osborn, of Fulham.—*Geo. Potts, Junr.*

PRIMULAS AT FOREST HILL.

A FINE display of the Chinese Primula is now to be seen in the nursery of Messrs. J. Carter & Co., at Forest Hill, where several new houses have been built since last season with all modern improvements, for the special culture of this class of plants. Four of them are now occupied with Primulas, which being in full bloom, give a very fine effect. One house, 150 ft. in length, is especially notable, because the visitors can see the Primulas extending from one end to the other. In another case three houses are built parallel to one another in a single block, and two of them are filled with Primulas; large batches of the different varieties are staged in each house, and the regularity and evenness with which they have been grown adds much to the effect. Two or three houses are filled with plants that were sown in the last week of July, 1888, and these are mostly in 48-sized pots; while another house is filled with plants sown in the first week in March. These latter are considerably larger, and are grown in 32-sized pots.

Fern-leaved Varieties.

HOLBORN ELAINE.—The flowers of this variety are of the purest white, large and beautifully fringed. Singularly enough the petioles of the oblong finely cut leaves are of a deep red tint, and in this respect do not correspond to the purity of the flowers.

HOLBORN BLUSH.—The flowers of this variety are, as the name indicates, normally of a delicate blush tint, especially when well exposed to light, as we had evidence in those stood near the glass. A large batch in another house has sported into two distinct forms, namely, a pure white, and a mauve one, fading at the margin into an almost white line. The two batches are stood alongside of each other, and have large and well-formed trusses. The petioles of the leaves are red in both cases.

HOLBORN QUEEN.—The superior merits of this sort are easily detected when placed alongside of the other kinds. The flowers are pure white, as in the case of Elaine, but the leaves, both blade and petiole, are of a pale green, giving the whole plant a delicacy of tint not seen in the dark-foliaged plants. The individual blooms are large, with an ample angular golden yellow eye, and are borne in large trusses.

SEEDLING.—An unnamed seedling with small white flowers may be mentioned in this group on account of its leaves being oblong. In the early stage they are slightly lobed; but long before the plant comes into bloom they become much narrower, and deeply laciniated or twice cut, so that Laciniata would be a very appropriate name.

HOLBORN RUBY.—Here the flowers are rosy red, with a white line surrounding the greenish yellow eye. They are borne in large trusses.

HOLBORN CARMINE.—This variety is a strong grower, bearing good trusses of flowers of an attractive rosy carmine hue.

HOLBORN SALMON.—When the flowers first expand they are pale in colour, as frequently occurs, but soon deepen to a rosy salmon, and different shades are noticeable in the truss at one and the same time.

FERN-LEAF VERMILION.—Amongst dark varieties none are more highly coloured than this one, with large flowers of a deep vermilion-red, and fine dark-coloured foliage.

SEEDLING.—An unnamed kind, with small rose-coloured flowers slightly striped with white, offers in its foliage something from which to develop a new race. The petioles are of a deep crimson-red, while the blade is red beneath, and so deeply tinted with the same colour above that it appears of a dark bronzy green.

Plain-leaved Kinds.

HOLBORN WHITE.—Like those of Holborn Queen, the leaves, both blade and petiole, are of a light green, but of the ordinary triangular or roundly heart-shaped outline, and here spoken of as Palm-leaved. The flowers are pure white and borne in trusses thrown well above the foliage.

HOLBORN ELAINE.—This differs from that of the same name in the Fern-leaved group only in the foliage.

HOLBORN VENUS.—The flowers of this variety are striped and mottled all over with crimson and purple on a white ground.

HOLBORN BLUE.—Improvements continue to be made in the intensity of the so-called blue colour of this strain, and in some cases there is a distinctly purple tint. The trusses are well thrown up, and the flowers are of respectable size. A large batch showed some seedlings of sterling merit, especially with regard to the size of the flower.

HOLBORN MAGENTA.—Flowers of a dark magenta, with a greenish, angular eye surrounded by a white line.

HOLBORN VERMILION.—The Fern-leaved variety, already mentioned, differs from that under notice only in the foliage.

HOLBORN FAWN.—The flowers of this variety are of a rosy mauve, giving place to a white margin, and the segments being beautifully cut; the whole has a very fine effect. It is much admired by visitors. Seedlings give rise to plants having both the ordinary and Fern-leaved foliage.

Semi-double Varieties.

SNOWFLAKE.—Being of that strain which is now popularly termed semi-double, this variety is readily propagated from seed, which it produces with great freedom. The flowers are white, while the leaves are wholly of a pale green colour. For cut-flower work it is admirably adapted, as the blooms hang on the plant for a much longer period even when cut. The same remarks apply to the other semi-double varieties.

CARMINE EMPRESS.—Like the last named, this is also very floriferous, and differs from Holborn Carmine only in being semi-double, having flowers of the same colour and Fern-leaved foliage.

PRINCE OF WALES.—The flowers of this sort are semi-double, salmon-pink, and very freely produced. The variety comes very readily from seed. The foliage is of the ordinary type.

HOLBORN DOUBLE BLUE.—This variety is uniformly of a much darker shade than the single-flowered sort, and semi-double. All of this group owe their characteristic appearance to an out-growth at the back of each stamen. This stands erect over the centre of the flower, and externally is of the same colour as the rest of the corolla, whatever that may be. The upper or inner surface in all the group is white, but it is hidden in a normal state of the flower.

ANTHRACITE COAL.

YOUR correspondent, Mr. J. Peebles, has, I think, been unfortunate in the article supplied to him as Anthracite. I have reason to know that there are various kinds of coal supplied by local men for it which differ very considerably from that supplied by Mr. Essery, of Swansea, some of which are difficult to manage well even where there is a good draught. Before trying the Swansea anthracite, I wrote to one whose judgment I thought I could fully rely upon, and received a most unsatisfactory reply; but having confidence in some other names on Mr. Essery's circular, I gave it a trial, and am well satisfied with the result. I may say that very much depends upon the stoker, and the notion that any idle ignorant fellow is good enough for this job ought to have been exploded long since, because the difference as regards the consumption of fuel when the fires are attended by an intelligent man, who will do his best to get the utmost amount of heat from the fuel, and when the same fires are attended by a careless inattentive man, is something considerable, and forms a very apt illustration of the saying that men are not all of the same value at the same kind of work. In this case the careless—and therefore worthless—man will burn away from a third to one half more firing than the attentive one, and then not keep up the required amount of heat.

In these days, when so many have to economise all they can, this is one of the things that ought to be well looked after, both as regards the kind of fuel and the method of using it, for a stoker who attempts to manage anthracite in the same way as coke will soon either find himself wrong, or be found out by those above him. It will not do to fill the furnace so full as with coke, for if this be done, unless, indeed, the furnace is disproportionately large, failure will be the result from the fire burning sluggishly. I am referring to saddle boilers like our own, having had no experience in using anthracite with other forms of boilers. We find that when making up the fires, to fill them about two-thirds is best; we have very few clinkers, and find there is much less labour attached to the use of this coal than coke. Where there is a fair draught, and an efficient amount of piping, twice a day will, in ordinary weather, be found often enough to attend to the fires, but a great deal depends upon the draught. There is a considerable difference in the amount of attention required by our fires on account of the position of one of the boilers. In one case we have to leave the ash-pit door open very much more than we do with the other boiler, under which the coal burns so well that all draught, both top and bottom, is almost constantly shut off, and the coal burns to a clean white ash. Care should be taken that the ash-pit is well cleaned out daily, because the ashes which fall through are intensely hot, and retain the heat if allowed to remain in the pit for any length of time, and which, I think, is the cause sometimes of the bars being melted. It is not so much the heat above that melts them as their being for a time exposed to two fires. On asking one of my men how, in his opinion, the melting of furnace bars was occasioned, he answered promptly, and I think truly, "lazy stokers." I should have said that the Swansea coal does not cake in the way that Mr. Peebles complains of, and must not be continually poked about as coke oftentimes is.—*W. B. G.*

A correspondent (at p. 359) asks if anthracite should be broken up before using. I say it depends upon the size of the fuel space in the boiler. If this is at all limited, the coal should be broken up. I have now had some year's experience of anthracite both in an upright tubular and in several of the Loughborough style of boilers. In a large boiler good-sized pieces may be put in, but in smaller ones like the latter it is most essential that the fuel should be well broken up, otherwise there is no certainty of the fire keeping in. Mine has only been out once since Christmas. I find this coal can be had broken up into nut form, which is a boon, as it is very tough stuff to deal with one's self.—*J. F. Kew, Southend.*

MY experience with anthracite has led me to the conclusion that it is the best fuel that can be had, but unless the furnace is set so that a good draught can be obtained, it is useless for anyone to attempt to burn it. I have used it in the tubular, the saddle, and horse-shoe boilers, for the last eight years. I have also used ordinary coal, coke, wood, and cinders, and for heat-giving power, cleanliness, and little trouble in stoking, give me anthracite coal before any other. When lighting the fires I use rather more wood than I should do if using ordinary coal; having got the wood thoroughly alight I put on two shovelfuls of coal broken into small pieces, draw the damper out to obtain a good draught, and in about twenty minutes I have a bright fire; I then put on more coal, using it this time in larger pieces than before, and when this has got well alight, I ash it over with anthracite dust, or the ashes from previous fires, and at the same time put the damper in to allow of but a very little draught. I have no difficulty in keeping a good fire for twelve hours without attention in this way.—*Joseph Parris, Junr., Northiam, Sussex.*

IN your issue of January 26th (p. 340) Mr. J. Peebles related his experience with anthracite coal, and which to many horticulturists, both gardeners and amateurs, would, I fear, act as a bar to its use. Although your correspondent's experience of anthracite has been so unfortunate, I am pleased to see that he remarks he has no desire to raise an argument against it. That the heating power of anthracite is greater than that of coke is, I believe, an undisputed fact; but the mode of stoking in the two cases is somewhat different, and to secure all the advantages to be derived from the use of anthracite the stoker must apply the wisdom obtained by experience in the case of each fire over which he has charge. On the point of economy, there is no doubt that the use of anthracite reduces the labour of stoking from thirty to forty per cent. for any kind of boiler. I was like Mr. Peebles in my first acquaintance with anthracite, being so unfortunate as to procure a truck load of some nine tons which was mostly dust, and I should think selected from the most inferior kind of coal, though it

was strongly recommended to my employer; but when I discovered some that was obtained from Mr. Pascoe, of Swansea, we procured our supply direct from him, and this came to hand mostly in large blocks, such as have been described, with little or no dust. From the same source the supply was obtained as required for eight years. The fuel was used in seven furnaces, mostly of the saddle-boiler type, and gave satisfaction during the whole time. The men who had charge of the fires in every case preferred anthracite to coke, and I may say that I have seen it used successfully in the upright tubular, and also in a small Loughborough boiler.

Is your correspondent aware that some of the London nurserymen use no other kind of fuel but anthracite, and that many of the growers for Covent Garden Market use nothing else? I would also ask him further whether they are so inexperienced as not to know which produces the greatest amount of heat combined with the greatest economy of time in stoking. I would advise Mr. Peebles to procure a sample of Mr. Pascoe's Diamond Anthracite Horticultural Coal, and give it a trial. I may mention that many of my friends who have large collections of Orchids under their charge are using anthracite supplied by this gentleman, and every one of them is satisfied with the result. There is no doubt that when anyone gets accustomed to a particular mode of stoking he does not care to make a change, but in the case of anthracite I maintain from my own experience that a fire can be left in safety for a greater length of time than can one made of coke.—*J. Churchfield, 27, North Terrace, Fairlawn Park, Sydenham.*

THE CHINESE PRIMROSE.*

Having discussed the introduction of Primula sinensis from Canton, China, in 1820, Mr. Lee gave a short sketch of its history in this country, and then went on to deal with the practical part of the subject.

Seed Sowing.

This is of the utmost importance, and the time for sowing the seed must depend materially upon the purpose for which the plants are wanted. To be of exhibition quality they must be sown at a different time to when the main batch is put in. All plants should be grown with that in view; whether large or small, they should be perfect samples each of its kind. Therefore, to grow Primulas 2 ft. or 3 ft. across, the seeds must be sown some time between the middle of December and the middle of January. This is most applicable to large, strong-growing varieties, such as The Queen, Marquis of Lorne, Emperor, Princess Louise, Lady Churchill, and others of a like nature. The Chiswick Red and Rubra violacea strains are much better if sown three months later, for if the seed is put in at the above-mentioned date they grow too much to foliage, attaining a large size, and they do not flower so satisfactorily as when sown at the later date mentioned.

Nothing better than 5-in. pots could be had in which to sow the seeds. They should be scrupulously clean, and carefully drained to half their depth at least with clean broken crocks, placing over them a little moss or coarse soil to keep the drainage open. Good drainage must always be maintained, for this Primula is very impatient of anything approaching stagnation. Details should be closely attended to where first-class workmanship is to be done, for, as the old adage says, "what is worth doing is worth doing well." This applies with some force to seed sowing. The soil for this stage should consist of equal parts of loam, peat, and sand, with a little leaf-soil, free from worms and other pests. The whole should be well mixed, and passed through a fine sieve. Fill the pots to within ½ in. of the rim, making the soil moderately firm and even. Then water through a fine-rosed pot, allowing the superfluous moisture to drain away before sowing the seed. Sow thinly and evenly, just covering the seeds with a little of the fine soil. They must on no account be buried deeply, otherwise many of the seeds will perish.

Place the pots in a temperature of 60° to 65°, covering them with a piece of glass, over which some moss should be placed to exclude the light, and prevent the soil from getting dry. I lay particular stress on the moss being placed on the top of the glass, and not in direct contact with the soil, as it is liable to be troublesome when the seeds germinate, owing to some seedlings being much in advance of the others. Should the moss not be removed the same day as the first seedlings germinate, it will most likely disturb or bring some of them with it. This danger is obviated by placing the moss as directed. Watering at this stage must be carefully attended to, otherwise much injury may be done while germination is taking place. The soil must never be allowed to become dry, and in about fourteen or twenty days the seedlings will be sufficiently well up to be exposed to light and air. Keep them as near the glass as practicable, for by so doing the plants will from the commencement be of a strong and sturdy nature—a most desirable and essential feature in their culture.

Potting off and Growing Them.

When the little plants have made a rough leaf or two, they must be pricked off into 5-in. pots, putting five or six in each, using soil similar to that employed for sowing the seed. After this operation they should be returned to the same temperature. Keep close for a few days, and if necessary shade them. This last, however, is seldom required in this sunless and inclement climate of ours at this season of the year. The seedlings will require constant attention as to watering, and to damping overhead once or twice daily. All checks must be studiously guarded against. By the end of January or early in February the plants will be fit to pot off into 3-in. pots. This should be done in a workman-like manner, being careful not to break the small brittle leaves during the operation, for nothing detracts more from the appearance of the plants than having their foliage disfigured. There is a vast difference between well-grown specimens and the wretched samples of a slovenly grower. It is impossible to make a first-class plant of a Primula that has been neglected in its early stages.

If the above-mentioned instructions be carried out, the plants will grow and attain strength day by day, and about the middle of April they will require another move onward, the most suitable for this shift being 5-in. pots. The soil for this shift should be of a more substantial nature than that previously employed. That which is recommended and found to answer admirably, consists of two parts good yellow loam, one part leaf-soil, one part sand, and quarter part peat, with a few handfuls of broken charcoal to keep the soil sweet—also about a 6-in. potful of crushed oyster shells, and the same quantity of some artificial manure to two barrow-loads of soil. The whole of this should be thoroughly incorporated, and the lumpy portions well broken up with the hand or spade. It should neither be very wet nor too dry.

Pot moderately firm. One point that must not be overlooked is to keep the plants well down in the soil, so long as the crown is not absolutely buried. The lower leaves may even be three parts buried, and no ill effect will result, but rather an advantage, because when the plants are full grown, the foliage will be hanging over the sides of the pots, almost hiding them from view. I am fully aware that a few years ago there was a cry about being careful not to pot low, otherwise the plants would rot off at the collar. In consequence of this, unsightly sticks were stuck in around the plants to keep them from rocking about. After potting, the plants should receive a similar position to that already mentioned, keeping them close till growth has recommenced.

Syringing will be found very beneficial, and the plants should simply be dewed over the head in the afternoon. This will greatly assist them in making strong healthy growth. Air should be admitted on all favourable occasions, to the exclusion of cold cutting winds and draughts. Shading should not be neglected, but at the same time must not be employed to excess, otherwise the leaf-stalks will become unduly elongated, to the injury of the plants. All that is necessary is just a slight shading during the hottest part of the day. The best place for the plants, as the weather becomes warm, is a cold frame with a northern aspect, thus reducing the necessity of shading to a minimum.

The Last Potting.

By the middle or end of June the final or last potting should take place. The soil recommended for the previous potting will be found to answer in this case. The pots used will, of course, be in accordance with the size of the plants, some requiring larger than others; but for all ordinary purposes 7-in. or 8-in. ones are large enough. Large pots are not to be recommended, because a well-grown plant in one of a medium size is in much more general use than a corresponding plant in a larger size. Return them to a cold frame, standing them on a good ash bottom. This will assist in retaining the moisture, and in keeping the pots and plants cool in sunny weather; it will likewise, to a great extent, prevent the ingress of worms, which destroy the drainage. The requirements now will be a continuous and uninterrupted attention to watering, shading, and airing. The former is of great moment to the Chinese Primula, and the soil should neither be very wet nor very dry, but just a happy medium. The water should not be carelessly poured into the crown of the plant, but just inside the rim of the pot, giving sufficient to permeate the whole body of soil.

During the month of August and the early part of September the lights may be removed entirely at night and on dull cloudy days, if the weather should prove open and calm. The lights should be kept ready to hand, however, in case of heavy rain or high winds. At this stage a few of the plants will, in all probability, show signs of flowering; but as these blooms will prove of small value, being two or three months too early, they should be removed as soon as perceived. By so treating them the plants will form two or three crowns, making grand specimens, which will eventually repay the cultivator with large trusses of flowers.

The plants should not be allowed to remain in their summer quarters longer than the last week in September, or at least early in October, for the nights then become heavily charged with moisture, and if this is allowed to accumulate and remain on the foliage some of the leaves will surely decay, permanently disfiguring the plants. They had then better be placed in a low span-roofed house, where they will be close to the glass, giving plenty of room between each. It is better to grow a few—giving plenty of space and good attention—than many, to get spoiled and worthless. The plants now being housed will require similar attention. Give them the same treatment under glass as they had in the frames. It is an error to keep up a high temperature with artificial heat. The atmosphere should be buoyant and cool by the admission of air on all favourable occasions, with a temperature ranging from 45° to 50°. Many of the plants will now throw up flower-trusses. The latter will occasionally require to be freed from the foliage, so that they may become properly and regularly developed, and to prevent their being drawn, puny and deformed. Manure water is not required for Primulas, as a rule, till the flower-trusses commence to develop, when it will prove very beneficial. Soot-water is a capital stimulant when used judiciously, as also are several of the artificial manures. Just sprinkle a little over the soil and water in. Perhaps better than either at this stage is sulphate of ammonia. This gives a dark green appearance to the foliage and a brilliancy of colour to the flowers—indeed, more so than I have observed done by any other chemical or artificial stimulant; but it must be applied with great care, not recklessly, or the consequences will be disastrous. If applied at the rate of ½ oz. to two gallons of water the results will be apparent to all. If applied too early, sulphate of ammonia causes the plants to start into growth rather than flower. From experiments carried out, I have invariably found this to be the case.

Double Varieties.

This paper would not be complete without a few words on the double forms of this Primula. These are, perhaps, of more commercial value than single varieties, they are certainly more difficult to grow, and rather more difficult to propagate. We have now some fine semi-doubles that maintain their characters from seed, but at present there are not many such grand double varieties as were raised by Mr. R. Gilbert and others. I shall enumerate a few of the best, namely, Marchioness of Exeter, Mrs. Heale, Mrs. A. F. Barron, White Lady, Miss Eva Fish, Emperor, Lord Beaconsfield, Peach Blossom, and others, all of which are of sterling merit.

The best and surest way to propagate the double forms is by removing all old and decaying foliage from the base of the plants in early spring, allowing the plants to stand for a few days till all decayed matter and bruises dry up. Then procure some light sandy soil, placing it round the stem and under the branches, making it moderately firm. Water the soil down with a rosed pot, to prevent its being washed away. Decaying leaves must be removed from time to time. Cleanliness is of paramount importance, for a little decayed matter will soon ruin the best and finest specimen. In about five or six weeks the plants can be carefully shaken out of the pots. It will then be found that most or all of the shoots or branches have a few roots, and these, if carefully detached and potted up according to their size, will soon commence to grow. When the operation has been accomplished, the plants had better be put in a propagating pit for a time, otherwise they are apt to flag or the leaves fall over the sides of the pot. When once in this condition it is difficult to get them right again. A little air will be required while in the propagating case to prevent decay, especially if the latter is in any way moist.

When the plants have commenced to grow, they must be inured to more light and air, and when the roots have reached the bottom of the pots they must at once be potted into a larger size, Soil recommended for the single varieties will be equally suitable for the doubles. The latter delight in a little more heat and moisture than their allies the singles. All other treatment is precisely identical with that already given. When well grown, for bouquet and other floral arrangements the double varieties are extremely well adapted.

* Extract from a paper by Mr. Joseph Lee, The Gardens, Highbury, Birmingham, read at a Meeting of the Chiswick Gardeners' Mutual Improvement Association, January 25th, 1889.

FLORICULTURE.

Dahlias.

How are Dahlia roots keeping this year? There seemed to be a general opinion in the autumn that owing to the wet character of the summer Dahlias were scarcely likely to keep well, and that rot would probably set in and do many of them some damage. The danger is of the roots becoming injured by damp. Those who are endeavouring to keep Dahlia roots should look over them frequently, and give them all the air possible. It is those who propagate Dahlias largely that have the most cause to be anxious about their roots, for if rot sets in (and it is too often seen just at the vital points—that is, where the young growths are likely to be put up when the roots are placed in heat) the chances of stock are small. Therefore, a sharp look-out should be kept for any appearance of moisture about the roots, that is, a tendency to rot—the affected parts should be cut away with a sharp knife, the severed portions dusted over with powdered charcoal and exposed to a dry warm atmosphere for a few days. The roots of some varieties always keep badly and they require to be more closely looked after. This defect can be easily detected by the tendency to become damp, while those around them may be perfectly dry.

The time for propagating Dahlias is at hand. Nurserymen who do it on a large scale commence early in the year, because it is necessary they should have a big stock—sometimes 250 or 300 plants of a variety, such as Constance, George Rawlings, Goldfinder, Imperial, J. B. Service, Mrs. Gladstone, Mrs. Harris, and some others that appear in every order. The task of obtaining so large a stock is a heavy one, and necessitates close attention to the work.

A lean-to house is generally employed for the purpose; a bed is made over a chamber along which runs some hot-water pipes, the roots, after undergoing a close examination, being placed upon the bed, and partly covered with soil. Very soon shoots are put forth from round the base of what was the stem the previous season, and when they are 3 ins. or 4 ins. long they are taken off, placed several in a pot, and plunged in a brisk bottom-heat—generally in a dung-frame. The first cuttings are generally soft and sappy, and these are rejected; those which follow are harder, and better adapted for cuttings, and the work commences in earnest. Care is necessary in taking off the cuttings. If they are severed too low down, the chance of obtaining others is greatly reduced. The early ones take three weeks or even more to root; but as the season advances, the days lengthen, and there is more solar heat and light, the process is much quicker.

Anyone who grows a few Dahlias only can soon obtain a fine stock from last year's roots by placing them in a Cucumber frame, or any place where there is a little bottom heat, and so obtain cuttings in the manner just stated. The cuttings can be put into pots of fine soil and plunged in the frame, when no difficulty will be experienced in getting them to root; but propagation in such a small way need not commence until March, when the days have lengthened and the quickening influences of the solar heat have been experienced. Potting off and gradual hardening are matters that do not cause a great deal of trouble; what has to be guarded against is having the rooted cuttings drawn, long, and lanky. The rule should be to have them dwarf and stocky, and then good and useful plants may be expected to result.—*R. D.*

Pentstemons.

It must be very gratifying to the lovers of this easily-grown and highly-decorative plant to hear that great strides have taken place in its improvement during the last few years, both in the form and texture of the flowers, and the compactness of the spikes. The Pentstemon is, however, a plant which still deserves more attention than it receives, and only those who have first-class sorts can appreciate their true value, either for competition, cutting, or massing for border decoration, where their fine bright colours and handsome spikes give a very effective appearance. Being easy of cultivation, of fine habit, and blooming abundantly from June to October, very few plants can rival them. Grand collections were shown at the International Exhibition held in Glasgow in September last, where the very finest varieties in commerce were brought together. The first prize for twelve spikes was won by a young amateur in Bridge of Weir (Mr. James Erskine, farmer, whose stock plants I secured), who gained a creditable victory over that never-before-beaten veteran Pentstemon grower, Mr. Gavin Greenshields, of Biggar.

Mr. Erskine, who has made the Pentstemon his hobby during the last six years, and has been very successful in competing at many shows about the country, has given me a list of what he considers the best twenty-four varieties, and which I here give for the benefit of your readers:—

A. Anderson	Mrs. Marshall
Alphonse Dandet	Mrs. Paul
Andrew Sinclair	Mrs. S. Walker
Captivation	Model
Claude Gellée	Monument
Emile Paladhilhe	Olivier Pain
Gil Blas	Osgood McKenzie
Henry Cannell	Onésime Reclus
James Porter	Sculpteur Clésinger
James Thomson	Tartarin
Mauve Queen	W. Reid
Mrs. Duncan	Wm. Storrie.

—*J. G. Paul, Bridge of Weir, N.B.*

Show Carnations Without Perfume.

In looking over Mr. E. S. Dodwell's list of "yellow grounds" for this year at p. 356, he there calls attention to some varieties of Malmaison habit and large size. How often has it been remarked to me, when showing these fine flowers, that they have no fragrance; and this suggests that while not neglecting the fine show varieties in their glowing colours but small size, should not our attention be drawn to the Malmaison variety, which not only has fragrance, but size? To get a race of this variety, with the charming colours of the show sorts, would be something to work for and look forward to. I find with my small experience that fragrance, size, bright colours and highly refined flowers are much esteemed.

As one of those who had not the pleasure of seeing the Kilmurry Seedlings and the new yellow grounds of our esteemed champion, Mr. E. S. Dodwell, I am looking forward with much interest to their flowering. Has any fellow-reader found it an easy matter to save seed from the Malmaison Carnation? To cross the show sorts with Malmaison, and so get large flowers with bright colours, combined with fragrance, should be our next work. It seems to myself and many others almost a disappointment to pluck a Rose or Carnation and find it wanting in perfume.—*Thomas Badcock*, 81, *London Road, St. Leonards.*

SEEDLING BEGONIAS v. TUBERS FOR BEDDING OUT.

Like "Somersetshire Rector" (p. 356), we annually bed out hundreds of Tuberous Begonias, indeed, they play no mean part in the summer display of a large flower garden, and we have amply proved that a very good display may be had from seedlings the first year, provided they are forced on at express speed in the early stages from the seed pan. So far, our experiences coincide; but that seedlings "should be considerably in advance of tubers in general merit," is contrary to our several years' experience and observation of their use and value as bedding plants. "Somersetshire Rector" may, however, be more favourably situated as regards position and soil, and if seedlings could be absolutely depended upon to give the same results in all places alike, and under all circumstances and conditions, then a point in favour of the use of seedlings the first year would be gained, and a saving of time and labour effected.

Unfortunately seedlings are not to be depended upon under all circumstances. We annually raise a few hundreds of seedlings, but have given up the practice of using them in our bedding arrangements the first year, and particularly for one reason among others, that they are not to be trusted to be of an uniform colour, and this is of some consideration when you want to plant beds of decided tints. No matter how careful you are to isolate your seed plants to prevent cross-fertilisation, what should be scarlets will give a large percentage of several shades from that colour down to a light salmon. So with the whites; a large percentage will be suffused with pink, a light pink, and some a sulphur colour. Again, a goodly number will be inferior to the type in size and substance of bloom, and not worth keeping. If you want erect blooms, a portion will be found with drooping flowers, &c. We have generally found that floriferousness, with size and substance of bloom, increases with the age of the tuber up to the third year, when it appears to have reached its maximum of perfection.

When we have used seedlings the first year in our bedding out we have mostly found that it required three times the number of plants to cover a given space than when one, two or three years' tubers are utilised, and that the latter gave by far the finest display, both in quantity and size of bloom. Those who are not particular about having the beds in mixed colours—and mixed colours are always beautiful—and provided they have the convenience for getting the plants forward, may depend upon having a fairly good display the first year from seedlings; but to those who want to plant beds of separate colours, and who have not the necessary heat for pushing the plants forward, I say do not depend on seedlings, for if you do, you are doomed to disappointment.

"Somersetshire Rector" gives excellent advice about pots not being needed for tuberous Begonias which are intended for bedding out. The plants do much better if pricked out into boxes, and then planted out in cold frames after being carefully hardened. The sooner artificial heat can be dispensed with the better the plants will prosper. A good time for sowing the seed to have tubers to plant out the following year, is the first week in March. This is the date we choose, and we use pans for the purpose. The pans are filled with crocks to one-third their depth, then filled up with one-third of leaf-soil, and over this a light covering of very fine sandy soil, the whole pressed down to a smooth surface; the pans are then watered through a fine rose, and the seed scattered thinly over the surface. A piece of brown paper is tied over the top of each pan, and the pans are placed in a frame on a gentle hot-bed. The brown paper is always kept moist, which helps to keep the soil in the pans in one uniform state of moisture. As soon as the seedlings appear, the paper is removed from the pans and a square of glass substituted.

Great care and watchfulness is needed at this stage of existence of the seedlings, as the least over-moisture will damp them, or over-dryness will shrivel them. Should the soil become dry on the surface the pans must be steeped in a pail, not watered on the surface, otherwise the very small plants would be washed out of the soil, or be the cause of their damping off. As soon as the seedlings can be handled we prick them out into boxes and return them to the frame, and when they have grown to a sufficient size they are carefully hardened and finally planted out, either in nursery beds in a warm and shaded position in the garden or into cold frames. In these positions they are encouraged to make all the growth possible, as regards attention, watering, &c. They begin to flower mostly in August, and before September is out we have carefully marked all that are worth keeping, and weeded out the worthless ones. By this method of trial and probation of the seedling plants, we are enabled not only to have good tubers, but to have them with the best-shaped flowers and sorted into the several separate and decided colours we require.

If you have a stock of tubers on hand, and sufficient for your requirements, there is no necessity to start them in artificial heat—indeed, they are better if they never feel it for bedding out. We start all ours in cold frames the first week in April, preparing a compost of light turfy loam and one-half of spent Mushroom bed well mixed. This compost is put in the frames to the depth of 3 ins., the tubers are then run out in rows on the top of it, and covered with a mixture of coco-nut fibre and leaf-soil. The lights are kept close till the tubers begin to spear through the light covering. Should cold weather occur, the frames are covered with mats to keep the cold out. By the middle of June the plants are ready to transfer to their summer quarters in the flower garden. Strong sturdy plants, with a regular mop of roots, scarcely ever feel this shift. The beds cannot be made too rich for Begonias. We find no better rooting medium for them than spent Mushroom bed, and we use it unsparingly. An excellent mulch for them after they are planted is the coco-nut fibre, as recommended by "Somersetshire Rector."—*J. Kipling, Knebworth Gardens.*

CHRYSANTHEMUM NOTES.

Classes for Small-flowered Varieties.

When I made the suggestion in a contemporary that a special class should be provided for the "Rundles," as alluded to by "Southdown" at p. 352, it was in consequence of remarks made by persons whom I knew were anxious that this type of the incurved section should not be wholly discarded now that the rage for big blooms is on the increase. I was at that time trying to find a lasting home for varieties which I should not be wrong in saying all Chrysanthemum lovers admire. But there is no reason why the list of varieties should not be extended, if desired, as far as practicable. If the framers of schedules in arranging for a class of this kind were to stipulate exactly what varieties should be

shown, they would run some risk of having only a limited competition, because it is difficult to make sure of a certain number of blooms of some of the varieties now seldom seen. I have known seasons when several plants of some of these varieties, Isabella Bott for instance, were cultivated, and not a single presentable bloom was obtained, so that the number of stipulated varieties must be large enough to allow of a good margin.

Another objection to adding many varieties to the list is that they are most difficult to arrange in the manner I suggested, as compared with the Mrs. G. Rundle family. In some cases the blooms are broad and shallow, as for instance Lord Derby and Mr. Cullingford; these could not be arranged so neatly as narrower deeper flowers. Take Eve again—the stems and peduncles of this sort are so stiff that a difficulty would be experienced in their arrangement, but not so much as to be insurmountable. I should say more uniformity would be obtained in the arrangement of the "Rundle" class alone than would be where the number and character of the varieties were more varied.

The consideration of the details of arrangement is more for the interest of each particular society, as whichever way is adopted it is purely a matter of personal taste. One point, however, should not be lost sight of, and it is this:—The more simple the class the more likelihood will there be of their obtaining the greater number of entries, and this is or should be the aim of all societies if they want to make a show.

To oblige "Southdown," I will add a few names of varieties to those already mentioned which might be classed together, leaving societies to choose for themselves what part of this number shall be selected for this new departure in class-making. I have already pointed out the objections to such an extended class as I originally suggested, so that committees of societies may have an opportunity of bearing these observations in mind with a view to remedying such objections as those pointed out. The following are the varieties I would add to the list already given by myself and "Southdown":—Miss Hope, Angelina, Lady Slade, Mrs. Cobay, Le Grand, Lady Talfourd, Enamel, Cassandra, Blonde Beauty, Aureum multiflorum, Aimée Ferrière, Duchess of Manchester, Formosum album, and Formosum luteum.—*E. Molyneux.*

RHODODENDRON BALSAMINÆFLORUM ALBUM.

The flowers of this variety are the largest of all the five seedlings which, it is well known, originated from one capsule of seed in the nursery of Messrs. J. Veitch & Sons, Chelsea. The "hit" was effected by Mr. John Heal, the foreman of that department, who observed the stamens of a certain flower exhibiting a tendency to become petaloid. The plant was an unnamed seedling, and all the flowers were cut from the truss with the exception of that exhibiting the above-mentioned peculiarity. This flower was fertilised with its own pollen, with the result that five seedlings have already been flowered from the batch raised, exhibiting yellow, flesh, rose, orange and white flowers respectively, all of which are double. The white variety is that under notice, and has flowers comparable to those of a Gardenia; they are perfectly double to the very centre, while all the outer segments are closely imbricated, or overlapping one another as seen in a Gardenia. The five varieties constitute a very distinct group amongst greenhouse Rhododendrons, which have been raised chiefly from R. javanicum and R. jasminiflorum. The pity is that the flowers are so double as to destroy the organs of reproduction, thus preventing further crosses from being effected. The different sets of segments are produced one within the other almost to the base of the tube of the outer one, rendering the whole very compact and lasting, either on the plant or in the cut state. The individual blooms are very suitable for button-hole bouquets. We are indebted to Messrs. J. Veitch & Sons for the opportunity of figuring it.

Rhododendron balsaminæflorum album.

ROYAL HORTICULTURAL SOCIETY.

We take the following extracts from the report of the Council, for the year 1888, to be presented at the annual meeting on Tuesday next:—

Finance.—The society commenced the year with a debt of £1,152, which has happily all been discharged, chiefly by means of donations received. Expenses amounting to £99 16*s.*, incurred in the removal of the offices and of the Lindley Library, have also been paid, and a balance of £365 16*s.* 6*d.* is now lodged in the bank to the credit of the Donation Fund.* The statement of receipts show a considerable increase as compared with the year 1887 in the amount received from annual subscriptions, and for produce sold from the Chiswick Gardens—the total sum received in 1888 being £4,372 16*s.* 3*d.*, as against £2,894 4*s.* 10*d.* in 1887. The Council have, therefore, every confidence that the society has now surmounted its financial difficulties, and, with a regular increase in the number of Fellows joining the society, there is little doubt but that it has a long and honourable career of usefulness before it. During the year 1888, 657 annual Fellows have been elected, representing an income of £924 4*s.* On the other hand, eighty-one Fellows resigned and forty-eight died, representing a loss of £242 11*s.*; the net increase of Fellows thus being 528, representing a net increase of income of £685 15*s.* The total number of Fellows on the society's books on the 1st of January, 1889, consisted of 556 life Fellows, 1,080 annual Fellows, and six Associates.

Financial Prospects.—The prospects of the coming year may be briefly summarised thus:—The income, on the basis of the experience of the past year, is expected to be not less that £3,000; while the expenditure, involving no new or extraordinary services, is expected to reach £2,950. It is proposed to devote any increase in income which may arise specially to improving the Chiswick Gardens, and to reviving the publication of the Society's Proceedings and Journal, which will contain information having a direct bearing upon the science and practice of horticulture.

Temple Show.—The Council think they may fairly congratulate the Fellows on the magnificent show held on the 17th and 18th of May, by the kind permission of the treasurer and benchers in the gardens of the Inner Temple—a show by which, amongst other things, attention was drawn to the excellent work being done for horticulture by the market growers of the London district. The Council beg to record their grateful thanks to the treasurer and benchers for again allowing the use of their garden, and express a hope that the show this year (1889) may be as great a pecuniary success as it undoubtedly was last year horti-

* Towards the expenses of moving the Lindley Library the Trustees contributed the sum of £20.

culturally. Success largely depends on the weather, and this last year was the only unpropitious element with which the show had to contend.

Apple and Pear Conference.—The conference on Apples and Pears, held at Chiswick from October 16th to 20th, attracted a great deal of attention, and will prove very helpful to intending planters. The display of fruit was, considering the season, magnificent; and the hearty thanks of the Council are due to all who so kindly contributed to it, as to all the readers of papers, which, with the discussions that followed, excited very great interest. The Council are glad to find that the report of the conference, which is being prepared by the superintendent and the honorary secretary, and which is now almost ready for press, is being inquired for from all parts of the world. The apparent delay in its publication is due to two causes: the enormous amount of statistical work it involves, and the great pressure of work which has lately been thrown on Mr. Barron.

Bi-monthly Meetings.—The exhibition of plants, flowers, fruits and vegetables at the bi-monthly meetings has been, taken as a whole, all that could be desired; but the Council are sorry to have observed that on some occasions the attendance of Fellows has fallen short of their expectations. This is partly, no doubt, attributable to the change of locality, the ease with which the Drill Hall can be reached from all parts being not yet sufficiently known. Fellows, however, can have little idea of the loss they sustain by not attending these meetings, where the newest plants and the greatest improvements in culture are from time to time to be seen.

Afternoon Lectures, &c.—With a view to popularise the bi-monthly meetings, the Council have determined to revive the once so popular three o'clock afternoon meetings, with a short lecture and discussion at each on some of the plants, &c., exhibited. The Council invite the co-operation of all Fellows and lovers of gardens to help make these gatherings instructive, useful and pleasant.

Proceedings and Journal.—The Council have also decided to revive the publication of a periodical Journal and Report of the society's proceedings, meetings, and work. This, it is hoped, will convey useful and interesting information to Fellows living at a distance, and to others who from any cause may be debarred from attending the meetings, or studying the work going on always at Chiswick.

Chiswick Gardens.—Last, but not least, the Council have resolved, to the utmost extent of their means, to revive the gardens at Chiswick, which have fallen into an unsatisfactory state, owing chiefly to the hitherto unavoidable expenditure at South Kensington; and they are glad to report that the work at Chiswick already shows healthy signs of revival, owing to the unremitting attention bestowed by the Garden Committee, consisting of Colonel Beddome, Dr. Hogg, Mr. George Paul, Mr. Shirley Hibberd, and Mr. Herbst, with the treasurer and secretary, whose exertions have been loyally seconded by the superintendent. All available funds have been bestowed on the repair of the glass-houses, and on the general work.

Committees.—The several committees—the Scientific, the Fruit and Vegetable, and the Floral—have been unremitting in their exertions during the year, and the thanks of the society are due to all who have so kindly devoted their time and ability to them. But whilst the work of the individual members has been beyond praise, the Council have felt that the organisation of the committees themselves called for some re-adjustment. They have therefore determined that in future the members of all the standing committees shall be chosen out of the general body of Fellows, and that the Fruit and Vegetable, and the Floral Committees shall each consist of about forty members, half of whom shall be drawn, as far as possible, from the London district, and half from the country at large.

Awards made by the Committees.—It is also thought very desirable to give greater value to the First Class Certificate of the society, and, with this object in view, the Council have constituted another order of commendation, to be called "The Award of Merit," in the hope that the committees will be able by its use to discriminate between what is really a first-class introduction or novelty, and what is simply a meritorious advance on or variation of some well-known and established plant. To enable the Council to judge of the relative value of the several recommendations of the respective committees, and to assist them in their deliberations as to the expediency or otherwise of confirming these recommendations, a list will be in future prepared and laid before them of the number of members of the committee present on each occasion, and of the number voting for or against each proposed recommendation. These numbers will be printed in the society's journal, and will be of the utmost assistance to Fellows in estimating the general opinion of the committees on the subjects under discussion.

Auditors.—The Council cannot close their report without expressing their deep regret at the cause which compels Mr. John Lee to retire from the auditorship of the society, which office he has so long and so conscientiously filled. The society, in common with all horticulturists, owes a deep debt of gratitude to Mr. Lee, and will anxiously look for his restoration to health.

The Amateurs' Garden.

Beautiful Foliage Plants.

There are several species of Funkia, commonly called the Plantain Lily, the foliage of which is so distinct as to merit cultivation in several ways. Whether in the border, the rock garden, or sub-tropical garden, the handsome leaves of F. Sieboldiana, F. grandiflora, and F. subcordata are equally beautiful and admired by those who have seen them. There are also several smaller species, but all are admirably adapted for pot culture and for forcing. The larger kinds might be utilised by those who have plenty of accommodation, using pieces proportionate to the needs of the house. The heart-shaped leaves of F. Sieboldiana are of a decided glaucous hue, and attain a larger size than any. Those of F. Fortunei are much deeper in the tint, and the plant is smaller in all its parts, being therefore more suitable for those who have small houses to fill; but it is rather stiff and slow in growth.

For a small house, the neatest and dwarfest is F. lancifolia undulata, which has lance-shaped leaves about 6 ins. long, beautifully undulated, as the name implies, and attractively splashed with creamy white. As might naturally be expected, the leaves are brightest when they first expand, and form a conspicuous ornament in the herbaceous border or on the rockery for many weeks. The plant is equally amenable for forcing, and is often employed for that purpose even in the market nurseries. When urged into leaf in this way, the plants prove very effective when dotted about in mixed collections of greenhouse subjects. Those who desire something in the way of beautiful foliage at this season would do well to try this Funkia. There is another variety of it with a white margin to the foliage—namely, F. l. albomarginata. A more common kind is F. ovata, with ovate, deep green, strongly-ribbed leaves. They may also be successfully flowered in pots later on. With the exception of F. subcordata and F. grandiflora, which have pure white blooms, the latter being deliciously scented, the others have blush-purple flowers.

Day Lilies for Forcing.

The species of Hemerocallis have yellow Lily-like flowers in some shade or other, and several of them are successfully cultivated in pots, either for their foliage or flowers, according to the kind. H. flava, the common yellow one, and H. Dumortieri, as well as several others, are well adapted for forcing on account of their large and showy flowers. The first-named has clear yellow blooms, produced on stems about 1½ ft. in height, and grass-green foliage. Like those of its near relation, Funkia grandiflora, the flowers are deliciously scented—a great recommendation for a plant at this season of the year. The flowers of H. Dumortieri are orange-yellow, heavily stained with brown externally; but in most other respects the plant is closely similar to H. flava. In this group H. Middendorfii might also be placed, having from three to four golden yellow blooms terminating the flower-stem. Smaller in every way is H. minor, with grass-like foliage and yellow flowers. It is admirably adapted for rockwork, but is less desirable for early purposes where H. flava is grown. The largest and one of the commonest species in gardens is H. fulva, with large and showy fulvous or bronzy yellow flowers. A variety of this, with double flowers, is being circulated in gardens under the name of H. Kwanso. For pot culture a more effective and desirable kind is the variegated-leaved variety, named H. f. variegata, with ample Pandanus-like foliage, beautifully variegated, and very effective for a long time after development if kept clean.

The Double Snowdrop.

This is a double form of the common Snowdrop (Galanthus nivalis), and is the result of the great multiplication of the three short inner segments with their characteristic green blotch below the apical notch. It increases very rapidly by means of offsets from the bulbs, and is consequently now very widely disseminated. It proves very convenient for market-garden purposes from the fact that the double flowers are more compact and solid than the single ones, and consequently carry to market better without being crushed when piled up in heaps. The numerous small segments in the interior keep the outer ones distended; but those who have seen both the single and double kinds growing in proximity cannot but admire the chaste and graceful appearance of the single and typical form, as compared with the compact, lumpy and ungainly appearance of the other. Private growers may well add the double kind to their collections for the sake of variety; but there are now numerous single varieties belonging to this species that well deserve attention, and are now rapidly making their appearance above ground.

The Glory of the Snow.

The name here given is very happily and appropriately applied to Chionodoxa Luciliæ, one of the loveliest of early spring flowers. The name Chionodoxa was first given to the plant in its native habitat, or the idea was borrowed from there, because the bulbs were found growing on mountainous places, from which the winter's snow was just melting, and the flower-buds, being already formed the autumn previous, soon burst into bloom as the snow melted and the ground thawed. They are never seen to better advantage than in this condition, because the foliage and flower-stems are short, the latter being in a close compact truss. They are of a lively deep sky-blue, with a large white eye, and being erect, they show the latter off to greater advantage. Some growers prefer C. sardensis, on account of the almost uniform intense blue of the flowers; but the latter are smaller than those of C. Luciliæ, and less attractive. The flower-spikes are now pushing through the soil, and will soon be very gay.

Iris reticulata.

Amongst the early-flowering Irises the subject under notice will always be a favourite, on account of its earliness, beauty, and dwarf habit. The flowers are deliciously scented, and flower freely when potted up with other bulbs and afterwards introduced to the greenhouse or other warm place when they have commenced to grow. By putting the pots containing them into a forcing pit, or where a moderately high temperature is maintained, the flowers will come much earlier, and at a time when they are appreciated.

Gardening Miscellany.

Greenhouse Plants in the Open Air.

Among the many greenhouse and half-hardy plants thriving in the open air at Parkstone, Dorset, there are several fine specimens of the Shanghai Fan Palm, Chamærops excelsa, two of the best being in the garden at The Lodge, occupied by Lord Nelson. They were planted on the lawn some fifteen years ago, and are now at least 10 ft. high and feathered to the ground with splendid foliage. In this same garden, which seems to be a favoured spot, I also saw a fine bush of Acacia lophantha, which the gardener told me was cut down six or seven years ago, and which now forms a bush 10 ft. high and 20 ft. in circumference. The New Zealand Flax, Phormium tenax, also grows out here all the year round, and by its side is a plant of Dracæna australis, 20 ft. high. Both of these have withstood the climate of our Mentone of England for twenty years. Daphne indica alba, a variegated form, represented by a plant 4 ft. high, looked far more happy than many an one I have seen in a pot. Rhodendrons are flowering in many places, and one I saw much resembled Charles Dickens, a bright scarlet. It had several trusses nicely open. This is in Mr. Ingram's nursery, and by its side was another specimen of the Chamærops excelsa, not, however, in such robust health as the first named, the plant being in an exposed situation quite in the open. Mr. Ingram told me that it had flowered early for several years past.—*E. Warden.*

Euadenia eminens.

The flowers of this plant are a great curiosity independently of any ornamental value that may be attached to them. The plant belongs to the Caper family, in which we have many curious or beautiful plants, although not very numerously represented in gardens. The flowers are often very irregular, and this is pre-eminently the case with Euadenia. The

sepals and petals are four each, the latter being very unequal in size. The upper two are lance-shaped, with long stalks, stand erect, and are creamy yellow, while the two on the lower side of the flower are very small and inconspicuous, but of the same colour. The long-stalked ovary is simply in keeping with other members of the same family. The great size of the upper petals and their prominent position we can correlate with the attraction for insects, but we should at the same time have expected brighter colouring in association with such a wonderful development of the flower. The latter are produced in close or crowded terminal racemes surmounting the foliage. The leaves are deep green and compound, bearing three leaflets; and altogether the plant has a very uncommon appearance. It may be seen in the stove at Kew. It is a shrub or small tree, a native of tropical Africa, and was introduced from the region known as Liberia.

Aphelandra aurantiaca.

Where stove plants are grown this should certainly be included on account of the brilliancy of its scarlet flowers, no less than for the silvery veined evergreen foliage. It requires to be struck annually from cuttings to appear in its best form. Like those of a great many others belonging to the same family the lower leaves are liable to drop early, especially if the plants are checked by cold or drought. When annually propagated, however, the plants present a dwarf and stocky appearance, surmounted by a square spike of bracts from which the flowers gradually emerge, forming a long succession.

The York Gala Schedule.

The committee have already fixed the date of the next exhibition in June, and have issued the schedule of prizes, which are as liberal as usual. For stove, greenhouse and other plants, £220; for Orchids, £47 15*s.*, including special prizes of £5 5*s.* from Messrs. Backhouse & Son; for Pelargoniums only, £101; Roses in pots, £45 15*s.*; cut Roses, close upon £60; other cut flowers, £38 10*s.*; fruits, &c., £68 10*s.*; with other extra prizes offered, making a total of close upon £600. Pansies and Violas are again invited, and it is to be hoped that better arrangements will be made for their being judged by experienced growers this year. Last year the work was unfortunately handed over to those who knew little or nothing about Pansies, and the consequence was that thorough dissatisfaction amongst the exhibitors prevailed, the mistakes being so apparent to Pansy growers. This flower is now extremely popular, and there are several hundred varieties at the present time in cultivation, therefore judges ought not only to know something of many of these varieties, but to be thoroughly well up also in the qualities required in Pansies, and to know the difference between show, fancy and bedding kinds. Violas, again, are becoming a trouble even to Pansy judges, the question being so often asked, "Where do Violas end, and bedding Pansies begin?" It is a ticklish matter to decide, but in judging stands of Violas, when they are stated in the schedule to be Violas, a stand containing the most distinct Violas only gains a great point. Bedding Pansies are often exhibited as Violas, but there are also what may be termed "hybrids," which have a great deal of the Pansy breed in them in size, form and habit, but would not be available for exhibition amongst show Pansies. It becomes a question whether schedules had better not state "Violas and Bedding Pansies" to avoid confusion in judging.—*A Northern Grower.*

Dwarf Poinsettias.

In reply to your correspondent, "Pathfinder" (p. 342), who was "somewhat taken aback" on reading my remarks at p. 326 on the late potting of Poinsettias, I may be allowed to assure him that with me the plants retain their foliage better than was sometimes the case when earlier potting was resorted to, and in practice I find that potting them on at the time stated is beneficial to the production of good bracts, provided the plants have had time to make firm short-jointed growth, which will be the case if treated as I advised. Instead of the plants resenting root disturbance through being shifted into larger pots when about to form their bracts, it is just at this time when they seem to require a little extra help, and in my experience they prefer having it from fresh soil to being fed with stimulants in the ordinary way. I have an idea that "Pathfinder" is practising a system of late potting with his August-struck plants, and if he has any convenience for the purpose no doubt he is able to obtain excellent results. Last year I put in a batch of cuttings at the end of April, a second lot in May, and a third batch in June, the best bracts being obtained from the first lot. Possibly the sunless season had something to do with this, the wood of these being firmer than those struck at a later date. In 1887, I find that I propagated in May and June, and never had a more satisfactory lot. I am pleased that "Pathfinder" has given me the opportunity of stating this, as in an ordinary season, April may be found full early. During several years' experience I have sometimes propagated as late as the end of July, and although I have had them very good when grown on in more heat, consequent on the later striking, I prefer to give a little more time with cooler treatment, and have never had them so satisfactory as the last three seasons when grown on the plan described at p. 326.—*S. P., Chelmsford.*

Cyclamen Atkinsi.

Hardy Cyclamen—or Sowbread, as they are sometimes called—are a very interesting group of plants, and in the above subject we have a much-improved variety of C. ibericum. Both the white and rose-coloured forms of C. Atkinsi are choice and charming winter or early spring-flowering gems of great utility. The amateur in search of something good for the ornamentation of his hardy plant structure at this season of the year will assuredly secure these two fine Alpine subjects, if he be fortunate enough to come across them in a satisfactory and floriferous condition. To the lover of this class of plant the Cyclamen is a necessity, as although it will not bear comparison for size of bloom with its more delicate congener, the Persian Cyclamen of our warm greenhouses, yet under good cultivation it forms fine specimens, and its pretty little shuttlecock-like blossoms are yielded in great profusion. A small corm of C. A. roseum in a 4-in. pot is now, with me, a pretty picture. It has a number of circular leaves of a marbled description, and these are surmounted by a dozen flowers of the brightest rose, the whole plant not exceeding 3 ins. in height. At this early period of the year, it quite acts as an illuminator to the other subjects in proximity to it. Culture consists in simply providing a light compost of vegetable soil, a semi-shady position, and efficient means for the escape of surplus moisture. —*C. B. G., Acton, W.*

New Seedling Fuchsia.

A specimen of what appears to be a very pretty little variety of Fuchsia has been sent us by Mr. W. B. Glasscock, Shirley Park, Croydon. Its precise value cannot be determined merely from flowers, because the habit of the plant, its floriferousness, and other characters have to be taken into consideration. The tube and sepals are white, and the roundish petals are of a delicate and beautiful shade of soft, rosy pink. A curiosity occurs in the stamens being flattened out, white, and petaloid. The case affords a good instance of how double flowers may be produced or developed from single ones. The style is greatly exserted, and white with a large club-like, deep purple stigma. The whole presents a beautiful and pleasing combination of colours.

Mushroom on a Mushroom.

Those who know the peculiar and minute structure of a Mushroom have reason to wonder how it can grow into the characteristic shape in which we know it, seeing that it is made up of an intricate mass of threads that really do not constitute a true tissue, as we know to be the case in more commonly cultivated and, to wit, green plants. We, however, noticed a curious specimen a short time ago in the Mushroom house at Devonhurst, Chiswick. From the top of an ordinary Mushroom another specimen originated, and being reversed, the stalk was projected upwards perpendicularly from the parent giving rise to this singular freak. Although instances of the same thing have occurred before, they are by no means frequent. The supernumerary specimen was very much smaller than that from which it originated, but being in close union with the latter it was no doubt entirely nourished by it. A specimen originating in this way would appear more singular if it had been attached by its stalk to the parent; but there seems no reason why such should not happen, and it would, indeed, appear the more natural way.

Boussingaultia baselloides.

Autumn is the season when this plant is in its best form, when the ends of the shoots give rise to long, slender racemes of fragrant white flowers. It is, however, interesting at this season owing to the numerous tubers that cluster in the axils of the leaves on any part of the stem. The tubers, like those of the Potato, are nothing more or less than branches which have become arrested, and have become thick and fleshy instead of elongating. They also give off branches, and curiously enough, some of these afterwards elongate, forming long slender shoots with a greatly thickened base. By this means the plant can readily be propagated to any extent. In order to flower the plant well, it should be kept rather dry after having made its growth, to ripen the wood. There is a large plant of it in a pot in the nursery of Messrs. J. Carter & Co., Forest Hill.

Triteleia uniflora.

An exceedingly chaste early spring-flowering bulbous plant, with grassy foliage, much decumbent, and pale lavender-lilac flowers of great beauty, T. uniflora, or the spring Star Flower, merits a few words of praise. Although a native of Buenos Ayres it is yet sufficiently hardy in our climate, with a little protection, to constitute a valuable pot subject for the decoration of the hardy plant-house. As the specific name implies, the flowers are produced singly on stems that average about 2½ ins. long, the blooms themselves being about 1 in. in diameter; these following a perfect ternary arrangement has given rise to the generic term Triteleia. A peculiarity of the blooms of this species is that they are only capable of full expansion under the influence of strong light, although, even where dull weather prevails and they are only partially open, this circumstance does not seriously detract from their intrinsic grace. The term "uniflora" must not be taken as implying a paucity of blooms, for although these are only given off singly, they are yielded very freely; a potful of little bulbs, therefore, is capable of producing a profusion of floral beauty. Rich well-drained soil is required to aid the full development of this unique little Alpine gem. Several pots are now in good condition in the Alpine house at Kew, their bright starry blossoms forming quite a feature in that interesting hardy plant structure.—*C. B. G., Acton, W.*

ORCHID NOTES AND GLEANINGS.

Twin-flowered Cypripedium Harrisianum.

With reference to your reply to "A. C.," at p. 362, I may say that we have a plant here—not a large one—which this season bore five scapes, two of which had twin flowers—*i.e.*, two blooms on the scape. Though I have grown plants of C. Harrisianum for the past ten years, this was the first instance in which two-flowered scapes appeared with me; but as the phenomenon occurs in several other Cypripediums—notably C. insigne, when in vigorous health—it was attributed, in our case, to the same cause. Had I thought the occurrence was rare in the plant in question, I would have sent you the scapes.—*James Whitton, The Gardens, Glamis Castle, Forfar, N.B.*

Dendrobium aureum.

The applicability of names, even botanical, is often very obscure; and a good instance of it may be found in the Dendrobe under notice. The colour of the flowers exhibits little approaching a golden yellow; nor do the fruits, which are now well known in this country, exhibit any variety of form which would warrant the application of Wallich's name, D. heterocarpum, which is more familiar to Orchid growers generally than Lindley's name, D. aureum. The species is remarkable amongst Dendrobes for the wide distribution it enjoys in south-eastern Asia and the neighbouring islands. Several varieties are sufficiently distinct to merit distinctive names—a fact which is not surprising. They may be looked upon as geographical forms, and the wonder is that they should have remained so nearly constant, notwithstanding the time it must have taken them to diverge to their respective homes, generally far distant from their original habitats and from the common ancestral stock. The sepals and petals of the type are creamy or amber-yellow, while the lip is a shade darker, streaked with reddish purple on the side lobes, and having a velvety disk, the hairs of which furnish the dark buff-yellow colour of that organ. To the variation in the colour of these hairs the respective tints of the lip in different varieties is due, and we noted a form the other day at Devonhurst, Chiswick, where the hairs were of a coppery red. The fragrance of this species in a house cannot be ignored, as it resembles that of Primroses several times concentrated. The odour is also powerfully emitted at night, even after the flowers have been removed from the plants for several days.

Cœlogyne Massangeana.

When a visitor is walking through the houses of any enthusiastic Orchid grower who possesses this plant, the latter seldom fails to point to it with pride and satisfaction, especially if he happens to have a large plant of it in a basket slung up to the roof. The individual flowers are neither very large nor particularly showy, but when seen in long pendulous racemes, one cannot help being charmed with them. The sepals and petals are ochre-yellow, while the lip is of a maroon-brown with yellow veins, and is furnished with three keels or plates extending along its whole length. The flower-spike is produced from the base of the pseudo-bulb, and when grown in a basket so that nothing interferes with it, hangs down almost perpendicularly for a length of 18 ins. or 24 ins., bearing from twenty to twenty-four or more flowers. The leaves are very large and evergreen, while the plant is vigorous, and blooms twice a year.

Dendrobium Devonianum.

A small piece of this is decidedly an ornament to any collection; but a specimen like that which flowered with R. B. White, Esq., Arddarroch, in 1887, and of which we have just received a photograph, must have been simply grand. The specimen formed a compact mass, bearing over 850 blooms. Those who know the fascinating beauty of this species can hardly picture such a wonderful piece of floral splendour. There are several species of Dendrobium exhibiting the same or a greater amount of fringing so characteristic of this species, but the chaste and charming blending of colour seen here is absent from the others. The ground-colour of the lip is white, with a large golden yellow blotch on each side at the base, and purple at the tip, while the margin is deeply cut into delicate branched fringes. The sepals and petals are white tipped with purple, and varieties occasionally appear with the nerves tinted with purple. The photograph of the specimen in question shows the stems to be nearly covered throughout their length with bloom.

Miltonia spectabilis.

The dwarf habit and large flowers of this species are a great recommendation to it, although it cannot compare with the variety M. s. Moreliana, generally regarded as a distinct species in gardens. The sepals and petals are spreading, white, and more or less marked with purple at the base. The lip is obovate, wedge-shaped, of a soft rose colour with darker veins, and a dark purple blotch at the base. It has the flattened flowers of the M. vexillaria type, but differs in several respects in minor detail. It flowers at different seasons of the year, according to conditions and cultural treatment. A figure of the type is given in a recent number of the *Revue de l'Horticulture Belge.*

Saccolabium bellinum.

Amongst the smaller-flowered occupants of the East Indian house few can excel the quiet beauty of this species. Compared with other kinds of Saccolabium the flowers are not particularly small, but they are few in number, and arranged in corymbs at the end of short peduncles. The plant is small, with rigid, curved and keeled leaves arranged in two ranks, and unequally lobed at the apex, like those of other species. The flowers are, however, extremely beautiful. The sepals and petals are richly spotted or blotched with blackish purple on a yellow ground colour. The lip is the most curious and beautiful organ of the flower, and is excavated at the base into a deep and round well-like cavity, quite unlike that of the larger and more commonly cultivated species. The whole of the lip is white, the sack being spotted with purple; the limb is covered with fleshy, white hairs, and spotted with purple on a small yellow disk at its base. The hairs give it a shaggy appearance, and render it very distinct as a species. It must be grown in a basket and hung up near the glass, to get the best results. It is a native of Burmah, from whence it was introduced as recently as 1884, and has already found its way into a good many collections. A plant is now flowering at Kew.

Dendrobium crassinode Barberianum.

Beautiful as is the typical form of this species, the variety offers a considerable improvement. The sepals and petals are white, tipped with pale purple, while in the variety under notice the blotches are much larger, and of a deeper mauve-purple colour. The lip is large and conspicuous, the lower and bigger half being of a deep golden yellow, surrounded by a white band, and tipped with purple like the other segments. The flowers differ from those of D. Wardianum in the absence of the two characteristic brownish black blotches of the latter, and the stems have large knotty joints.

The Gardeners' Calendar.

THE STOVE.

Palms and Cycads.—Such re-potting as is necessary must be done before the season becomes too far advanced. Work of other kinds, both indoors and out, will then press so hard upon the gardener's attention that subjects of the kind mentioned get neglected. Another reason for doing this work now is that the roots should be left undisturbed when fresh growth commences. In the case of Cycads especially, a large bud is in the process of development during the winter, and when the temperature rises the bud bursts and a large crown of leaves is rapidly formed, taxing the resources of the root and other parts of the plant to supply the large amount of necessary food, so that potting should not be done at that time. When potting large specimens use a blunt-pointed piece of wood with which to press the new soil firmly down between the pot and the old ball containing the roots, otherwise, when water is applied, it will all run away through the new material.

Seed Sowing. — In establishments where fine-foliaged subjects are grown for sub-tropical bedding, many of the kinds should now be sown, with the view of getting them well established before bedding-out time comes round. Large-leaved subjects are valuable when planted in the open air in proportion to the size they attain, so that no opportunity should be lost of sowing such things as Wigandias, Eucalyptus globulus, Ricinus in various forms, but especially the highly-coloured R. Gibsoni and R. sanguineus. There are several forms of Solanums much valued for their foliage in the subtropical garden, and in such cases it may be necessary to sow seeds as in the case of S. sisymbriifolium and S. aviculare, better known under the name of S. laciniatum. Other kinds, such as S. marginatum and S. robustum, are generally propagated from cuttings.

THE GREENHOUSE.

Chinese Primulas.—Where it is intended to save seeds of these, a batch of the very best should be selected about this time or when the plants are in full bloom. This will depend on the time the plants were sown, but in most cases the main batch is now in perfection. They should all be carefully crossed with the camel-hair brush, the intelligent operator working in such a way as to obtain certain desired results with regard to the vigour of the plants as a whole, the size and intensity or delicacy in colouring of the flower. The best plan of procedure is to select for seed-bearing plants those that present good habit, vigour, constitutional and other qualities, and to put colour into the flowers by using pollen from a plant possessing the desired hue. Almost any colour can be infused into any one strain in this way, and when next year's seedlings germinate and afterwards come into flower, again select the best of any particular variety from which to save seed. In this way can the strains be fixed and perfected. In establishments where but a limited quantity is required, the plants may be placed on a shelf or similar place out of the way where the flowers will be kept moderately dry and airy. After the blooms have given place to young seed pods, assist the plants with liquid manure.

THE FORCING HOUSES.

Vineries.—As soon as the bunches have been thinned in the earliest house, if the Vines are planted out, give the whole border a thorough soaking with water heated to a temperature of 80° to 85°, and in which a good proportion of liquid manure has been used before applying it. When tying in the shoots with their laterals be careful to have the trellis or wirework well covered with foliage, but not crowded, as it is a great disadvantage to the Vines at all times, more especially so in the winter, when light is deficient. One leaf will be quite sufficient to leave on the laterals, and should space be deficient for their proper accommodation, then the shoot should be entirely removed. Damp down the paths and borders several times a day, and in keeping the evaporating pans well filled use liquid manure freely. A night temperature of 65° should be given, with a rise by day, ventilating as the thermometer rises, and closing the house again early in the afternoon. Later houses should have the temperature increased as the shoots lengthen, until it reaches a minimum of 65° at night. Tie or loop down the shoots before they touch the glass.

THE KITCHEN GARDEN.

Fruit Trees.—The open weather has greatly facilitated the planting of all kinds of fruit trees, and that operation should now be all but accomplished where such work has been carried on without neglect. It is unadvisable to nail newly planted fruit trees on walls, or to tie those trained as espaliers; but in the case of those that have been planted for a couple of months or so, the soil will now have sufficiently subsided, carrying the tree-roots with them, so that the trees may be tied or nailed without fear of further sinking.

AN ORCHID SWINDLE.

A warrant was granted last week, at Birmingham, for the arrest of an ingenious swindler, one of whose professional names is Ritchie, on a charge of forging and uttering on a bank at Birmingham a bill of exchange on an American bank for 250 dollars. On the 13th December last a man about forty years of age, of a dark complexion, with black hair, heavy dark moustache, and with the general air of a cultured and travelled man, and speaking with a strong American accent, called at Highbury, Birmingham, the residence of the Rt. Hon. J. Chamberlain, M.P. Finding Mr. Chamberlain's eldest son at home, he introduced himself to that gentleman as Mr. Ritchie, and produced what purported to be a letter of introduction from Mr. Erasmus Wiman, a gentleman of high position in the United States, whose acquaintance Mr. Chamberlain had made during his first and official visit to the States. The letter stated that the bearer of it, Mr. Ritchie, was this writer's nephew, and set forth that his visit to Highbury was for the purpose of presenting specimens of rare American Orchids for addition to Mr. Chamberlain's already noted collection. Mr. Ritchie's description of the Orchids which his uncle desired to present was very circumstantial, and he requested Mr. Austen Chamberlain to send one of his gardeners over to Liverpool to receive them on their arrival, at a date a little distant, by a steamship the name of which he gave. Mr. Austen Chamberlain, having perused the letter of introduction, was satisfied as to the credentials of his visitor, whom he welcomed, and readily acceded to his request that he might be shown the collection which his uncle's contributions were shortly to extend. He displayed a keen and intelligent interest in the contents of the Orchid houses, and when the visit was about to terminate he affected to have suddenly discovered that he had lost his purse, and that his dismay at the loss was the greater because he proposed that evening changing his hotel in Birmingham, and that as it was past banking hours he would be unable to cash a banker's draft which he had in his possession. He asked if Mr. Chamberlain would relieve him of his difficulty by a small loan, to be repaid the following day, and Mr. Austin, who appears to have been completely taken in by the appearance and specious representations of his visitor, consented, and handed £10 to Mr. Ritchie. That gentleman accepted the loan with profuse thanks for the accommodation, and after adding grateful acknowledgment of the further courtesy which had been extended towards him took his leave. On the following day he again saw Mr. Austin Chamberlain, whom he induced to introduce him at his bankers in order that he might cash a bill of 250 dollars on the American house of Driscoll, Morgan & Co., and discharge the liability he had incurred at Highbury. Mr. Chamberlain consented to the bill being paid into his account, and cash given to Mr. Ritchie. Out of the English equivalent for the 250 dollars, roundly £50, Mr. Ritchie repaid to Mr. Chamberlain the £10 lent on the previous day, and with profuse acknowledgments of his kindness departed. Mr. Austen Chamberlain has not seen Mr. Ritchie since. The bill was sent to America for collection, and in due time was returned dishonoured as a forgery; but long before that fact became known to Mr. Joseph Chamberlain he had been convinced that he had been swindled. The head gardener at Highbury had been to Liverpool to receive the "rare American Orchids," and had returned with the information, gained after considerable waste of time and trouble, that no consignment of any kind had arrived from America for Mr. Chamberlain. A few days after his interviews with Mr. Austen Chamberlain he presented himself to Messrs. Sander & Co., the noted Orchid growers at St. Albans, and had the consummate impudence to represent himself as Mr. Austen Chamberlain. He had paved the way for his visit by a letter written a day or two previously, purporting to come from Highbury, and notifying Messrs. Sander that Mr. Austen Chamberlain would call upon them a few days

later on behalf of his father, for the purpose of making a selection of Orchids, which Mr. Chamberlain desired to send as a present to some friends in France. The letter stated that the Orchids to be selected must not exceed £300 in value, and added that at the same time Mr. Austen Chamberlain would also select a few Orchids, to cost about £5, for Highbury, and would pay for these. Having thus carefully prepared the nurserymen he put in an appearance, in the guise of Mr. Austen Chamberlain, and the unsuspecting tradesmen, who did not know Mr. Chamberlain's eldest son personally, attended him in his selection of the most valuable Orchids until his purchases reached the amount specified in the letter of advice. During the selection he chatted freely and exhibited an intimate acquaintance with the contents of the Orchid houses at Highbury, a circumstance which, combined with the letter and bold misrepresentation as to personality, threw the firm thoroughly off their guard. Having completed the selection for France, and given the address to which the collection of plants was to be forwarded, Mr. Ritchie picked out a few small Orchids, which he asked might be sent to Highbury. In payment for these he tendered a 100-dollar bill, which was promptly cashed, and the balance of about £15 handed to him; with this he departed, no one at present knows whither. This fraud was, fortunately for Messrs. Sander, discovered before the consignment for France had been despatched. The head of the firm, in invoicing the small parcel for Highbury, wrote to Mr. Chamberlain—who had by this time returned to Birmingham—a letter, in which he thanked him for his generous order, and entered into such further particulars as showed Mr. Chamberlain that a fraud had been committed in his name. He immediately replied to Mr. Sander's letter, with the result that the consignment to France was stopped, and the firm saved that heavy loss. The 100-dollar bill was, as may be anticipated, found to be a forgery.

HORTICULTURAL SOCIETIES.

National Chrysanthemum—*January 31st.*

THE annual general meeting of this society was held at Anderton's Hotel, Fleet Street, Mr. R. Ballantine presiding. There was a good attendance of members, and the minutes of the previous annual meeting having been read and confirmed, the honorary secretary, Mr. W. Holmes, read the report of the General Committee, which discussed the various matters that comprised the society's operations during a very busy year, and congratulated the members upon the growing prosperity of the society and the large amount of good work which it had done in the cause of Chrysanthemum culture in particular and some other branches of practical horticulture. The statement of accounts showed the total receipts from all sources to be £851 15*s.* 11*d.*, and the expenditure £818 0*s.* 9*d.*, leaving a balance in hand of £33 15*s.* 2*d.* The main items in the revenue account were:—Annual subscriptions, £201 6*s.*; donations, special prizes, &c., £110 8*s.* 6*d.*; contributions from the Royal Aquarium Co., £215 1*s.*; received from the Sheffield and Hallamshire Gardeners' Mutual Improvement Society, £102 9*s.*; affiliation fees, sale of medals, &c., £61 2*s.* 6*d.*; advertisements in schedule and catalogues, £39 6*s.*; sale of admission tickets, £64 2*s.* On the other side, the amount paid in prizes, including medals, was £500 14*s.*; judges' fees, £13 13*s.*; judges' and committee's luncheons, £22 13*s.* 9*d.*; hire of foliage plants, £17 6*s.*; bill-posting, £15 1*s.*; miscellaneous expenses incurred at the exhibitions, £13 0*s.* 6*d.*; printing, £50 7*s.* 9*d.*; printing the new catalogue, £35 10*s.*, &c. On the motion of the chairman, seconded by Mr. R. Dean, the report and statement of accounts were adopted. Mr. Jukes expressed the regret which he, in conjunction with the other members of the society, felt with reference to the retirement of Mr. Sanderson, and moved a resolution expressing their deep sense of the long and valued services which he had rendered to the society. The motion was seconded by Mr. Holmes, one of the late president's oldest friends in the society, and carried unanimously. The usual vote of thanks having been accorded to the auditors; the new set of rules, presented for adoption by the sub-committee appointed to prepare the same, were next read and discussed seriatim, and finally, on the motion of Mr. Jukes, seconded by Mr. A. Dean, were unanimously adopted. With reference to the election of a new president, Mr. Jukes stated that the sub-committee, which had the matter in hand, were not in a position at that meeting to nominate a successor to Mr. Sanderson, and moved that, with a view to giving the committee more time, the election of president and vice-presidents be deferred to an adjourned meeting to be held on February 28th, which was agreed to. The following officers were then elected, in every case unanimously:—Treasurer, Mr. J. R. Starling; chairman of committees, Mr. R. Ballantine; vice-chairman of committees, Mr. E. C. Jukes; honorary secretary, Mr. Wm. Holmes; and as auditors, Messrs. James Crane and G. Drain, Jnr. The election of twelve members of the committee in the place of those retiring by rotation was then proceeded with, and the choice of the meeting fell upon Mr. G. S. Addison, Mr. T. Bevan, Mr. R. Owen, Mr. Drain (Senr.), Mr. C. Swift, Mr. J. P. Kendall, Mr. E. F. Kemp, Mr. G. Prickett, Mr. G. Langdon, Mr. H. Cannell, Mr. Shoesmith, and Mr. Taylor. Mr. Sanderson and Mr. John Laing were also elected to fill the vacancies caused by the election of Mr. Jukes and Mr. Harman Payne to the offices of vice-chairman and honorary foreign corresponding secretary. A cordial vote of thanks to the chairman brought the proceedings to a close.

Manchester Botanical and Horticultural.

January 30th.

THE annual meeting of this society was held on the above date in the Town Hall. The Mayor, who presided, congratulated the society upon the good work done in the past, and specially upon the large accession of new members during the past year, which brought up the society's income from subscriptions to £4,500, while the total revenue from all sources amounted to the large sum of £12,212 15*s.* From the report presented we learn that from the commencement to the close of the season the duties of the council were fraught with anxiety consequent upon the enlarged scale of their operations. Adverting to the last report, in which the council stated their intention of increasing the number of fruit and flower shows, and to perpetuate the musical features connected with the Jubilee exhibition of 1887, it is desirable to place on record that this promise has been carried out, and the results have proved very satisfactory. The success of the society's operations depends, to a large extent, upon influences beyond all human control—namely, the weather; and capricious and unseasonable as this usually is in this country, the past year will take its place in the meteorological records as an altogether exceptional one. Two exhibitions of spring flowers were held in the Town Hall, and the Chrysanthemum show in the same place. The annual Whitsuntide show was held in the Gardens, also the Rose, Carnation, Tulip, autumnal fruits and flowers, and Apple and Pear shows, and from the floral and horticultural point of view they were all that could be desired. A great variety of interesting new plants and flowers were submitted for adjudication; upwards of £1,000 was distributed in prizes, besides several gold and silver medals for special exhibits. The musical arrangements formed an important feature of the year's proceedings, and the council are glad to know gave great satisfaction to visitors.

From the statement of receipts and expenditure for the past year, it would be seen that the income from subscriptions is over £3,000 in advance of the preceding year. About £5,000 has been expended in new buildings, in the alteration and adaptation of the erections left in the grounds by the Jubilee Exhibition Committee, and in the restoration of the Gardens. The financial result of the year's labour is that the society has acquired buildings valued at £5,181, a very considerable extension of membership, and a surplus balance of £400. The acquisition of this plant has not only increased the capabilities of the society for carrying on its botanical and horticultural work, but has also provided means for supplying a want which will tend very much to make the social life of Manchester and the surrounding districts more enjoyable. The collections of plants and trees, to which many important and interesting additions have been made during the year, are in a satisfactory state of health and vigour, and the garden and houses generally are in good condition. The rapid growth and excellent health of the plants in the new Palm house bear ample testimony to its suitability to their requirements. The Fernery is a source of never-failing attraction. The demand for specimens to artists and others is on the increase, and a very large number are annually distributed. The botanical lectures, which for many years have been delivered annually by Mr. Grindon, continue to be highly appreciated.

All the old officers were re-elected, with the addition of Mr. T. S. Tumbull, M.A., as a member of the council.

Hull and East Riding Chrysanthemum.

January 31st.

THE fifth annual meeting of this society was held at the Royal Station Hotel, Hull, on the above date. The report and balance sheet for the past year was passed, and great satisfaction expressed at the healthy state of the society's finances, the balance to the society's credit in the hands of its bankers being £229 14*s.* 9*d.* The profit on the year's working of the society was over £50. The last show, on the whole, notwithstanding the severe and unexpected frost in October, was equal to its predecessors. A deputation was appointed to wait upon the Parks Committee of the Hull Corporation to ask them to take into consideration the desirability of erecting a Chrysanthemum house in one of the Hull parks, similar to those existing in several of the London parks, and also at Hastings and Leicester. It was announced that the Provincial Show of the National Chrysanthemum Society would be held in conjunction with the show of this society, on the 21st and 22nd November next.

QUESTIONS AND ANSWERS.

ERRATA.—At p. 357, under the illustration in the third column, for "Leeanum" read "Lecanium." Under the lower illustration in the second column, the references should be—A, mature female; B, immature female. The words male and female scales should be transferred to the illustration of Diaspis cymbidii.

BOOKS FOR AN AMATEUR.—*Wandsworth Common:* The best works we can recommend you to get are Mrs. Loudon's *Amateur Gardeners' Calendar*, 1*s.* (Warne & Co.), and Sander's *The Garden Calendar*, 2*s.* (Hamilton, Adams & Co.). There is no published glossary of merely technical terms, but any time you are in difficulty we shall be glad to help you.

CLIMBERS FOR BACK WALLS.—*Edwin Collins:* Judging from the class of plants you intend to grow, and the temperature you must maintain in the houses, Maréchal Niel Rose would not be suitable for the back wall. It requires to be grown in a cooler and more airy temperature, that is, it requires plenty of ventilation. Then the shade produced by Cucumbers would be altogether unsuitable for them. Hoya carnosa would succeed in either of the divisions, also Rhynchospermum jasminoides, Abutilon venosum, Bougainvillea glabra, Habrothamnus elegans, Hibbertia dentata, Jasminum Sambac, Passiflora cœrulea racemosa, Physianthus albens, Plumbago capensis, and Tacsonia Van Volxemii. All of these are flowering plants, and would succeed best where not shaded by the Cucumbers. The division of the house next the boiler should be used as a stove, as it will be the warmest. The Cucumbers can be grown in the further division, and in the shade produced by them you may grow Hoya carnosa, Asparagus plumosus, A. p. nanus, Lygodium scandens (a Fern), and Myrsiphyllum asparagoides, the three latter being beautiful foliage plants.

GLOXINIAS.—*J. E:* We should hesitate in advising you to stand the pots containing Gloxinias in saucers, as we think the remedy would be worse than the evil. In the first place the superfluous moisture retained by the saucers, even when watering was done with the greatest care, would be liable to damp the leaves; secondly, a film of water would generally remain between the saucer and the pot, thereby preventing the access of air to the roots, which would therefore be liable to rot; and the soil would almost certainly become sour and pasty. However, when making vigorous growth the Gloxinia is a plant that likes a good supply of moisture, and you might try the plan on a limited scale—say, with a few plants to see how you succeed, as there are exceptions to all rules. According to our experience, watering is done in the usual way, even by the best growers, and must in all cases be done carefully, entailing a considerable amount of time. Therefore you ought first to try the plan with a few seedlings or unimportant varieties.

GREENHOUSE CHIMNEY.—*A Subscriber:* Without knowing the whole of the details it is impossible to advise you as to how far you have power to put up the chimney in front of your house. Ordinary cast-iron water-spouting, put up in the way you propose, would answer the purpose if the local surveyor will pass it.

INSECTS IN ORCHID HOUSE.—*A. R.:* The American cockroach—Periplaneta americana—a most destructive pest, to which you should give no quarter. The best trap is a deep glass jar containing strong-smelling syrup.

LICHENS ON APPLE TREES.—*A. M.:* The mere washing of the trees with soft-soap and water will do no good at all. The bulk of the Moss or Lichen should be scraped off with a blunt-edged piece of iron, or hard wood, and the trees afterwards dressed with fresh-made lime-wash, put on with a coarse-rosed syringe or garden engine.

NAMES OF PLANTS.—*H. B.:* 1, Polypodium pectinatum; 2, Nephrolepis acuta; 3, Aspidium triangulare; 4, Pteris scaberula; 5, Woodwardia radicans. *Thos. Read:* 1, Russelia juncea; 2, Peristrophe speciosa; 3, Habrothamnus elegans. *J. C.:* 1, Mesospinidium vulcanicum; 2, Ada aurantiaca; 3, Cœlogyne ochracea; 4, Odontoglossum Lindleyanum; 5, O. Sanderianum. *R. C. Kingston:* Lælia anceps Sanderiana; the Catasetum next week.

ORCHIDS.—*A. R.:* We are not likely to get more information on the subject, knowing of no one who has tried the experiment, but if you will tell us what you have got that you would like to try in the frame, we will advise you further.

PASSIFLORA, CONSTANCE ELLIOTT.—I have a Passiflora, Constance Elliott, planted in a properly prepared bed on the south side of my house. It was planted at the beginning of last May, and has made rapid growth all the summer and bloomed until January. It has now some six leaders about 3 ft. long. I should be obliged if some reader (who has grown this flower) would kindly give his experience of it, and say how it

should be treated hereafter, whether it should be pruned little or much, and at what time of the year the operation should be performed.—*R. T. H.*

PEACHES AND NECTARINES.—*B. O. J.*: Nectarines are very good in their way, but they are never so popular as Peaches, therefore, instead of planting six Peaches and the same number of Nectarines, we would advise you to get nine varieties of Peaches and three of Nectarines. However, we give you the following in their order of ripening, or nearly so (as they vary in different soils), and allow you to make your choice. Peaches: Early Beatrice, Dr. Hogg, Early Grosse Mignonne, Early Rivers, Crimson Galande, Grosse Mignonne, Royal George, Noblesse, Golden Eagle, Sea Eagle. Strike out Early Grosse Mignonne, Early Rivers and Royal George if you do not require them. The quality varies in different soils and latitudes. Nectarines: Lord Napier, Rivers' Orange, Pitmaston Orange, Humboldt, Pine Apple, and Victoria. If you do not require them, strike out Pitmaston Orange, Humboldt and Pine Apple. The best soil for these is a good holding loam, neither too wet nor dry. It should not be a heavy clay, nor sandy or gravelly. Trench from 2 ft. to 2½ ft. deep, and see that it is well drained naturally or artificially. If old garden soil, it must be ameliorated with fresh soil and cow or horse manure. Soil from an old turfy pasture after laying for a year to become mellow is the best.

COMMUNICATIONS RECEIVED.—L. C.—Dr. G.—S. P.—H.—S. T.—W. G.—B. F.—E. H.

TRADE CATALOGUES RECEIVED.

VILMORIN, ANDRIEUX & Co., 4, Quai de la Mégisserie, Paris.—General Catalogue of Flower and Vegetable Seeds, &c.

RICHARD DEAN, Ranelagh Road, Ealing.—Choice Hardy Florists' Flowers and Herbaceous Plants, Potatos, &c.

JAMES DICKSON & SONS, 32, Hanover Street, Edinburgh.—Vegetable and Flower Seeds.

W. THOMPSON, Tavern Street, Ipswich.—Descriptive Catalogue of Flower Seeds.

WILLIAM DEAN, Mill Lane Nursery, Solihull, Warwickshire.—Violas and Pansies.

THE WEATHER.

AT the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending February 2nd was 29·83 in.; the highest reading was 30·46 in. on Sunday at noon, and the lowest 29·31 in. at the end of the week. The mean temperature of the air was 43·1°, and 2·8° above the average in the corresponding weeks of the twenty years ending 1868. The mean showed an excess on each day of the week, except on Sunday and on Saturday, when it was below the average. The direction of the wind was westerly, and the horizontal movement of the air averaged 18·4 miles per hour, which was 4·3 miles above the average in the corresponding weeks of sixteen years. Rain fell on five days of the week, to the aggregate amount of 0·22 of an inch. The duration of registered bright sunshine in the week was 13·0 hours, against 14·7 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

February 4th.

Messrs. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, London, report a good business doing at Mark Lane to-day. Red Clovers keep very firm with a good inquiry for this article. There is no change in White Clover or Alsike; Trefoil is firmer and more money is made for fine seeds; Winter Tares are very scarce and dear; Perennial and Italian Rye Grass keep firm, with more trade doing. There is no change in Bird Seeds.

COVENT GARDEN MARKET.

February 6th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	1 6	3 0	Pine-apples, St. Michaels.....each	2 0	7 0
Cobs .. per 100 lbs.	100 0		Pine-apples, Eng., lb.	1 0	1 6
Grapes .....per lb.	0 9	2 6			

Canadian and Nova Scotia Apples, per barrel, 7s. to 17s.

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0		Lettuces ..per dozen	1 6	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages.... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes ..per dozen	1 6	
Celery ....per bundle	3 0		Small salading, punnet	0 4	
Cucumbers ....each	0 6	0 9	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos ....per lb.	1 3	2 6
Herbs ....per bunch	0 2	0 4	Turnips ....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys. 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	6 0	18 0	Genista ....per dozen	9 0	18 0
Arum Lilies..per doz.	9 0	18 0	Hyacinths ..per doz.	6 0	9 0
Azalea.....per doz.	24 0	42 0	Lilies of the Valley, per doz.	12 0	24 0
Cineraria ..per dozen	9 0	12 0	Marguerites per doz.	6 0	12 0
Cyclamen ..per doz,	9 0	18 0	Palms in variety, each	2 6	21 0
Cyperus, ..per dozen	4 0	12 0	Pelargoniums, scarlet, per dozen	6 0	9 0
Dracæna term., doz.	30 0	60 0	Poinsettia ..per doz.	9 0	12 0
—viridis, per dozen	12 0	24 0	Primula sinensis, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Roman Hyacinths, per doz.	9 0	12 0
Ferns, in var., per doz.	4 0	18 0	Solanums....per doz.	6 0	12 0
Ficus elastica ..each	1 6	7 0	Tulips ..... per doz.	8 0	10 0
Foliage Plants, various .....each	2 0	10 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemone, French, per doz. bnchs.	2 0	6 0	Paper White Narciss, 12 sprays	0 9	1 0
Arum Lilies, 12 blms..	3 0	6 0	— — — French, doz. bunches	2 0	5 0
Azaleas ....12 sprays	0 8	1 0	Poinsettia, doz. blms.	4 0	6 0
Bouvardias, per bun.	0 6	1 0	Primroses..doz. buns.	0 9	1 6
Camellias, 12 blooms	2 0	4 0	Primula, double, bun.	0 9	1 0
Carnations, 12 blooms	2 0	3 0	Ranunculus, French, per doz. bnchs.	2 0	4 0
Chrysanthemums, 12 blooms	1 0	2 0	Roman Hyacinths, 12 sprays	1 0	1 6
— 12 bunches	2 0	6 0	— — French, 12 bun.	1 0	3 0
Cornflower, 12 bunch.			Roses, Tea, per dozen	1 0	3 0
Cyclamen..12 blooms	0 6	1 0	— Red .....per doz.	6 0	12 0
Encharis ..per dozen	4 0	6 0	— Red, French, dozen	2 0	3 0
Gardenias, 12 blooms.	12 0	30 0	— Saffrano ..per doz.	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	— Safrano, French per doz.	1 0	3 0
Lapageria, 12 blooms	2 0	4 0	Tuberoses, per dozen.	2 0	3 0
Lilium longiflorum, 12 blooms	5 0	9 0	Tulips ....12 blooms	0 8	1 6
Lily of the Valley, 12 sprays	0 6	1 0	Violets ..12 bunches	1 0	1 6
MaidenhairFern, 12bns	6 0	9 0	— Parme, French, 12 bunches	4 0	5 0
Marguerites, 12 bun.	3 0	6 0	— dark French, bun.	1 3	2 6
Mignonette, 12 bun.	2 0	4 0	Wallflowers, 12 bnchs,	4 0	8 0
Mimosa, French, per basket	4 0	6 0	White Lilac, French, per bun.	5 0	7 0
Pelargoniums, 12 spys.	1 0	1 6			
— scarlet ..12 sprays	6 0	9 0			

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*** *Advertisements for the current week, and also "Stop Orders," must reach the office not later than the first post on Wednesday Morning.*

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17, CATHERINE ST., COVENT GARDEN, LONDON, W.C.

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See discussion in *The Garden*, October, November, and illustration in December. I am offering extra strong plants, the size of Lily of the Valley clumps, at 2s. 6d. each, post free. The colour is more orange than yellow, and the blooms are all quilled, after the manner of a Cactus Dahlia. It blooms a month in advance of the common sort, and remains in perfection until cut down by frost. Illustrations of two sorts, drawn by Gertrude Hartland, and perfectly true to nature, post free.

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Next Week's Engagements.

TUESDAY, Feb. 19th.—Sale of Orchids from the Barvins Park Collection at Protheroe & Morris's Rooms.

THURSDAY, Feb. 21st.—Sale of Lilies, Iris, &c., at Protheroe & Morris's Rooms.

FRIDAY, Feb. 22nd.—Sale of Imported Orchids at Protheroe & Morris's Rooms.

For Index to Contents & Advertisements, see p. 394.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, FEBRUARY 16, 1889.

A VEGETABLE ELECTION.—We publish on another page the results of a vegetable election, conducted by the members of that very admirable and practical body, the Birmingham and Midland Counties Gardeners' Association. Generally there is little to find fault with in the nature of the election, whilst in the actual performance there is very much to commend. One of the difficult points in the management of associations of this kind is the getting of all the members, not only to feel interested in the society's operations, but also to take an active part in them. This election has been just the kind of thing to promote that end, and we should like to see the Birmingham gardeners doing the same thing in relation to fruits, and also to some kinds of flowers.

It would also be desirable if the members of similar societies would do likewise, and still further, if some forty or fifty such societies acted in the same way. Assuming that there are so many gardeners' mutual improvement societies in the kingdom, it might be possible, each society having conducted its own election as the Birmingham men have done in this case, also to obtain the whole of the returns, get them tabulated, making one grand election out of the whole, and thus, as it were, to focus the opinions of the vast body of gardeners of the kingdom in relation to the best vegetables and fruits, and, it may be hoped, of other things also. A small committee might easily be formed in London willing to undertake the final tabulation of the election returns, and the result would then have the widest publication. So much is possible; it remains with the local societies to put it into practice.

THE "GOOD OLD TIMES."—Whilst we who are favoured to live in this year of grace, 1889, are about to exhibit our wealth of edible vegetables, by holding a grand conference and exhibition of these at Chiswick next autumn, it is worth turning back to that page of history presented in some one or two centuries since, to see how our forefathers fared in respect of garden products. The review is not calculated to make us wish for a return to the "good old times"; indeed, our condition to-day is a thousand times better dietetically than was that of the people who lived some 200 years ago. It is very probable that even the poorest of town labourers can purchase and enjoy a richer and more varied diet at small cost than was enjoyed by the Virgin Queen herself, or the nobles of her court. We give on another page a short extract from a recently written article on vegetable food, which shows the poverty of edible vegetables in a remarkable way, to which our forefathers were subject. Then the chief fare seemed to consist of very coarse bread and doubtless equally coarse meat; now we have such a wealth of fruits and vegetables, all of the highest dietetic forms, that we can dispense with meat altogether, a fact worthy of remembrance should war or other misfortune come to the kingdom. Verily we prefer the modern days with plenty and cheapness to the "good old times" with scarcity and dearness.

DEAN HOLE.—The Dean of Rochester is not exactly a replica of Dean Swift, but he is at least one of the most humorous and jovial of clerics, and we are delighted to find him at Rochester in the old Caunton form. A correspondent of our contemporary, *The Garden*, has put to the worthy Dean, amongst others, the question concerning that lovely Tea Rose, Madame Lambard, "What is its market value?" "I cannot say," is the reply; "I have a stall in Rochester Cathedral, but not in Covent Garden Market." That is at once a thoroughly witty as well as a genial rejoinder. Perhaps some cynic may now wish to know something of the relative value of the stalls in question, but there can hardly be a doubt but that Rochester takes the cake. Other replies indicate that Madame Lambard Rose is, after all, not one of the best market varieties.

By-the-bye, we are exceedingly pleased to find that Dean Hole is the president of the Rose Conference which is to be held at Chiswick during the summer. A happier selection could hardly have been made, and the worthy Dean, with the "Rose" in his hat, his "apron" and his "gaiters," will himself prove a formidable competitor with the Roses in attractiveness. It is to be hoped that his clerical duties will be light during the progress of that event, and that Rochester's loss may be Chiswick's gain. Should some Prime Minister so duly regard the merits of our Rosarian Dean as to translate him to a bishopric, we hope it will be to some See in which the Rose luxuriates: Oxford, Hereford, and Salisbury, all have distinguished Rose Associations. Whether

Dean or Bishop, however, long may our eloquent Rosarian be spared to us.

Roses as Party Emblems—Referring to Roses reminds us of a recent reference to that grand Rose La France as being the badge of the Comte de Paris in France. We, in England, happily have no such war of the Roses; we had enough of that kind of fatuity leading to cruel, bloody, civil war interminably a few centuries since, and the remembrance of that enmity will suffice for some time to keep us from such folly as setting up Roses as emblems of party. We have had to endure some foolish hallucinations in relation to another flower, but it is so far comparatively harmless. If any one section of French politicians choose to select a Rose, other sections, and they are numerous enough, have some grand flowers at their disposal in Maréchal Niel, Marie Beaumann, and other superb flowers. General Boulanger seems to have gone in for Carnations of rich colours. If things go on at this rate we shall soon have every flower representing some one or other of the myriads of parties in France.

Weather Forecasts.—The daily forecasts of the Meteorological Office which are scanned with so much interest by all anxious as to the weather, are entirely cast into the shade by the publication of what purports to be a weather chart for the year, compiled by Mr. B. G. Jenkins, F.R.A.S., who doubtless may conscientiously believe that his system, which seems to be clearly based on the moon's phases, is an exact one. It so happens that we have been enabled to test the value of the chart of the past month of January, which it is found enjoys in the forecast a reputation which events proved it did not deserve. February so far has exhibited a much more wintry aspect, and well it is so, as a cold dry month now would prove of great service in retarding vegetation, and in drying and sweetening the soil. The chart tells that February is to be stormy, that March will be wet and stormy, that April will be quiet and warmer, May much the same, June and July fine, August the same except for a week in the middle, and that the other four months will be wet ones. However, we place no faith in these forecasts.

Bolton and District Chrysanthemum Society.—The third annual exhibition of this society is announced to be held on November 15th and 16th.

Plants for the Mixed Border was the subject of a paper read by Mr. Wallace Adams at the last meeting of the Manchester Horticultural Improvement Society.

Gardening Engagement.—Mr. A. J. Brown, late of the Finches, Lindfield, Sussex, and one of the most active of the local secretaries of the Gardeners' Orphan Fund, as gardener and general estate manager to T. Bradley, Esq., Bear Park, Bedale, Yorkshire.

National Chrysanthemum Society.—We understand that Lord Brooke, M.P., Easton Lodge, Dunmow, Essex, has accepted the office of president of this society, which has become vacant through the retirement of E. Sanderson, Esq. His lordship, who is heir to the Earldom of Warwick, is a great lover of the Chrysanthemum, and no better choice could have been made for the office.

The Havant Chrysanthemum Society's annual exhibition will be held on November 1st and 2nd.

Manchester Horticultural and Botanical Society.—As at present arranged, we understand that the exhibition programme of this society for the coming season is as follows:—Spring Shows in the Town Hall on March 19th and April 30th; National Horticultural Exhibition at Old Trafford, from June 7th to 15th; Rose Show at the Gardens, July 20th; Autumnal Fruit and Flower Show, September 20th and 21st; and a Chrysanthemum Show on November 19th and 20th.

The Bean Weevil.—We have not heard so many complaints this season, as last, of the seeds of Broad Beans being attacked by the larvæ of Bruchus granarius, but if anyone has infested stocks, it may be useful for them to know that by steeping the seeds for one hour in a mixture of one part of paraffin to ten of water, they can completely get rid of the enemy. This is not one of the worst pests that gardeners and farmers have to contend with, but with such a simple remedy, there is no reason why they should be much troubled with it.

Fruiting of Ficus elastica.—There are several species of Fig that fruit more or less freely or regularly in this country, but the India-rubber Plant seldom shows any signs of it, even although there are many large plants in this country. There occurred an instance of it some fourteen years ago at Clapham. Last autumn a large plant, under the care of Mr. G. A. Bishop, at the Grove, Teddington, produced a number of its curious fruit in the axils of the upper leaves. They may be compared to small, light green acorns, and may occur singly, or two or more together. The plant being too tall for the convenience or utility of the place it was cut down, and the cuttings put in to strike. The apical portion, after rooting, has produced some more fruit, which bear very little resemblance to other kinds with which gardeners are more familiar. The species has been cultivated in this country since 1815.

The "Walking-Leaf" Fern.—Commenting upon a note on Comptosurus rhizophyllus which appeared in *The Garden* a few weeks ago, Mr. Percival, of Smithy Bridge, the well-known Lancashire botanist says:—Soon after the publication of Buxton's *Botanical Guide* I paid a visit along with some friends to Barton Moss, to see the habitat given for Pyrola minor, the small chickweed winter green; and strangely enough one of the party, Mr. James Barlow, of Swinton, picked up a small Fern known in America as the Walking Leaf. In general appearance it is not much unlike a small narrow form of the Hart's Tongue Fern. I have often wondered how this plant could have got there. I knew it had been planted there, but by whom I never could tell—I always thought by the finder, as he grew a nice collection of Ferns, both British and exotic. The writer in *The Garden*, "W. H. J.," says that about thirty-five years ago, when he was gardener to Lord Ellesmere, this Fern was planted abundantly in all the woods about, and no doubt the plant picked up by Mr. Barlow was one of them; and if it had remained till now no doubt the plant would have been abundant. Its mode of propagation is worth noting. The frond is from 4 ins. to 12 ins. long, tapering from a heart-shaped base to a long narrow point which often roots at the end, and then gives rise to another plant. Hence the name "Walking Leaf."

SNOWDROPS.

These I think may safely be called the queen of all our hardy early spring flowers, their pure white blossoms being very much admired by everybody. I think, however, that they are seen to the best advantage when they are grown in large clumps, as they are then, when in good order, very effective. I have for some time sent large quantities of Snowdrops every spring into Glasgow, and they are always much thought of by the family I serve, and very often are asked for long before they are ready for cutting. For the last five years or so, I have each season taken up and potted some good clumps without reducing them much, about the same time as the usual autumn bulbs are potted. If plunged in a cold frame for a time, then taken to the greenhouse with a temperature of about 45°, they flower some weeks before those outside. They can also be taken up as soon as they are seen to be well through the ground, and potted or put into boxes as the case may be, and introduced at once to a suitable temperature; treated in this latter way they will come in some time before they are ready elsewhere, and make a very fine display as well as supply a quantity of fine cut flowers.

When lifting, I always take them from some part where very few had seen their beauty, and when they have done flowering they are stood in a cold frame till they get hardened a little to the outside air; afterwards we take and plant the clumps whole, just as they come out of the pots, under hedges and in sheltered nooks along walk-sides, and anywhere we think they will be seen to good advantage, and where we will be likely to get a few flowers in good order should the weather be even frosty. I have a hedge planted with clumps in this way, as well as many corners filled up, and the display of flowers is always very fine in their season.

I have also planted thousands of them in lines and clumps in the grass, and here also they are very beautiful and have long ago repaid the trouble taken with them by the grand show they annually make; but in this position they have been frosted in some seasons, and their blossoms thereby destroyed for house work. To grow them satisfactorily the soil about them must always be moist—this was proved in the spring of last year, a great number of the bulbs being almost leafless as well as flowerless under some large trees where during the summer of 1887 they were dust dry. We usually plant the bulbs in the grass in autumn, the lines for single bulbs being cut by the edging-iron, and opened with a spade to allow the small bulbs to be planted in about an inch apart along the line; afterwards the turf-lines are pressed down. Bulbs planted in this way five years or so ago are now about 3 ins. through. Small clumps may be formed by making holes in the grass with a round-pointed piece of wood, not too sharp. The hole should then be filled up to near the top with any good soil, the bulbs set in, and some soil placed over them. In this way they also look well. We never mow till the foliage is seen to be quite yellow. The cause of Snowdrops failing in grass is often due to the leaves having been cut away before they are ripe.—*Perthshire.*

DEUTZIA GRACILIS.

Conditions so unfavourable as had to be contended with—in the west of Scotland—last season for the maturing of the wood of this useful, and I may say indispensable spring-flowering favourite, might not unreasonably lead cultivators to be apprehensive that the results to their plants this year would be scant show of flowers. It does not appear to be so, however, if a number of plants I had removed to the conservatory early in the month are fair examples of most plants throughout the country. Success with the Deutzia, as with other plants subjected to more or less forcing annually, must depend to a great extent upon the treatment the plants receive for some time immediately after they have done flowering.

They may often suffer not from ignorance of their requirements, but from want of ample accommodation, other subjects that have been forced together with large numbers of bedding plants often overcrowding the structures suitable for their proper treatment. Our plants after flowering last spring were allotted a light position in a Peach house, where they were encouraged to make free growth, then gradually hardened, and stood out of doors for the rest of the season. They should not be allowed to suffer for want of water at any time. The winter being unusually mild they were left outside till the middle of December.

After they were taken under glass they occupied a position for some weeks prior to bursting their blossoms on the floor of a late vinery, where the heat was seldom turned on, and were thus subjected to very little forcing. Amateurs who may be only making a start in growing pot plants for decoration of the greenhouse, and who may be unacquainted with the plant forming the subject of these notes, would, by procuring a few vigorous young specimens, possess themselves of an addition to their stocks which would amply reward them with an annual display of white flowers at a time when they are most acceptable, either for cut flowers or for other forms of decoration.—*Western.*

SOME USEFUL STOVE PLANTS.

Poinsettias.

These are so well known as being brilliant decorative winter plants that but little need be said about them here, as they have been the subject of many paragraphs in this paper at various times. Where they may be required for cutting from, the best plan to adopt is to grow them as strong as possible, not minding to what length the shoots may run, provided they give large bracts in return for the room they occupy. In some places they are planted out and tied up to rafters, or to a wall, and generally do well in this manner, but where it is necessary to have short plants for decoration, the usual process of rooting cuttings every summer will have to be followed out, keeping the plants as close to the glass as possible. They like plenty of heat and light when forming their bracts, but during the summer months a light airy greenhouse, or frame, will do for them, and potting in a rich loamy soil.

Rondeletias.

These are splendid high-coloured flowering plants of somewhat loose habit, requiring the assistance of stakes to support them if they are to be kept in bush form, which is about the best way to grow them. Should they become leggy at any time the best thing to do with them is to cut well back into the old wood, from which they will start out a number of shoots that otherwise would remain dormant. It generally takes

a year or two for them to make nice plants again, but it is the best plan that can be adopted with them, and insures clean and vigorous wood in place of old and worn-out shoots.

The flowers are produced in trusses at the points of the shoots, and are orange-scarlet in colour with a distinct eye of a bright orange colour. R. speciosa brilliantissima and R. s. major are the best to grow, and should have the free use of the syringe about them when making their new growth. A soil composed of fibry loam and peat, with sharp sand added, and pressed firm about the roots, suits them admirably; and during the growing period and just before they come into flower, doses of weak liquid manure will greatly benefit them.—*W. G.*

NOTES ON HOLLYHOCKS.

It is gratifying to note the increasing interest which is again being taken in Hollyhock culture. Still, there are many amateurs who refrain from growing a collection of these beautiful plants from an impression that they are hard to grow, but this is really not the case, for they are quite as easy to manage as many other florists' flowers. The greatest enemy to Hollyhock growers is the dreaded fungus (Puccinia malvacearum) commonly known as the Hollyhock disease, which affects the growing plants, generally making its appearance on the under sides of the leaves in the form of small brownish spots, and when once established on the plants, should not prompt and severe measures be taken, it spreads quickly over all of them, in many cases destroying the whole collection.

In most cases where the disease is present, except in the very worst form, good flowers can be grown, but in forming a collection it is well to see before purchasing that the plants are thoroughly clean; a keen eye should then be kept on them, and on the first appearance of the disease have the affected leaves picked off and burned. Of the many compositions recommended for destroying the fungus, so far as my own experience goes, I have not found any of them wholly reliable. Mr. Oliver, the gardener at Eslington Park, Alnwick, a most successful grower, who has grown a collection for thirty years, has the most perfect method of stamping it out of which I am aware. His system is as follows:—Should the disease appear on any of the plants, those affected are at once cut down close to the dormant buds, everything removed being burnt. The crowns are then covered with loose soil, and the young growths allowed to push through the covering. These will be found to be quite clean, and can then be taken off and propagated in the usual way. This may seem to be a very harsh measure, but nothing short of it will keep a collection quite clean. So far, I have never seen the fungus on other than Malvaceous plants, therefore should any plants belonging to that order be cultivated in the garden, or found growing wild in the neighbourhood, an eye should be kept on them as well, as it would be of little use fighting with the diseased Hollyhocks, and allowing the fungus on the other plants to ripen their myriads of spores. It is very improbable that we shall ever get quite clear of the fungus, seeing that there is so much of it in many parts on the wild Mallows, which, when the spores are matured are so easily carried or blown about until they get a resting-place on the Hollyhocks. In fact, the worst case of the disease I ever saw was on a plant of Malva sylvestris, growing but a few yards from the garden where a good collection of Hollyhocks was planted. Was it possible to keep down the pest under such conditions?

I have often heard the system of propagation in heat condemned as being the means of developing the disease, and no doubt if the fungus is in the plants the heat will greatly facilitate its growth; but gardeners and amateurs can dispense with propagating these plants in heat, by working up a stock from eyes made from the side growths in August and September, putting one eye in a small pot, using sandy soil. Give a gentle watering through a fine rose, and then place them in a cold frame, keeping it close until they begin to grow. When well rooted they will require to be put into larger pots, and on no account let them get pot-bound. If plunged in coco-nut fibre refuse, and plenty of air be admitted on all favourable occasions, they will keep nicely throughout the winter, and flower much earlier than plants propagated in spring.

In trade establishments where large quantities are required it is necessary to grow the plants under glass all the winter to encourage young growths to propagate from. These are either rooted as cuttings, or root-grafted. I prefer the former, for the reason that cuttings do not require so much heat. No doubt where a brisk heat is at command root-grafting is more expeditious, but I question if it is so satisfactory. The way I root the cuttings is a very simple and most reliable one. The cuttings are inserted in pure river sand, and treated to a slight amount of bottom-heat, and a temperature of 55°; they are well watered through a fine rose, the leaves allowed to get thoroughly dry, and then covered with a bell-glass—pressing the base into the sand so as to make it air-tight. In this way they require no further attention until rooted, generally in about three weeks. I have tried the cuttings in coco-nut fibre under the same conditions most satisfactorily, every cutting rooting. As soon as the cuttings

Delphinium formosum.

are rooted the bell-glasses are slightly tilted for a few days to admit air, when they are potted into 3-in. pots, and kept close for a few days, afterwards removed to an airy greenhouse, and then to the cold frames to be hardened before planting out.

Hollyhocks require a deep rich soil, and to grow them to perfection it is necessary to trench the ground at least 2 ft. deep, working in a good supply of rotten manure. This operation is best performed in the autumn. Should the soil be of a heavy nature, so much

Delphinium formosum: showing branching habit.

the better, as the plants delight in a soil with a cool bottom. On light warm soils they never make such a vigorous growth, and are more subject to the attacks of red-spider. The situation, if possible, should be an open one, but sheltered from boisterous winds. High walls and distant trees answer well, but care should be taken not to plant within the root-run or shade of the trees. The plants should be ready for putting out in their permanent quarters in March or April. Plant 3 ft. apart in the row, and 4 ft. between the rows; more if the ground can be spared. The plants should be looked over and cleaned of any insect pests that may be on them before they are placed in the ground. It is a good plan to put some Spruce Fir branches, about a foot high, round the young plants until they get well established in their new quarters.

As soon as the plants begin to run up, a good strong stake about 6 ft. high should be placed to each, and the plants made secure by tying. In warm dry weather give abundance of water, and mulch with rotten manure. When the buds begin to swell, water alternately with liquid manure, taking care to keep it off the stem or leaves. Should the spikes or blooms be intended for exhibition purposes, it will be necessary to remove the latter shoots, thin the flower buds if crowded together, taking off the top of the flower spike according to the desired height, and carefully shade the flowers as they expand. In warm dry weather, insects—green-fly, thrips and red-spider—often become troublesome. These should never be allowed to get a hold on the plants; by using the syringe vigorously in the evenings, directing the spray underneath the foliage, and using soapy water occasionally, they can be kept at bay.

The following varieties will be found to comprise the cream of those at present in cultivation:—

Le Grand (Chater), light salmon
Grace Darling (Thompson), rosy carmine
Maggie Bain (Thompson), rosy puce
Hercules (Chater), yellow, dark base
Favourite (Chater), lilac
Lord Decies (Rogerson), dark glossy crimson
Frank Gibb Dougall (Downie & Laird), rosy purple
Alba superba (Chater), pure white
Alfred Chater (Chater), mottled rose, flushed carmine
Perfection (Chater), silvery flesh
Gem of Yellows (Chater), yellow
Ariadne (Chater), pale yellow, flushed bright rose
Fire King (Chater), bright crimson
Pride of Layton (Finlay), salmon
Walden King (Chater), bright scarlet
Queen of the Yellows (Chater), yellow
Peri (Chater), creamy white
Robert Ryle (Oliver), light red
Agnes Ryle (Oliver), dark yellow.

The two last-named varieties are of recent introduction, and were raised by Mr. Oliver, at Eslington Park. Robert Ryle is considered one of the finest Hollyhocks grown, and flowers of this variety have been grown 7 ins. over, and perfect in every way. I shall be obliged if any of your readers can let me know if the variety Leviathan (Chater), bright reddish rose, is still in cultivation.—*J. C. B., Kelso.*

DELPHINIUM FORMOSUM.

Since the introduction of this beautiful species, great improvements have been effected in the garden race of which D. elatum is one of the parents. Some authorities consider it of hybrid origin; but whether this is so or not, it is still worthy of a prominent position in the herbaceous border, where it proves a most attractive object at various times during summer, and flowers occasionally in autumn, according to the nature of the season with regard to warmth and moisture. In good soil the stems grow about 3 ft. in height, although in thin gravelly soil, which it dislikes, it does not exceed half of that. The flowers are produced in long terminal racemes, and are of a beautiful deep azure-blue, deepening in places to indigo. The sepals constitute the most showy part of the flower, while the petals are small and close up the centre of the flower. Grown in lines or masses in rich, friable soil, it constitutes an object of great beauty. It may be readily propagated by division of the fleshy root-stock, just before growth commences in spring, or by seeds sown as soon as ripe, and wintered in a cold frame. Slugs are very fond of the young sprouting buds, and should be looked after.

THE BARONS, TWICKENHAM.

Although situated at some distance from London the residence of Henry Little, Esq., at The Barons, Twickenham, Middlesex, may nevertheless be considered a suburban seat which comes within the influence of the London smoke, making gardening in its various aspects a matter of no small difficulty. As the neighbourhood is rapidly getting built upon, the mischievous influence of the smoke question becomes more and more apparent on Orchids which happen to be expanding their flowers at a bad time. Other subjects are cultivated with the greatest success at The Barons, such as show and fancy Pelargoniums, Amaryllis, and Cyclamens, but these, with the exception of the latter, are quiet at present so far as flowers are concerned. Spring gardening, in the way of bulbs, is carried on extensively, and we hope to refer to them later on, when the kindly influence of warmer weather induces them to unfold their treasures.

Despite all the anxiety in connection with the cultivation of Orchids in winter, they nevertheless furnish an endless variety of beautiful, fantastic, singular, and showy flowers, such as no other family can supply; and in visiting such a collection as this, one never fails to find something interesting and worthy of inspection. Many healthy pieces of Cym-

bidium Lowianum are rapidly advancing into flower, bearing from twelve to twenty flowers on a spike, the latter being frequent; and one plant carries nine spikes. A special stage has been erected for the species of Phalænopsis over a tank; and the size of the leaves, as well as the flower spikes, gives sure indication that they like the treatment. One spike is 3 ft. or 4 ft. long, and bears eight long branches. Lælia autumnalis was still in flower when we visited the place recently, and the rich purple of the sepals, petals and apex of the lip showed the variety to be a very fine one. Close by was L. albida bella, with a warm rosy lilac terminal lobe to the lip. Many plants in cultivation purporting to be the variety bella are greatly inferior to Mr. Little's plant. Other members of the genus, in a house close by, are simply getting ready to make a grand display later on, and the healthy, clean foliage and pseudo-bulbs which they exhibit, speak to the care taken of them by Mr. A. Howard, who has the charge of this department. Amongst these may be mentioned grand pieces of L. purpurata, L. p. Schroderi, L. elegans, which, curiously enough, threw up a spike in the autumn, and L. e. Littleana, with a pure white tube and intense purple lip.

Not less important are the Cattleyas, such as C. Mendelii, now bristling with sheaths, and which bore some sixteen spikes last year, with an aggregate of forty-five flowers. Others are C. M. grandis, C. M. Selbornensis, C. M. Mrs. Little, C. Skinneri, C. Sanderi, and others, some of which occupy baskets about 20 ins. in diameter. C. Mossiæ aurea, another fine variety, bore twenty-seven flowers last year. The varieties of C. Trianæ are now flowering. A fine specimen of Vanda teres, rooted on a piece of wood and grown in a pot, stands 6 ft. or 7 ft. high. It is a specially fine variety. Lycaste Skinneri has been flowering for many weeks, and will keep up a display for many more. Mr. Little's collection is already well noted for its numerous beautiful varieties. Many pseudo-bulbs carry from twelve to fifteen flowers, with leaves 2½ ft. to 3 ft. long, furnishing incontestable evidence of treatment. L. S. marmorata has the petals marbled with a beautiful rose; some have a white lip, as in the last case, while others are of a deep crimson. A large number of them are very delicately tinted, such as L. S. Model, with many others of the same type. The delicate blending of rose and white is extremely beautiful. The highly fragrant L. aromatica also obtains a place amongst its aristocratic congeners. Maxillaria grandiflora Lehmannii is a fine variety, noticeable for the yellow, brown and blackish purple stripes of the lip, contrasting with the rest of the flower, which is pure white.

Many fine pieces of Odontoglossum are grown, including a handsome piece of O. citrosmum grown in a basket. A beautiful spotted form of O. Pescatorei and a piece of O. Andersonianum with branching spikes add to the variety in the house. The same might be said of O. Rossii majus, the forms of which are endless. A fine form of Masdevallia Chimæra, spotted with brown on a creamy yellow ground, and shaggy with hairs, hung from the roof. The pure white M. tovarensis responds admirably to the treatment given it, bears from one to five flowers on a scape, and in spite of the crippling effects of fog is still fine. The scarlet flowers of Ada aurantiaca constitute a fine contrast with the more sober-tinted kinds, although it can never vie with the interest created by such as Angræcum sesquipedale. Cœlogyne cristata is more popular, and is grown by everyone; it is here represented by C. c. maxima and C. c. Lemoniana, two of the best varieties.

Over and above those in flower are fine pieces of many subjects such as Orchid enthusiasts like Mr. Little seldom fail to allude to with pride. Amongst these may be mentioned Vanda suavis Veitchii, with eight stems ranging from 2 ft. to 4 ft. high; a huge piece of Aërides Leoni grown in an Orchid pan; Dendrobium Griffithianum, with six fresh and large stems; D. thyrsiflorum, 2 ft. to 3 ft. long; and D. chrysotoxum, with pseudo-bulbs from 12 to 16 ins. in height, and girthing nearly 4½ ins. Such specimens as the last-mentioned are rare for their kind.

The largest number of species belonging to any one genus, and now in flower, are furnished by Cypripedium. We can hardly doubt that herein lies their popularity, for there is no period of the year when Cypripediums are entirely out of flower; and to give an instance of this, we may mention C. Sedeni superba, which has been flowering in continuous succession for the past two years. The variety is characterised by a very dark rose-coloured lip. Another grand sort is C. insigne punctatum violaceum, of which Mr. Little possesses the original plant, which bore thirteen of its grandly spotted flowers last year. Its fellow companion, C. i. Maulei, alongside, was still in flower, with its rich brown and violet spotting on a soft yellow and pure white ground colour. We also noted a wonderful fine form of C. Haynaldianum, with deep purple bracts, while the flowers themselves exhibit a richly coloured spotting. It is superior to C. Lowii, with which it is closely allied. Another with very bold spotting is C. Argus, the spots on the petals of which have been compared to the hundred-eyed god, Argus, of Grecian mythology.

Somewhat in the way of C. biflorum with regard to colour is C. barbatum O'Brienii, with its leaves marbled with deep green on a grey ground. The upper sepal is green at the base, purple upwards, and white at the apex; and the petals are rose and purple, with a line of black spots on the upper edge. The black spotting on the standard of C. Boxallii is very characteristic of this species, and altogether distinct from the C. villosum type which is now flowering, and from C. Harrisianum, one of the earliest hybrids obtained from the latter. The variety now in flower is a richly coloured one. Although a comparatively recent introduction, C. Lawrencianum is already one of the most popular, which is no doubt accounted for by its beautiful foliage and handsome flowers. Others of which there are fine pieces, some being in flower, are C. Stonei, C. caudatum, C. Dominyanum, C. lævigatum, and C. barbatum magnificum, all of which are in fine and clean condition, reflecting credit on the grower in charge of them.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

The annual general meeting of the members of this admirable society was held at the Caledonian Hotel, Adelphi, on Monday evening, Mr. R. Dean, one of the honorary members, presiding. The minutes of the previous annual meeting having been read and confirmed, the secretary, Mr. Collins, read the report of the committee and statement of accounts for the past year, which proclaimed the welcome intelligence that the society is progressing and prosperous. There are now upon the books of the society, 276 members, fifty-three having joined during the past year. The amount of sick pay during the year was £35 12*s.* 8*d.*, a trifle over one half of the sum paid in the previous year, and this amount was divided between fifteen members. These payments are covered by deductions of 3*s.* 6½*d.*, and 2*s.* 4½*d.* each from the two classes of members. At the present time there is only one sick member upon the fund. No death has occurred among the members during the past year, nor has there been any payment made from the benevolent fund during the past year. The balance in favour of the benevolent fund a year ago was £1,183 11*s.* 3½*d.*, it is now £1,299 19*s.* 1½*d.*, so that is has increased during the past twelve months by £81 17*s.* 5*d.*, mainly from subscriptions by members, and by £34 10*s.* 5*d.* received as interest.

The balance in favour of the benefit fund at the same period was £2,677 7*s.* 6*d.*; it is now £3,058 3*s.* 1*d.*, showing an increase of nearly £400. On the expenditure side interest has been credited to members to the amount of £69 3*s.* 3*d.*, which is more than covered by the interest received on the balance at the commencement of 1888, namely, £78 1*s.* 2*d.* The management fund shows a similarly satisfactory state of things. The total receipts for the year amounted to £83 6*s.* 4*d.*, and the sum added to the balance in hand in January, 1888, namely, £19 7*s.* 9*d.*, brought the total up to £102 14*s.* 1*d.* The payments on the other side amount to £82 11*s.* 9*d.*, leaving a balance of £20 2*s.* 4*d.* to carry forward. The receipts at the annual dinner amounted to £42 9*s.* 6*d.*, and the expenditure to £35 13*s.* 3*d.*

The treasurer's account was a record of most gratifying financial progress. It showed that the year's income from all sources amounted to £856 13*s.* 6*d.*, while the expenditure amounted to £714 19*s.* 11*d.*, including the purchase of £528 10*s.* 8*d.* worth of stock in the 2¾ per cent. Consols at a cost of £525 6*s.* 2*d.*, and the treasurer is able to carry forward a balance of £141 13*s.* 7*d.* During the past year the trustees drew out the entire sum of £4,000 invested in the 3 per cent. Government Consols, and re-invested it in the Stock of the Corporation of Nottingham, at 3 per cent., instead of in "Goschens" at 2¾ per cent., and this action of the committee, whereby ¼ per cent. is gained, is highly approved by the committee. Four new honorary members were added to the list during the year, and one Life Subscriber of 10 guineas.

The report concluded with a special record of thanks to Dr. Hogg (chairman) and Mr. H. J. Veitch (vice-chairman) at the annual dinner for their kind sympathy and able advocacy of the claims of the society, specially to Dr. Hogg and to Mr. William Paul for their liberal donations to the management fund; to Mr. Sherwood for becoming a life member; to all who contributed flowers and fruit to the dinner; to the trustees, the treasurer, the secretary, and the auditors for their continued valuable services during the year.

The adoption of the report and statement of accounts was moved by the chairman, seconded by Mr. N. Cole, and carried unanimously. The election of five members to serve on the committee was then proceeded with, and the choice of the meeting fell upon Mr. R. Scott, Mr. G. W. Cummins, Mr. W. Woods, Mr. E. G. Wheeler, and Mr. T. Coates; after which Mr. Collins was again unanimously re-elected as secretary, and voted £20 for his services during the past year. Votes of thanks were also accorded to the trustees, the treasurer, the auditors, and the chairman, and the reply from Mr. Dean brought the proceedings to a close.

AN ELECTION OF VEGETABLES.

The executive of the Birmingham and Midland Counties Gardeners' Mutual Improvement Association have recently introduced a novelty at one of their fortnightly meetings in the form of an election of vegetables, the voters being confined to the members of the association. The plan adopted was to name twenty kinds of vegetables, and to stipulate a certain number of each, which the members were called upon to name as the best according to their own individual practical experience. The election came off on the 29th ult., and the result of the ballot was as follows:—

Peas, eight varieties.—American Wonder, William the First, Prince of Wales, Stratagem, Duke of Albany, Telephone, Veitch's Perfection, Ne Plus Ultra.

Beans, Runners, two varieties.—Ne Plus Ultra, Girtford Giant.

Beans, French, two varieties.—Canadian Wonder, Ne Plus Ultra.

Beans, Broad, two varieties.—Seville Long Pod, Johnson's Wonderful.

Potatos, seven varieties.—Myatt's Ashleaf, Snowdrop, Schoolmaster, Beauty of Hebron, Sutton's Seedling, Sutton's Satisfaction, Magnum Bonum.

Cauliflower, three varieties.—Early London, Walcheren, Veitch's Autumn Giant.

Broccoli, four varieties.—Veitch's Self-Protecting Autumn, Snow's Winter White, Leamington, Sutton's Late Queen.

Cabbage, three varieties.—Enfield Market, Ellam's Early Dwarf, Nonpareil.

Brussels Sprouts, two varieties.—Sutton's Exhibition, Aigburth.

Kale or Borecole, four varieties.—Dwarf Green Curled, Cottager's Kale, Asparagus Kale, Tall Scotch.

Savoys, two varieties.—Dwarf Green Curled, Drumhead.

Carrots, two varieties.—Early Nantes, James's Scarlet Intermediate.

Parsnip, one variety.—Student.

Lettuce, three varieties.—All the Year Round, Black-Seeded Bath Cos, Giant White Cos.

Celery, two varieties.—Major Clarke's Red, Sulham Prize Pink.

Turnips, two varieties.—Early Snowball, White Stone.

Onions, four varieties.—James' Long Keeping, Bedfordshire Champion, Rousham Park Hero, Red Italian Tripoli.

Tomatos, two varieties.—Sutton's Perfection, Hackwood Park Prolific.

Vegetable Marrows, two varieties.—Long White, Moore's Cream.

Beet, two varieties.—Nutting's Dwarf Red, Henderson's Pine Apple.

There were about eighty members present, and a lively discussion followed the declaration of the poll.

An excellent authority upon vegetables, to whom we handed the foregoing list for perusal, writes in reply:—"Whilst it is evident that certain vegetables may be, and probably are more popular in some localities than in others, yet the list presents a very fair selection, without particular bias in favour of seedsmen. It would have been interesting to have learned how many votes were given in each case, as presumably the list given is the product of many diverse selections, and may not be exactly that of any one individual. Then it would also be interesting to learn how many

of the electors were *bonâ fide* vegetable cultivators. In some respects it would seem as if the more recently introduced varieties of diverse vegetables were not much grown about Birmingham; but, on the other hand, it may have been thought desirable to leave out of the selection varieties not thoroughly tested. It is obvious that if any selected has been grown three years a fair test of its merits has been obtained. A shorter period of trial seems hardly satisfactory, as many vegetables vary appreciably in different seasons.

"The following seems to me to be a rather better selection:—

Peas.—American Wonder, William the First, Telephone or Duke of Albany (both are not wanted), Triumph, Stratagem, Reading Giant (a grand marrow), Ne Plus Ultra, Latest of All.

Runner Beans.—Ne Plus Ultra and Exhibition Scarlet.

Dwarf Beans.—As selected.

Broad Beans.—Harlington Windsor would in many localities take the place of the Seville Long Pod.

Potatos.—Of these a dozen diverse lists all good may be made. The following is one of the very best:—Ashleaf Kidney, Duke of Albany or Sutton's Seedling, Prime Minister, Satisfaction, Chancellor, Imperator.

Cauliflower. — Snowball, King of Cauliflowers, Autumn Giant. Early London and Walcheren are beaten by more recent introductions.

Broccolis will do very well.

Cabbages.—All Heart, Ellam's Early, Heartwell. Large Cabbages are undesirable in private gardens.

Brussels Sprouts.—Exhibition, Northaw Prize.

Kales may stand, but the Late White is not required when Dwarf Green Curled is grown.

Savoys.—Dwarf Green Curled, Early Ulm. The Drumhead is too large and coarse.

Carrots.—Early Nantes, New Intermediate.

Parsnip.—Student or Selected Hollow Crown, for Parsnips differ little.

Lettuce.—All the Year Round Cabbage, Paris White, and Paris Green Cos, of the finest selections.

Celery.—Both the kinds named are good, but Dwarf White Incomparable should be added.

Turnips are both good.

Onions.—The Queen (early), Bedfordshire Champion, Main Crop (a fine strain), Giant Rocca (for autumn sowing).

Tomatos.—Earliest of All (for outdoors), Perfection (for indoors). Golden Queen should be added for its rich colour.

Beet.—Dell's Crimson, Crimson Turnip-rooted.

Vegetable Marrows.—Both good kinds.

"The list should have been extended to twenty-five kinds, to include Cucumbers, Coleworts, Asparagus, Endive, and Radishes, as then all the best vegetables would be included, although Sea Kale, Rhubarb, Spinach, &c., remain outside."

NOTES ON VEGETABLES.

Broccoli at the Grove, Teddington.

A number of the best and more serviceable of the white varieties of Broccoli are grown at the above place, and notwithstanding the proximity to London and its smoke-laden atmosphere, most of the kinds have pulled through the winter admirably. They have neither been lifted nor heeled over, and, with the exception of Snow's Winter White, were vigorous and healthy when we noted them the other day.

Mr. G. A. Bishop, the gardener, sows the seed of Snow's Winter White in September, and again in January, provided any accident should have befallen the first lot. The plants come into use in October, and last well into winter, provided the weather is not severe. If there is any quantity of it, however, it should be lifted and put in a cold frame or pit where the sashes can be put on during severe or wet weather. It produces medium-sized heads of excellent quality, and which are well protected by their own leaves; but the plant proves rather tender, at least in that neighbourhood, as shown by the remains of what were left uncut.

A vigorous late kind is Dilcock's Bride. It comes into use during March, April and May at Teddington, and appears as vigorous and hardy as the Purple Sprouting Broccoli does in other parts of the suburbs during the winter months. A very old kind that has stood the test of many years is Knight's Protecting, and which finds a place here, being still considered worthy of cultivation amongst other and more recent varieties. The growing of several kinds offers more advantages than that of mere difference in appearance, inasmuch as some prove more suitable for one locality than another, giving greater assurance of a crop. The sorts that come into use in autumn Mr. Bishop sows in September, and again under glass if necessary in January, while spring-flowering kinds are sown in spring, so that the plants would generally be about twelve months old when fit for use.

THE FERNERY.

Fern Rockeries.

Those who contemplate the formation of a rockery for the cultivation of Ferns may be usefully reminded that they should set about the work immediately, so that it may be completed before the hurry of seed sowing, planting, and other work engages the whole of the gardener's attention. The stone work should also be completed, and the pockets filled with suitable soil ready for planting the Ferns before growth commences, so that they may benefit by the whole length of our season, and become thoroughly established. This, of course, applies more forcibly to plants that are lifted from the open ground, or obtained from their native haunts. But even those to be planted out of pots will give greater satisfaction if placed in their new quarters before they have been urged into fresh growth by the aid of glass, and perhaps artificial heat.

Rockeries may either be constructed in the open air or under glass. In both cases there is ample scope for the display of individual talent, when the space at command admits of a work of some size. Out of doors the object of a rockery is sometimes to hide an unsightly background, a fence, or other deformed prospect. In such cases there is no choice of locality, and the best must be made of the local circumstances. There are many private establishments, however, where the natural features of the place offer advantages, both of utility and beauty, for the construction of a rockery suitable for the growth of Ferns.

Natural shade is a matter of great importance, but the trees had better be sufficiently distant so as not to interfere with the roots of the Ferns nor impoverish the soil. Natural declivities and slopes near water are to be preferred, for then great variety of aspect can be obtained for the different kinds. Even when there is no natural stream of water close by, it may be diverted so as to run through the Fern garden or hardy fernery. An open stream of water is an immense advantage to Ferns, supplying some of them with moisture, keeping the atmosphere cool, and otherwise beautifying the whole. The banks of the stream may be roughly built with large irregular-sized stones, and planted with the larger growing kinds, such as the many beautiful forms of the Lady Fern, the crested varieties of the male Fern, bold pieces of the Royal Fern (Osmunda regalis), and even the Ostrich Fern (Struthiopteris germanica), which is perfectly hardy in this country, and delights in a moderately moist soil.

Sandstone, either red or white, should be selected if possible for constructing bold banks, walls, slopes, pockets, and receptacles of every conceivable form in which to plant the different kinds. Porous material retains the moisture best, and should always be used if obtainable. Stones, however, of almost any kind, brick burrs, or even stumps of uprooted trees will answer in default of better; but the last named may be used only for the very roughest of work on the edges of woodlands, or out-of-the-way places where the coarser kinds only may be planted.

There is less scope as a rule for the display of individual taste and talent in the construction of indoor rockeries, because space is more valuable and limited. There are exceptional cases, however, where neatly constructed works of this kind give an additional attraction to a house, such as plants in pots never can. The kind of stone employed in stoves, ferneries, and other structures where a moist atmosphere prevails is of less importance than in dry houses or out-of-doors, because a sufficiency of moisture can always and readily be given. There are few establishments where something of the kind may not be attempted. There may be an objectionable or ugly tank to hide, some dull corner or end of a house that might profitably be occupied with Ferns, and rendered both attractive and interesting.

Hardy Filmy Ferns.

I often wonder why these pretty and easily managed Ferns are not more commonly cultivated. It must be that a wrong impression has gained ground regarding the treatment required to be bestowed on them, for rarely indeed does one meet with even a few specimens, and that too where hardy plants are grown in quantity. Ten years ago I purchased a collection of these plants, and I am happy now to relate that I have found them as readily managed as ever was a Hart's-tongue or Lady Fern.

The kinds I cultivate most successfully are Todea pellucida and superba, Trichomanes radicans, T. r. plumosum, and T. r. flexuosum, T. reniforme, Hymenophyllum loxum, H. demissum, H. Wilsoni, and H. Tunbridgense.

The kidney-leaved Trichomanes (T. reniforme) had but three little fronds when purchased, but now the plant fills a 12-in. pan. Hymenophyllum demissum is a gem of the readiest culture and rapid increase. The fronds are a bright enticing green, thickly produced, and of unusual substance. Of the Killarney Fern it may well be said that it is one of our handsomest native species, while at the same time it is as easy to grow as a Pelargonium or Calceolaria. A small plant has run riot in a 14-in. pot in eight years. I used to grow them in a specially made frame with flanges on the sides to keep out wind, but now I have transferred them to an unheated kind of plant house, rudely erected. They are potted in good peat with silver sand, watered overhead at short intervals, and screened from sunshine, and that's all.—*A. D. Webster.*

NOTES FROM SCOTLAND.

A Bouquet from the North.—The Rev. D. Landsborough, who is well known in the West of Scotland as an enthusiastic naturalist, writes in the *Kilmarnock Standard* of the 2nd inst.:—"Mr. Campbell, Ledaig (on the coast, six miles from Oban), has just sent me a winter bouquet from the open air, the most remarkable I have ever seen, as it has all the freshness, variety, richness of colour, and the sweetness of perfume that one looks for in a bouquet in summer. That it is such will be seen from a list of the flowers:—1, scarlet Rhododendron (R. Nobleanum); 2, scarlet Quince (Pyrus or Cydonia japonica); 3, scarlet Escallonia macrantha; 4, scarlet-berried Pernettya mucronata; 5, white-flowered Quince; 6, common golden Crocus; 7, white-striped Crocus; 8, large purple-flowered Veronica Andersoni; 9, pink Heath (Erica herbacea); 10, single Snowdrop, very large; 11, double Snowdrop; 12, purple Polyanthus; 13, yellow Winter Aconite; 14, yellow Jasmine; 15, white Hepatica; 16, dark blue Hepatica (H. angulosa); 17, crimson Chinese Rose; 18, yellow Senna (Coronilla emerus); 19, common purple garden Anemone; 20, large Golden St. John's Wort (Hypericum calycinum); 21, crimson Schizostylis coccinea; 22, crimson Chrysanthemum; 23, blue Omphalodes verna; 24, the exquisite dark blue Lithospermum prostratum; 25, blue Hydrangea; 26, Christmas Rose; 27, purple Christmas Rose. The whole is deliciously perfumed by the presence of the flowers of Wallflower and Sweet Violet, and the fragrant leaves of the Musk plant (Eurybia argophylla). Thus there were in all twenty-nine kinds of flowers in bloom. This number might have been added to if Mr. Campbell had sent everything he had in bloom."

Scottish Horticultural Association.—There was a numerous attendance at the monthly meeting held on the 5th inst. Mr. Dunn, Dalkeith Palace Gardens, presided, and Mr. Alexander Hutton, Dundee, contributed a paper on the Begonia. After dealing with the geographical distribution of the order, referring to the botanical peculiarities of the genus, and describing the fibrous-rooted section, of which Begonia Rex is the type, the writer gave an account of the introduction of the tuberous-rooted varieties, and of their suitability as bedding-out plants. Mr. Hutton strongly urged upon growers the propriety of giving more attention to the cultivation of the Begonia. An interesting discussion ensued, in closing which the chairman spoke highly of the practical value of the paper, saying he was sure their time had been very well taken up in discussing one of the most important of modern subjects which had come up before the society for some time. A vote of thanks to Mr. Hutton was heartily accorded. The exhibits on the table included a fine collection of Tomatos from Mr. Bell, Morton Hall, who was awarded a Certificate for his exhibit. Mr. G. Mackinnon, Melville Castle Gardens, forwarded a branch of Clematis indivisa lobata, which had been cut from a plant in the conservatory there. The shoot was 14 ft. long, and on it there were 1,500 fully expanded blooms. After the ordinary business of the meeting it was reported by Mr. M'Kenzie, Warriston Nurseries, that he had already received, from members of the Association *alone*, guarantees to the amount of £130 for the forthcoming Chrysanthemum show.

FLORICULTURE.

Carnations and Picotees.

Now that work in the garden is to some extent at a standstill, and lovers of that queen of the floral world—the Carnation—have little to do in connection with their plants, I think the present is an opportune moment for discussing the qualities and properties of this flower, and the classes into which the English florists have thought proper to divide it. I am induced to take the subject in hand in consequence of the numerous inquiries which I receive from both amateurs and gardeners and others interested in the matter, as to the special peculiarities of the Carnation and Picotee. It may be a matter of surprise to those who are learned in these things to know that gardeners need enlightenment, but as there are fashions in flowers as in other things, so it has come to pass that notwithstanding the great beauty, the delightful perfume, and the general usefulness of this glorious flower, it has been so long kept in the background to make room for other subjects of far inferior merit that but few, comparatively speaking, have any conception of its value, its properties, or its culture, hence the necessity for some discussion at the present time.

As to the history of the Carnation, it would be a waste of time and space to enter into the subject; but to those who would really study the matter, I commend the most recent work on the Carnation, by the father of the Oxford Carnation Union, and the most successful raiser of Carnations and Picotees of the present day—our old friend, Mr. E. S. Dodwell. Of the older writers—and these have been many—none have dealt with the subject in a more practical or useful way than the late George Glenny, who, in his *Properties of Flowers and Plants*, thus describes

The Properties of the Carnation.

First, the flower should be not less than 2½ ins. across. Second, the guard or lower petals, not less than six in number, must be broad, thick, and smooth—the more round the outline the better—free from notch or cerulation, and wrap over each other sufficiently to form a circular roseate flower or crown. Third, each row of petals should be smaller than the row immediately under it; there should be not less than five rows of petals, laid regularly, and the flowers should rise and form a good bold centre or crown, and in quantity should form half a ball. Fourth, the petals should be stiff and slightly cupped. Fifth, the stripes of colour should be clear and distinct—not running into each other, nor confused, speckled or broken, but dense, smooth at the edges of the stripes, and well defined. Seventh, the colours must be bright and clear, whatever they may be; if there be two colours (as in the bizarre), the darker one cannot be too dark, or form too great a contrast with the lighter. With the scarlet, the perfection would be black; with the pink, there cannot be too deep a crimson; with the lilac or light purple, the second cannot be too deep a purple. Eighth, if the colours run into the white ground and tinge it, or the white is not pure, the fault is great, and pouncy spots are highly objectionable. Ninth, the pod of the bloom should be long and large, to enable the flower to bloom without bursting it. So far so good for the properties of the Carnation proper.

The Properties of the Picotee.

The properties of form are similar to those of the Carnation; but the distinction between the Carnation and Picotee is that the former is disposed in unequal stripes, going from the centre to the outer edges, and that of the Picotee is disposed on the outer edges of the petals, and radiates inwards, and the more uniformly this is disposed the better. Whether it be very deeply feathered at the edge, like the pattern on the edge of a heavily-feathered Tulip, or an even stripe not thicker than the thickness of the petal, all round the edge, or something between, it is only necessary that it be uniform, that none of the feathery marks have a break, and that there shall be as much width of white as colour seen on the petal at the deepest part of the feather. It is not necessary that the feather be the same width all the way round, but every stripe which does not reach the edge of the petal is a blemish.

Disqualifications of the Flower.

First, if there be any petal dead or mutilated. Second, if there be any one petal in which there is no colour. Third, if there be any petal in which there is no white. Four, if a pod be split down to the sub-calyx; if a guard petal be badly split. Five, notched edges are glaring faults, for which no excellence in other respects can compensate.

Now this was the florists' perfect flower, according to Hogg in 1820, and appears to have been received as the standard to the present day, except that the Picotee has been, by cutting and selection, so refined that the feather has been replaced by the wire edge, and the feather and flash, or pick, would now be looked upon as a disqualification in a box or stand of Picotees. Thus the Carnation was divided into Flakes and Bizarres; the former being striped with one colour on a pure white ground, while the latter is striped with two colours on a white ground. The Picotee is divided into a light and a heavy line on a white ground.

Now comes the question, Why should the self-coloured and the fancy-coloured striped Carnation be excluded from the class, or stage flowers? Is it because they are less beautiful? Why is the flash, flame, or the feather excluded from the white ground or yellow-ground Picotee? Surely those who think so can have had but little opportunity of seeing and knowing what our Continental neighbours have in this way. For exquisite beauty of colour and delicacy of marking commend me to fancy and self Carnations and Picotees. I have been told that those things may do for the border, but are inadmissible for exhibition purposes; but it is a question now which are stage, and which are border flowers. Both are amenable to open ground, or pot culture; and this I know, that in the eyes of the ladies, the most beautiful, and the most useful for decorative purposes are those which the professed florist would banish to the border. Let us, then, lay aside these one-sided restrictions, and let quality and beauty be our guide. For myself, I love beauty in every form, and for real and unalloyed enjoyment, give me a garden in which the Carnation and Picotee are grown in every variety of colour; and if you have a garden, and would share my pleasure, now is the time to sow the seeds, but first of all to get them. Do not be put off with the cheap common stuff, but secure a small quantity from the best possible source, and sow it in February or March; prick the seedlings out into boxes as soon as they are ready to handle, and plant them in the open ground when it is safe to do so. Protect the plants from the ravages of bird and insect pests by dusting the bed and the foliage with soot early in the morning when the dew is upon them, and you may confidently look forward to a glorious treat in 1890. But as time is precious, and some may prove a little impatient, I would say in such a case, send to some trustworthy grower at once for a small collection of the best standard sorts, and put them into small pots. When they have filled these with roots, then either plant them in the bed or open border, or put them into suitable pots. If you do not get a satisfactory result—a perfect feast of beauty—I shall be very greatly surprised. —*William Wardill, Luton.*

The Climbing Niphetos Rose.

Niphetos is undoubtedly one of the best Tea Roses in cultivation, and the new climbing variety will prove as great an acquisition—a grand companion to the favourite Maréchal Niel. It is very robust in habit and a vigorous grower, shoots upwards of 20 ft. in length having been developed in one season. It flowers very freely, producing magnificent blooms in great profusion from the lateral shoots. The flowers are a purer white than those of the old Niphetos (from which it is a sport), showing no tinge of pink as the old one does, while at the same time being more deliciously scented. Those who had the pleasure of seeing the plant exhibited last season at one of the Royal Horticultural Society's meetings, where it obtained a First Class Certificate, will remember its free-flowering qualities, for the comparatively small plant shown in a pot bore four dozen splendid flowers. It has been blooming very freely through the winter months in one of the houses in the nurseries of Messrs. Keynes, Williams & Co., Salisbury, who hold the entire stock, and who purpose sending out the novelty in May of the present year. Rose growers may therefore look forward with confidence to, at least, one welcome addition to the many superb Roses already in cultivation.—*Rusticus.*

Cineraria, Emperor Frederick.

A large batch of this curious and beautiful variety is now rapidly advancing to flower in the nursery of Messrs. J. Carter & Co., Forest Hill. The ease and certainty with which it can be propagated may be judged by the hundreds of healthy plants which, in the course of a few weeks, will be in full bloom. As a variety, it is exceedingly distinct on account of the ray-florets, which are of a beautiful velvety purple, being stalked. The stalks are rose-coloured, and being narrower than the blades, open spaces are left, forming a ring of openings round the disk, which is also purple. The leaves are distinctly narrower than those of seedlings of other kinds close by. It might be pointed out here that no pollen or seed is produced by the variety, so that it can only be propagated by offsets, which are very freely produced.

THE BLUE PRIMULA.

A PROTEST.

I am not easily ruffled, and do not permit trifles to disturb the serenity of my mind, but as the modest worm turns when its tail (if it has one) is trodden upon, so I, Sir, must protest against the persistent efforts that have been made ever since Dame Nature planted me on this rude and uncharitable earth, to blacken my character or at least to rob me of the claim to certain personal charms that I maintain I am fully entitled to.

Now, Sir, when Messrs. Carter displayed my charms *as the first Blue Primula*, I admit my form was somewhat provincial and unrefined, but after rubbing shoulders, and occasionally by some more agreeable and certainly more amorous greetings with my fellows, I flatter myself that I am now qualified *by my perfect appearance* to move in the highest society. So much for form; but, Sir, unkind, or perhaps it may be jealous critics say *I sail under false colours*, that I am not what I seem—in other words, I am not Blue. If I am not blue, Sir, then what on earth am I? Are the Hyacinths C. Dickens, Orondates, Grand Lilas, Grande Maitre, and many more entitled to be called blue? If so, then so am I. Is my modest friend the Forget-me-not blue? Then so am I. Is the sky blue? Then so am I, for in the fresh morning of my existence I challenge the most celestial sky to put my complexion in the shade.

I admit that ofttimes, after considerable rounds of dissipation, my colour is less bright, but even then it is a better blue than Charles Dickens. More than once or twice I have blushed, and then my colour might have changed for a time. You ask why I blushed; I will tell you. I have always been taught to go straight, and I was ashamed to find that, from time to time, as I appeared in public, I was paraded as "The new beauty of the season," whilst I felt sure that many of my first admirers would recognise me again, and inform the world that I was the original blue, sailing, or being sailed, against my will under a new name.—*The Blue Primula.*

FUCHSIA TRIPHYLLA.

The garden varieties of Fuchsia have so engaged the attention of horticulturists in general that many of the original species have altogether been overlooked or neglected, except in a few establishments—particularly botanic gardens—where they may be said to have taken refuge. The species under notice was originally introduced in 1842 from Pichinchia, and seems to have been lost or thoroughly neglected until recently. A reaction in its favour is now setting in; and it is highly desirable that it may find its way into every garden where such things are cultivated throughout the country. In general appearance it may be described as a F. fulgens, with smaller but more glowing flowers. The latter are of an orange or cinnabar-red, and produced in droopin racemes of great beauty, terminating the shoots of the plant. The leaves are moderately small, of a deep bronzy green, with conspicuous veins, and reddish beneath. One of the chief recommendations of the plant is its dwarf and bushy habit, ranging from 1 ft. to 2 ft. in height, so that it can easily be accommodated where space is limited, and good-sized plants of the cultivated kinds would be inadmissible. The objection to many of the unimproved species, as being too tall, does not apply in the case of F. triphylla. We are indebted to Messrs. H. Cannell & Sons, Swanley, for an opportunity of figuring it.

Schutter's Reinette Apple.—A figure of this new variety of Apple is given in the last number of the *Bulletin d'Arboriculture*. It was a chance variety found in a wood by Dr. E. E. Vleugel Schutter, of Oosterland, near Zierikze. Grafts were given by him to Mr. Van Der Have, who has propagated it extensively. It is described as a fruit of the first quality, and judging from the coloured plate, it is really a highly-coloured and handsome variety. In shape it is globular and rather deep, smooth, and of a deep yellow colour, heavily suffused with brownish crimson, and more or less striped with crimson. The flesh is yellowish, firm, of a true Reinette taste, and in season from October to February without undergoing the least alteration of taste or consistency of the flesh. The tree is very vigorous in growth, and a heavy cropper.

THE CHISWICK VEGETABLE TRIALS.

By means of a circular to hand, I am invited to send selections of certain kinds of vegetables to Chiswick Gardens for trial during the ensuing season. The sorts referred to as specially to be tested are Broccolis, Cauliflowers, Brussels Sprouts, Broad Beans, Gourds, new Peas, and Potatos. Here is certainly a somewhat formidable bill of fare for the Fruit and Vegetable Committee to digest, although Broccoli will give no trouble until next year, and Brussels Sprouts will hardly be at their best earlier than October next. Naturally it is very interesting to learn that Chiswick is thus being put to some practical use in association with trials of this kind. But many readers of The Gardening World will be aware of the fact that not only have the subjects above named been grown for trial from time to time for several years, but that also almost every other kind of vegetable has been so tested at Chiswick at intervals. And the question which crops up after all is, What particular benefit to gardening has resulted?

How many a gardener is there who realises that seed lists, especially those of vegetables, are now bewilderingly lengthy, indeed, containing numerous varieties which none grows or are grown only in the most limited quantities. What more natural, therefore, that bewildered ones should turn with some sense of hope to the products of the annual Chiswick trials in expectation that when these have demonstrated to the satisfaction of that knowing body, the Fruit Committee of the Royal Horticultural Society, that such-and-such kinds or varieties are the best, the seed trade would take the hint, and erase from their seed lists all things found to be inferior. Unfortunately, although these particular Chiswick trials have been going on for many years, the trade has never in one item been influenced by them, except when something or other obtained a coveted Certificate of Merit. That, of course, has been abundantly blazoned forth, but not a word has been published with regard to varieties declared by the Fruit Committee to be inferior. Well, if the seed trade will pay no deference to the results of these trials, why do not the committee retaliate by refusing to grant certificates at all, or, indeed, to publish the results of the trials? That would be giving the seedsmen a Roland for their Oliver.

But then there are to be set against the Chiswick trials those other tests which are conducted by nurserymen for their own special satisfaction, some of whom set apart a portion of land for the purpose so extensive as to make the Chiswick Gardens area trifling by comparison. That in all such trial grounds the utmost care is taken to treat all things equally well, and to get a true line from the growth of each variety for comparison with new ones, there can be no doubt; and because so extensive, and conducted under better, or at least more favourable conditions than the Chiswick trials can be, it is not to be wondered at that seedsmen prefer to be guided by the trials made under their own eyes rather than by those conducted under the auspices of a body of persons, one-half—perhaps two-thirds—of whom have not a tithe of that knowledge of things tested which seedsmen have. If anyone doubts this assertion let him visit during the coming summer one of the large trial grounds of our great seed firms, and conversion will speedily follow.

But it may be said that at least we know from the Chiswick trials what sorts of vegetables, as advertised by various seed houses, though so diversely named, are, after all, really only synonyms. That is so at the moment that the results of the trials are published, but then how soon is it forgotten. The Council of the Royal Horticultural Society intimate, as some stimulus to persons to send seeds to Chiswick for growth and trial, that the results of these trials will be published in the society's journal. That is about as interesting as it would be to learn that they would be published in Hansard's reports, for only very few will ever see the journal when published. Whether, with a view to stimulate membership of the society, it is proposed to withhold those reports from the gardening papers, and to keep them exclusively for the benefit of the Fellows, is not stated, but if such be the case, for any service they will render the public they might just as well be published in the *Kew Bulletin* or the *Gazette of Timbuctoo*. Still, it is fair to say that when the reports of previous trials were published in the papers, no appreciable benefit to horticulture seems to have resulted from them. If such has been the case, at least publication was not to be blamed, neither was the Royal Horticultural Society. If blame attaches anywhere, it would seem to be on seedsmen who have declined to notice the reports, and the public which so far has read of them and then ignored them.

Perhaps it may be pleaded that the trials serve to provide some practical matter wherewith to furnish the pages of the society's journal. That argument has its weight, but it is a trifling one. Then it may be said that the society shows willingness to perform practical work, and to make Chiswick useful to the gardening community. That is excellent argument too, and worthy of all respect; but there still remains the undoubted fact that the trials, so satisfactory on the whole to the society, and productive of so many reports, seem to have so far exercised no influence outside of Chiswick, and the great benefits looked for from them are almost nil. In spite of this fact the trials will still go on, and those interested in them, or in the things tested, will continue to draw their own inferences. Could these trials be conducted simultaneously in some half dozen parts of the kingdom, and with equal care, then results would be far more reliable and valuable. All the same it is evident that if proper care be exercised, questions of identity or diversity may easily be determined, only when so determined nobody accepts the conclusions, and no one acts upon them.

If the Council of the Royal Horticultural Society can devise any method by which its decisions shall be made binding upon the seed trade, some benefit may result, but as that is impossible, so will seedsmen be guided by the teachings of their own trial grounds, rather than by those at Chiswick.

With regard to the various subjects invited for trial this season, it is difficult to understand why Cauliflowers have been again selected, as these underwent exhaustive trials some two or three years ago. The respective families of the Cauliflower, such as first early, dwarf forcing, second early, mid-season, and latest and most robust, were then very well defined, and it was found that, in spite of nomenclature, there were not in commerce many distinct kinds after all. Well, what was then done can only be done over again. When done previously, and the results were published, not a seedsman reformed his Cauliflower list in consequence. The same thing will happen again, let the results of the trial be what they may. It is difficult to understand why such utterly valueless things as Gourds should have been selected for trial. These things have no status as garden vegetables in this country. We grow some two or three varieties of Marrows, the selection being an exceptionally limited one. Nine-tenths of the Gourds grown, judged by what we see at some of the amateur shows, if pretty as ornaments, are otherwise only productive to the gardener of worry and vexation of spirit.

With regard to new Peas, and these continue to be legion, would it be too much to ask of the raiser what particular older and previously certificated variety he proposed that his new one should supersede as being an improvement? Were that done, the variety to be superseded could be grown side by side with the novelty, and were this done it is very probable that fewer certificates to Peas would be issued. Some such plan as this seems to be urgently needed in order to check the tendency, on the part of raisers of new things, to make Chiswick their trial ground, rather than that of the Royal Horticultural Society.—*Sativum.*

Fuchsia triphylla.

The Amateurs' Garden.

Cuttings of Bedding Plants.

In many cases there will be a deficiency in the number of cuttings required for bedding out. The winter has been comparatively mild and damp, with the frequent recurrence of fogs, so that in greenhouses where no fire-heat has been used except to expel frost, many of the cuttings struck in autumn as well as old plants will be found to have damped off. There is yet, however, plenty of time to obtain a sufficient number by propagation. Get some pans or boxes, and after draining them well, fill with light sandy soil, placing them over the flue or as near the hot-water pipes as can conveniently be done, while the cuttings are favourably situated with regard to light. Make the soil moderately firm, and after properly preparing cuttings of Pelargoniums, Lobelias, and similar things, insert them firmly, and water down with a rose watering-pot. Strong heat is by no means requisite provided care is exercised in watering, neither keeping the soil sodden nor yet too dry. A square of glass may be placed over the Lobelias. The rooting process will not be so quick as where there is a proper pit for the purpose, but it will be none the less sure. Seeds of the Golden Feather if sown now will have time to attain a good size before they are required for bedding-out. It grows very slowly compared with most other kinds of plants used for the same purpose, and should therefore be sown in advance of them.

Pruning Window Plants.

It is the experience of many that window plants soon get too large for the space provided for their accommodation, and tend greatly to darken the room when they get tall and crowded. At certain times of the year they get scarcely enough of ventilation, while the weather is sufficiently mild to keep them growing. Another thing is that amateurs, as a rule, are afraid to handle the knife when it might be done with great advantage to the plant, as well as to the greater convenience of the owner. The best time to effect this necessary pruning is in spring, before the plants start into fresh growth. The buds are now moving in most cases, and the sooner that such things as zonal Pelargoniums, Fuchsias and Lemon-scented Verbenas are pruned the better. If left till a month later it has the effect of making the plants late in coming into bloom. The buds near the apex of the shoots are always the most forward, and after they are pruned away fresh buds have to be pushed, which were hitherto resting in a dormant condition near the base of the shoots. Pelargoniums should be pruned to within a few buds of the old wood, leaving some shoots longer if necessary to get the plant into a close bushy shape. Lemon-scented Verbenas (Aloysia citriodora) should be treated much in the same way. There are different ways of pruning a Fuchsia, either as a globular or conical bush, according to taste; but large plants never look finer than when pruned and trained in pyramidal form. The least experienced grower can easily do this himself at the present time if he has large plants to operate upon. Any irregularities that may occur in the perfect outline of the plant may be rectified as the shoots grow, by tying some of them into position. Pelargoniums should be kept dry some time before cutting them down, and until the shoots commence to grow again. The others being leafless may be cut at once.

Potting Ferns.

The present is a convenient time to re-pot such of the Ferns as require it in the greenhouse. Many of them are showing signs of starting into fresh growth, and should be potted before the young fronds get far advanced, otherwise there is danger of breaking them. Before commencing the operation all necessary material should be ready to hand, such as compost, clean pots, clean crocks, and whatever may be requisite. Where the supply of pots is limited it is, of course, necessary to frequently wash a batch that has just been emptied before the rest can be proceeded with. The matter of soil is all important for most kinds of Ferns, and unless it be sufficiently porous, many will altogether fail to give satisfaction. In some cases it may be convenient to order from some salesman the particular kind wanted; but, as a rule, those who have gained a certain amount of experience prefer to mix their own composts. Most Ferns delight in a fair proportion of good fibrous peat, as in the case of Asplenium, Pteris, Lomaria, Lastrea, and others. Adiantums will do well in loam alone, and if properly managed, the fronds will be firmer when so treated. For general purposes, however, a good compost will consist of two parts good fibrous loam, broken into a lumpy condition, one part each of peat and leaf-soil, with a quantity of crocks broken rather small, and a good quantity of silver sand to keep the whole porous and open. Those who can get it would improve their soil considerably by using sphagnum chopped up fine, or clipped with the garden shears. More loam may be given to the Adiantums. In view of the amount of water required during the period of growth, the pots should be carefully drained, and a layer of moss or sphagnum be placed over the crocks, to prevent the soil from being washed down amongst the drainage.

The Hoop-Petticoat Daffodil.

This is the popular title which has been given to Narcissus bulbocodium, with its varieties, several of which are so distinct that they have been honoured with specific names. The type has been cultivated to a greater or less extent in this country since 1629, but really ought to be more common than it is. A tuft of it on the rockery, with its golden yellow flowers, is an object of great beauty, and when the bulbs are undisturbed they flower regularly every year. The blooms of N. b. citrinus are rather larger than those of the type, and sulphur-yellow. For horticultural purposes, the above two, together with N. b. monophyllus, are the best of the group. The last is somewhat tender out of doors, but succeeds well under glass. The whole of them are amenable to cultivation in pots, and succeeding very well, are beautiful and most interesting.

Azalea pontica, a Good Plant for Town Gardens.

Mr. James Percival, Smithy Bridge, near Rochdale, writing to the *Manchester City News*, says:—On the second Sunday in May of last year, while walking up Higher Broughton along with my friend Mr. Thomas Rogers, my attention was drawn to a plant of this species which contained at least 100 flower buds, which would have been developed in a few days, and no doubt were a splendid sight, and within a mile and a half of the Exchange. I am not aware that there is any other plant that will stand the smoke of large towns and flower so profusely as this one. The plant has grown in the same situation for at least twenty years. Its flowers are beautifully formed, and the heads are similar to the Rhododendron, but yellow. Some few years ago, when the late Mr. Glover lived at Smedley, I recollect seeing in his garden plants of this Azalea 6 ft. high and the same across, literally loaded with its yellow flowers. They are as sweet as the Honeysuckle. I am not aware that there are many varieties of this plant. There is a white variety mentioned in books, but I have never seen it. Another Azalea, called nudiflora, would be worth trying with A. pontica, for I think it is, if anything, more beautiful, and there are at least a dozen distinct varieties, varying in colour from white to scarlet, but seldom seen except in old gardens. The plants are not very expensive.

Gardening Miscellany.

Private Market Gardens.

Upon reading your comments on this subject in last week's issue, it occurred to me that it was not only Pines and Peaches from the Duke of Bumpshire that plain Jones or Smith had to contend with, as the following will show:—A certain gentleman is in the habit of keeping a few pigs; they are fed as all other, or mostly all other pigs kept by amateurs are, viz., on the waste of the kitchen and garden, and "finished" on barley-meal. When the pigs are ready to be turned into pork, they are bought by a local butcher at 12*s.* per score (the market price is 9*s.*), and when killed, the gentleman sends notes to his friends, General Blank, Colonel So-and-so, and so on, stating that Butcher "Sharpun" has killed one of his pigs, and will be pleased to supply them with the pork, &c., &c. Some may ask why the butcher pays 3*s.* extra per score for this very ordinary pork, but the reason is obvious, the consumers consider the pork fed by their friend Squire —— is superior to all other, and are content to pay from 2*d.* to 3*d.* per lb. more than for that fed by any dairyman. I need hardly say it pays the butcher well, for no trade mark is put on the pork, and he has only to use the name of Squire —— to get the extra pence per lb.; but it must be "noted" amongst Mr. ——'s acquaintances, for ordinary mortals fail to find anything superior in the pork in question. Market gardeners here have to compete with the Lord of the Manor, whose gardens and glass-houses rank amongst the finest in the country. His surplus produce is handed over to a costermonger, who regularly hawks the town two or three times a week with Pines, Grapes, forced vegetables, &c., and will not disdain to do a bit in Violets and other small flowers, thus robbing to a certain extent some of the villagers of the means to earn a few pence by utilising their bits of gardens in growing hardy flowers for sale.—*Fair Play.*

The Brown Man Orchis.

Orchis fusca is a rare and pretty native plant, one of easy culture, and an acquisition to any collection of hardy plants. It grows well with me in silky loam, with just a little decayed vegetable matter added, and flowers freely from year to year. When the flowers are fully expanded, the Brown Man Orchis presents a most interesting and curious appearance from the unusual colouring of the sepals and petals, as also the strangely-shaped flowers as a whole. It used to be found in some quantity in the southern English counties, but alas! like many another of its kind, its day is well-nigh past. I should like to hear from anyone who cultivates it successfully.—*A. D. Webster.*

The National Chrysanthemum Society's Statement of Accounts.

I notice in your issue of the 9th inst., in the report of the annual meeting of this society, under "receipts," that the Sheffield and Hallamshire Gardeners' Mutual Improvement Society is credited with having paid £102 9*s.* I rather doubt the payment, especially since I, as honorary secretary to the Sheffield and West Riding Chrysanthemum Society, hold receipts for the like sum. It is also worthy to note that the Hallamshire Society is not affiliated to the N. C. S. I think it is the duty of the compiler of the accounts to explain the matter, and at least to give credit to the society from whom the amount has been exacted.—*J. W. Jarvis*, 101, *Barber Road, Sheffield.*

In the financial statement recently presented to the members of the N. C. Society, I recorded £102 9*s.* as having been received from the Sheffield and Hallamshire Society. This is a clerical error; it should have been the Sheffield and West Riding Chrysanthemum Society.—*William Holmes, February* 11*th*, 1889.

Our Native Hellebores.

For naturalising in semi-wild places our two wild species of Hellebores are excellent plants. About a good-sized specimen of H. fœtidus there is something remarkably noble and taking, particularly when in full flower, as it is at present in many of our woods and copses. Usually it increases rapidly from seed, indeed I have counted in a square yard of ground fully a hundred specimens. When full grown this plant reaches a height of 3 ft., and a diameter of spread of sometimes twice as much. The stinking Hellebore, as H. fœtidus is usually designated, being poisonous, should not be planted in positions to which children have easy access. H. virides, the green Hellebore, is of less stature than the former, with more slender stems, and fewer flowers. It is interesting as a British plant, and may, for this reason alone, find a suitable place in our collections of hardy, rough-growing perennials. Generally it is of slower increase than the better-known H. fœtidus, and rarer as a wild plant.—*A. D. Webster.*

"Some Curiosities of Diet."

The following extract is from an article by Dr. Crespi, in a recent number of the *National Review*, and can hardly fail to be read with interest by the gardener of to-day:—How much of the greater vigour and better health of our times is due to more wholesome food would be an interesting question to discuss; and that a well-arranged dietary has a great deal to do with the increasing longevity of our generation cannot be denied. As recently as the time of Queen Elizabeth vegetables were little cultivated, and still less used; and some of the kinds, which are now seen in every house half-a-dozen times a month, were absolutely unknown. The breakfast of the Maiden Queen commonly consisted of salt meat, bread, and strong ale. It was not till the introduction into England of artificial Grasses from France that much live-stock could be kept through the winter. As lately as 1724 Dr. Cheyne wrote that no distemper was more common, fatal, and obstinate than scurvy, one of the most easily prevented of all diseases; and Dr. Cullen lamented that women, from their indoor and sedentary lives, suffered greatly from the effects of bad diet. Sir John Hawkins introduced the Potato into Ireland in 1565, and twenty years later Sir Francis Drake introduced it into England; and in 1586 Sir Walter Raleigh also brought it over here, but two centuries passed before it became a common food. Rhubarb is quite of recent introduction, and is said to

have been brought to this country in 1573 from the Volga, but for 200 years remained a gardener's curiosity. Mr. Joseph Myatt, of Deptford, was the first Englishman to cultivate it on a large scale, and in or about 1810 sent his sons to the Borough Market with five bunches, of which they could only sell three. They took ten the next time, and sold them all; and Myatt then resolved to plant an acre the following year. Now Rhubarb is so commonly grown that early in summer it ceases to have any money value, and a little later is thrown away in vast quantities; and we have seen cartloads tossed carelessly on one side. Vegetable Marrows have also grown in favour of late years, and are now a valuable addition to the national dietary. The same is equally true of the Tomato, which continues dear, however, especially in small towns, though it has of late wandered from the precincts of first-class fruiterers' establishment, and is at last being seen in small shops in obscure streets. It is so prolific and easily cultivated, that before long it ought to be found in every grocer's, and in hundreds of thousands of houses.

Boronia megastigma.

Annually, as the season comes round, the houses where this plant is grown become filled with the grateful odour of its brown inconspicuous flowers, which, were it not for this latter quality, would be passed by unnoticed; and, in fact, this is the case till their all-pervading odour attracts the attention of visitors, and induces them to ascertain from whence it comes. The plant is a member of the Orange family, many species of which also exhale a pleasing perfume, not only from the flowers, but also from the leaves. The latter are permeated with resinous glands, which are very characteristic of this order.

Brownea grandiceps.

With the exception of B. coccinea, this is the freest flowering of the species, and may be grown not only for the great beauty of its flowers, but also for its foliage, which is extremely handsome while growth is being made in summer. The leaves at that period, and for a long time after they first expand, are of a peculiarly pale green colour, blotched and striped with brown. Those of B. coccinea are of a beautiful rosy red at the same period. The flower-heads of B. grandiceps are, however, not only the most handsome of the two, but they elicit much admiration from those who see them. They are of a bright red, and although the individuals are small, they are arranged in a dense head or rosette, so as to appear like a huge double Hollyhock. The central flowers are the last to open, and form a short compact cone in the centre. When fully expanded they may be compared to a truss of Rhododendron flowers of great beauty. The plant, or small tree as it may be called, is a native of the mountainous districts of Caraccas, and although it is said to flower in July and August, it also blooms in winter at Kew, where it may be seen now.

Anthracite.

I think your correspondent, Mr. A. Hawkes, is right when he comes to the conclusion that the right way to use anthracite is to put it on the fire in lumps, without breaking it up small. I have had no experience in using it in Weeks' upright tubulars, but am persuaded that for ordinary saddles it is a boon to those who are able to procure it, being far more powerful than coke, and when supplied in large blocks gives far less trouble in stoking. The coal we use is that which is supplied by Mr. Essery, of Swansea, in large blocks, many of them weighing 1 cwt. or more. With a good draught, a large lump will keep the water boiling seven or eight hours, which is far more satisfactory than firing with coke, and finding the temperatures low in the morning if left for more than four hours at a stretch. Mr. J. Peebles was unfortunate in not getting good anthracite, and it is no wonder that he abandoned the use of that, which appears to have been only a worthless imitation; but I think if he tried a truck-load of the genuine article, he would be glad to say good-bye to coke.—*W. Parks, Bickley.*

Pruning Gooseberry Bushes.

On reading Mr. Gaut's sensible paper on the above subject at p. 369, I was astonished when I came to the sentence where he avers that "the early part of March is universally considered to be the best time for pruning." Now, according to trustworthy calendar writers of the past, this practice does not seem to be generally followed by southern cultivators, as one of them, in a back volume of a contemporary, distinctly says:—"We endeavour to have all our pruning, including bush fruits, finished before Christmas"; and I am certain that were your correspondent to make a tour through the most noted hardy fruit gardens north of the Tweed at the time indicated, he would see few, if any unpruned bushes, unless a new departure as to the time of pruning has recently been introduced. Apart from the fact that gardening staffs are necessarily engaged in more seasonable work in March, it is not uncommon for fruit bushes in early districts to have pushed their buds considerably by that time, more especially after such an unusually mild winter as we have recently experienced, so that to leave bushes unpruned thus late means much sacrifice of their vigour. Pruning in the north is generally finished by the end of January.—*D. Mackie, Ayrshire.*

Ruellia Portellæ.

The foliage of this plant is sufficiently ornamental to repay the trouble of growing it even in the absence of flowers. Young plants, or those that have been cut back, form compact little bushes with dark green leaves, the mid-rib and principal veins of which are of a lively silvery grey. The flowers are of good average size compared with the strength of the stems bearing them, and are of a bright rosy pink. They have long slender tubes, which become suddenly kneed or bent, widened near the limb, and plentifully produced during the winter months. It is soft-wooded or of herbaceous texture, and coming from Brazil likes a warm or intermediate temperature. Under these conditions it is flowering freely in the gardens of W. Howard, Esq., The Grove, Teddington.

Celosia pyramidalis.

These are very useful plants for conservatory work and house decoration during the summer and autumn months. They can be flowered in different sized pots, from a 48 to a 12-in., according to requirement, and remain a long time in bloom. Those who have much decorative work to do at that time of the year would find them almost indispensable; some of the varieties are very pretty, and combine many different forms and shapes in flower, some of which are very grotesque. They present several different shades of colour in yellow, orange, or crimson. The seed of the first batch and for large plants should be sown at once, with successional sowings as required. They are very easily grown, especially if a frame with a little bottom heat giving off a moist atmosphere can be spared for them. Care should be taken not to let the plants become drawn in their young state or the stems will become long and weak, which spoils their beauty; this can be avoided by keeping the plants close to the glass, pricking off the young seedlings as soon as they can be handled, and shifting on the plants to the size required before they become pot-bound. Celosia is a gross feeder, and delights in a large quantity of well-decomposed hot-bed farmyard manure in the soil; in fact, I have grown them in nothing else, and they will make fine large plants often 3 ft. through if treated in this way. They will also be greatly benefited by giving them liberal supplies of manure water as soon as the pots become filled with roots after their final shift.—*Alfred Gaut.*

Calathea zebrina.

The rapidity with which this, as well as other members of the family, can be increased has been well shown by a specimen at The Grove, Teddington. Eighteen months ago it was a small but healthy piece in a 6-in. pot. It was potted and encouraged to make growth, and at the present time measures about 6 ft. across the spreading foliage. The leaves of a freely grown plant are always so richly striped as to merit the specific name, and unless the plant is too much exposed to bright sunshine in a dry atmosphere, it certainly merits the trouble of growing it, and the space occupied. That the sun acts injuriously upon it is evidenced by the way the leaves become rolled up when sunshine suddenly bursts out after some days of dull and cloudy weather. Other kinds present movements in response to other agencies, folding downwards during the day, and again becoming erect at sunset.

Passiflora Watsoniana.

A beautiful coloured illustration of this Passion Flower is given in *L'Illustration Horticole*, pl. 74. Its origin is unknown, as it was received from a London horticultural establishment under the name of Passiflora kermesina, under which name it was grown until it flowered in the autumn of 1886. The sepals are green, margined with white, and the petals pale lilac. The double crown is the most ornamental part of the flower; the outer series of segments of this are long, spreading, and of a violet colour, transversely banded with white near the base. The inner series of segments are dark violet, and only half the length of the outer ones. The habit of growth and the three-lobed leaves are precisely similar to those of P. Raddiana, better known under the name of P. kermesina. It is grown in the Palm house at Kew, where it flowers very abundantly.

Daphne odora rubra.

This old-fashioned greenhouse plant is best known in gardens under the name of D. indica rubra. The true D. indica of the botanist is, however, a very different plant, and quite worthless for horticultural purposes; in fact, it is not sufficiently showy to warrant its introduction. In D. odora, however, and its red-flowered variety, we have subjects which, when of fair size, would scent a whole house with a single plant. Certain odours, when strong—such as that we find in certain forms of the Polyanthus Narcissus, or in some of the Stanhopeas amongst Orchids—become extremely disagreeable because too powerful; but in the case of the little shrub under notice, the odour is as sweet and agreeable as it is powerful. Another quality of great value is that it may be had in flower during the winter months without any other forcing than simply being stood in a greenhouse. During summer it may be kept in a cold frame, or stood in the open air along with other greenhouse plants. In the more favoured parts of the south of England it will even withstand the winter in the open air. The red variety we noticed recently in the gardens of Sir John Lubbock, High Elms, Hayes, Kent.

The Dwarf Artillery Plant.

The typical form of Pilea muscosa, under favourable conditions, forms a compact bush of from 12 ins. to 15 ins. in height, and when studded with its tiny flowers, which are red while in bud, it is extremely pretty. The withering flowers, however, are apt to make the plant lose its fresh appearance. There is a variety under cultivation that may be seen in the greenhouse at Kew—namely the dwarf Artillery Plant (P. m. nana), the flowers of which become aborted at a very early stage of their existence; they are never very large nor conspicuous, so that the plant maintains at all seasons, when grown under favourable conditions, a healthy green appearance. The plume-like shoots and spreading branches attain a height of about 6 ins.

Ficus indica.

An Indian species of Ficus is grown under this name at Forest Hill, in the nurseries of Messrs. Laing & Sons, who find that it is equally suitable for the atmosphere of a greenhouse, if not better than F. elastica, the common India Rubber plant. If so, we should expect it to answer very well as a window subject, for which the India Rubber plant is now so noted, but which is liable to damp off under unfavourable circumstances. Another complaint is that it grows so rapidly that it becomes too tall for the window in a few years. The species under notice grows very slowly, and is more inclined to form short lateral branches than the India Rubber plant, which runs up with a single stem. The leaves are shorter that those of the latter, but proportionately broader, ovate elliptic, blunt, deep green and leathery in character, more so than those of the Australian Banyan (F. macrophylla), which is also a very hardy kind.

Two Graceful-leaved Crotons.

Narrow-leaved Crotons are the most popular at present for table decoration. The broader-leaved kinds are, however, beautiful objects for specimen plants when well grown. The popular taste at present demands narrow-leaved Crotons, Dracænas, Aralias, and similar things. C. superbum has leaves ranging from 12 ins. to 15 ins. in length, and arch over very gracefully. They are also narrowly linear, and irregularly blotched with golden yellow along the centre, or the blotches may run into one another and fuse, forming a continuous gold band, bounded on either side by green edges. Another very narrow-leaved and quite distinct variety is C. Laingii, which is exceedingly variable, even on one and the same plant, with regard to colouring. The greater bulk of the leaves are of a dark green colour, with a yellow band along the centre, and the principal nerves crimson. A few are wholly green, and some are wholly of a bright yellow colour. In the collection of Crotons at Forest Hill, in the nursery of Messrs. J. Laing & Sons, these two are noticeable as particularly suitable for dinner-table decoration.

ORCHID NOTES AND GLEANINGS.

Cattleya Trianæ, The Glen Variety.

Cattleya Trianæ is again in season, and fresh surprises may be expected in imported pieces as they come into flower. One such has reached us from the fine collection of Sir C. Tennant, The Glen, Innerleithen, Peebles. It is a plant out of the last importation of the Messrs. Thomson, Clovenfords, Galashiels, and is really a beautiful variety. The sepals and petals are of a warm rose colour, as is the tube of the lip. The petals are of great size, broadly ovate in outline, finely crisped at the margins, and furnished with an elongated deep purple blotch on the upper third of their length. In this respect it resembles Backhouse's variety. The blotch consists of three median veins, which have assumed a deep colour, together with a ramification of smaller veins proceeding from the same. The lip is large for this Cattleya, aud the terminal portion, which is of a rich crimson-purple, is finely undulated or crisped all round the margin. The anterior portion, of the usual yellow blotch in the tube is white. Altogether it is a handsome Cattleya of great merit. C. Trianæ is the most variable perhaps of all the forms of C. labiata, and every new importation gives rise to hopes of something fresh.

Dendrobium Ainsworthii.

One of the prettiest and freest flowering Dendrobiums is that here given. It was raised at Dr. Ainsworth's, Lower Broughton, near Manchester, between D. aureum and D. nobile. Its flowering season is now in full swing, and forms a beautiful contrast to both its parents, as well as fine batches of D. Wardianum and D. crassinode, in the nurseries of Messrs. J. Laing & Sons, Forest Hill. The sepals and petals are white, as well as the apex of the lip, which has a large amethyst red disk occupying the greater part of its surface, and which is always characteristic of this species.

Cœlogyne humilis.

Popularly this is best known as Pleione humilis, and belongs to that section of the genus. It is an exceedingly pretty species, and from its general appearance well merits the appellation of Indian Crocus, a name which is applied to the whole of the Pleioue group. The species under notice is a native of the North Indian Alps, at an elevation of from 7,000 ft. to 8,000 ft. The sepals, petals, and lip are white. The latter organ is white and folded round the column, forming a tube, the interior of which is traversed with about half a dozen lines of curious white hairs, between which are lines of purplish crimson. The margin is also curiously fringed with white hairs. The pseudo-bulbs are bottle-shaped, green, and have the peculiarity of developing little bulbils at their apex in summer or after their leaves fall. Altogether it is a very distinct and charming little thing, and may be seen in the cool division of the Orchid house at Kew.

Mesospinidium vulcanicum.

There is no question that this is the best of all the species grown in gardens under the above name, but which are included in different genera by botanists. The flowers are the largest and brightest of any, and are made more conspicuous by being well carried up on an arching spike. They are of a rich carmine, with the side lobes of the lip paler, and the crest and column tinted lilac. In habit of growth it is precisely similar to that of an Odontoglossum, in which the species of Mesospinidium are included, according to the *Genera Plantarum*, but the flowers are, nevertheless, differently constructed. In cultural treatment it is not fastidious, and it merely requires the temperature given cool Odontoglossums.

Odontoglossum luteo-purpureum radiatum.

An uncommonly well-grown specimen of this Odontoglot may be seen at Studley House, Hammersmith, in the splendid collection of F. G. Tautz, Esq. Two spikes are given off from one strong pseudo-bulb, measuring 3 ft. and 4 ft., bearing eighteen and twenty flowers respectively. The beauty of such a piece may be imagined when it can safely be stated that amongst the great number of varieties, sports, or natural hybrids of the species none of them are decidedly bad or worthless in the same sense that many of the forms of O. crispum are, which have narrow-petalled starry flowers, and bad or undecided colours. In O. luteum-purpureum the blotches of the sepals, petals, and lip are the most prominent feature, and whether pale or dark, the plants are always deserving of the best cultivation. The crest of the variety under notice is a very conspicuous feature of the lip on account of the number of finger-like fringes that radiate from it on all sides.

Cypripedium Sallieri Hyeanum.

The typical form of this hybrid, namely, Cypripedium Sallieri, was derived from C. villosum crossed with C. insigne, and is notable in having been raised in two different establishments—one in France, and more recently at Forest Farm, near Windsor. The same parents of course were used, and the seedlings proved identical. The variety C. S. Hyeanum is a great improvement, inasmuch as all the colours are paler, softer, more pleasant, and quite distinct. The apical portion of the standard is of a purer white, while the yellow ground colour of the petals and lip is suffused with pale brown. In the polished appearance of the flowers, as well as in the shape of the petals and lip, we have traces of C. villosum, the seed parent, and in the shape and rich spotting of the standard we can trace C. insigne, the pollen parent. The individual flowers are of large size, and are borne on scapes about 6 ins. high. This beautiful variety may be seen in the collection at Studley House, Hammersmith.

Odontoglossum Rossii rubescens.

The flowers of this variety are noticeable for the large number of colours distributed over them. The sepals are heavily blotched or spotted with brown on a green and yellow ground, while the petals are much larger, white tinted with blush, and spotted with chestnut-brown at the base. The labellum is large, and white tinted with pink, while the curious somewhat cup-shaped disk is lemon, and the column is purple, making in all seven or eight distinct shades of colour. O. Rossii is one of the most easily-grown species, and good varieties like the present are always to be preferred to the more common kinds. It is flowering in the nurseries of Messrs. J. Laing & Sons, at Forest Hill.

Oncidium reflexum.

A very fine form of this free-flowering Oncidium is now blooming with Messrs. J. Laing & Sons, Forest Hill. The sepals and petals are reflexed, as the specific name implies, and heavily blotched with dark brown on a greenish yellow ground. The lip is large, golden yellow, and spotted with brown on the disk. Amongst the varieties of this plant in cultivation, many of which are hardly so distinct as to merit the appellation of varieties, being mere differences in the shade of colour, are several individuals like the present, which are greatly superior to the paler-coloured sorts.

The Gardeners' Calendar.

THE PLANT HOUSES.

Euphorbia fulgens (E. jacquiniæflora).—In order to obtain a stock for next seasons work a sufficient number of plants should be cut back and kept dry for a time, preparatory to putting them in heat with the object of getting cuttings. Those that are not required for this purpose may be allowed to grow on; a considerable quantity of flowers will thus be produced by the side shoots which will prove useful for cut purposes. Put five or six cuttings into a 60-sized pot, and when rooted pot off singly.

Bouvardias.—Those who took the precaution to get their cuttings in early will now have them rooted. Pot off at once, and replace in a close case in the propagating pit. When the young plants have become established again, pinch the tops to induce a bushy habit from the first. Syringe or dew them over lightly in the morning and early afternoon of fine days. No time should now be lost by those who have not yet put in their cuttings, otherwise the season for growth will be very much curtailed, and large bushy subjects cannot be expected from one year old plants, which always give the largest and best flowers.

Seedling Dahlias.—Those who depend upon seedlings for their annual display should lose no time in sowing the seeds, which may be done in boxes and placed in a pit or other warm place to induce a speedy germination. After the seedlings are sufficiently strong to handle, pot off and keep them growing with the object of getting strong plants by the time the planting season comes round. When so treated they will flower much earlier than if the seed sowing is delayed till later on. After becoming established in pots they must receive ventilation to prevent their becoming drawn and spindly.

Chrysanthemums.—The earliest batch of cuttings that were inserted in autumn are now rooted, and should be potted off singly and given plenty of room, placing them on a shelf or other place near the glass, where they will receive plenty of light and be freely ventilated. Use a compost consisting of good yellow loam, a quantity of rotten manure and leaf-soil. Fumigate if necessary, to prevent green-fly becoming established in the crowns, otherwise their progress will be altogether unsatisfactory.

Cinerarias.—The earliest batch is now well forward, and in some instances in full flower. When such is the case no more feeding will be required, and they will last longer in healthy condition by applying clear water only. By all means avoid crowding, otherwise the foliage will soon suffer permanent injury, on account of its thin membraneous texture. The weather continuing open, plenty of ventilation will keep them strong and healthy, and less liable to the attacks of green-fly, to which this class of plants is very subject, especially during the winter and early spring months. Pot on the latest batch as they require it, remembering that Cinerarias should neither be checked nor starved.

THE FORCING HOUSES.

Peach Houses.—The trees in the early houses will now require to be carefully attended to in the matter of disbudding, so as to reserve their energy for the proper growth of the shoots that are wanted and for the fit development of the fruit. Thin away the weaker of the latter, making allowance for the dropping of a few, which is almost sure to take place at the stoning period. Maintaiu a genially moist atmosphere by placing water containing a little liquid manure in the evaporating troughs. This will prevent the increase of red-spider should it put in an appearance. A night temperature of from 55° to 60° will be quite sufficient for the present, and on frosty nights it may even be a little lower. Syringing should be done twice a day, and the paths well damped down.

Melons.—The early sowing will now be gaining strength as the days lengthen, and if the seeds were sown singly in pots, as advised, no check will have been given them when they required a shift. When they have formed a few good leaves the house intended for their reception should be got ready, and the seedlings planted out immediately after the soil has had time to become heated to the same temperature as the house.

THE KITCHEN GARDEN.

Rhubarb.—Where new plantations are intended to be made, the ground should be trenched, if that has not already been done, working in, at the same time, plenty of manure. Divide the old stools, using healthy young pieces where possible in preference to old and weak crowns. No leaves should be removed the first season, in order to admit of the plants making strong crowns.

Digging.—All available strength should be utilised to have vacant ground dug up to receive the benefit of any frost that may occur, and be in readiness for planting and sowing later on. Celery may be lifted if in the way, and laid in a north-aspect border till required for use.

Gardeners' Improvement Societies.

Woolton, Liverpool.

The inaugural meeting of this society, which is the outcome of a series of lectures on botany, delivered last year at Woolton, by Prof. Harvey Gibson, was held on Thursday, the 7th inst. Mr. Holbrook Gaskell, Woolton Wood, who presided, said he felt very much honoured at being elected president of the newly-formed society, to which he wished a long period of success. He advised members to confine themselves strictly to the objects for which the society was founded, aud to pursue them with singleness of purpose, and with seriousness and earnestness. There were two aspects of the study of horticulture—the practical and the scientific. He imagined they were all actuated by a desire to acquire some knowledge of the sciences connected with horticulture and agriculture. A man who was simply a handicraftsman could not take the same rank as one who brought scientific knowledge to bear upon his daily work. He therefore urged all, aud particularly the young men, to aspire to the possession of a knowledge of those sciences that applied to gardening—chemistry and botany. They would find that to obtain that knowledge involved very hard work; he would not be surprised if the result of their experience would be that work by the brain was harder than work by the hand. He hoped they would make their meetings as systematic as possible, and that at each meeting they would have a specific object in view, and would pursue it with earnestness. No man was too old to learn. Though verging upon eighty years of age, he felt he

had yet a great deal to learn, and at their meetings they would find no humbler student and no more ardent lover of horticulture than himself.

Professor Harvey Gibson, in the course of his address, hoped the society would keep definitely before their minds the application of science to practice. He believed the greatest results would be derived from an intimate union of both, and he urged them always to consider not only the practical applications, but the theoretical principles which underlie the applications. With regard to the provision of a library, he pointed out that the science of botany was constantly changing, and that text books soon became obsolete. He therefore advised them not to load their shelves with text books, but to get good standard works on special subjects. Botany could not be properly taught nowadays without recourse sooner or later to the microscope, and if they were going to do work, they must as a corporate body provide themselves with this apparatus. They also required a cabinet, and he promised to furnish them with a series of typical slides. He suggested that they should amongst themselves agree to subdivide the subject of scientific applications in botany into different sections, and that periodically those who had access to papers and books should give the society a summary of recent advances in the particular section they had taken up. He counselled them not to put aside a thing which they did not know in the garden. Many of the greatest discoveries in botany had been made simply by chance. He, in conclusion, said he should be happy at any time when he could be of use to the society to place his services at their disposal.

The chairman, amid loud applause, intimated that on obtaining evidence that a sufficient number of members would engage in the scientific study of horticulture, he would give practical effect to the suggestions of Professor Harvey Gibson by presenting the society with a microscope and a cabinet. He also announced that he should be willing to assist in providing books for the library, and at the desire of the meeting he asked Professor Harvey Gibson to prepare a list of the works required. Hearty votes of thanks to the president and Professor Gibson brought the meeting to a close.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*February 12th.*

Notwithstanding the severe and frosty weather, and the presence of a considerable depth of snow, the display of flowers and fruits on Tuesday was a great success for this early period. A fine display was made by some large collections of Cyclamen and Daffodils, and was specially interesting on account of the fine collections of Apples, which were in excellent condition. The exhibition practically showed that a great number of English-grown Apples may be had in splendid preservation for a period extending over many months of the year. A few Orchids were present, and but for the inclemency of the weather other exhibits of tender subjects would have been present also.

A Silver Banksian Medal was awarded to Messrs. Barr & Son for a group of Daffodils extending along nearly the whole length of one side of a table. Very conspicuous amongst the yellow trumpet kinds were Narcissus Spurius, Golden Spur, Henry Irving, and the Tenby Daffodil (N. obvallaris). Amongst white kinds were Princess Ida, Leedsii amabilis, N. incomparabilis, Queen Bess, N. Barri Orphée; and early kinds were N. pallidus præcox, N. cylamineus, N. minimus, and others. There was also a sprinkling of Galanthus Elwesii, Scilla bifolia, Anemone fulgens, and others. A similar award was made to the St. George's Nursery Company, Hanwell, for a group of Cyclamens in 48-sized pots, comprising about 150 plants. They were well flowered, even, and mostly of the Giganteum strain, showing great variety of colour. Mr. John May, Gordon's Nurseries, Twickenham, had a similar group, and about as well flowered; but they comprised a considerable number of the ordinary C. persicum type, and exhibited some remarkably fine colouring. He was awarded a Silver Banksian Medal. A Cultural Commendation was accorded Messrs. J. Veitch & Sons, Chelsea, for an exhibit of hybrid greenhouse Rhododendrons. One lot consisted of named varieties of the R. javanico-jasminiflorum type, while another lot showing considerable variety of colouring consisted of seedlings of the R. javanico-multicolor type. They also had a large plant of Cypripedium Lathomi, a hybrid between C. Spicerianum and C. villosum, raised by Mr. Lathom, curator of the Botanic Gardens, Birmingham, but now their property. A Bronze Banksian Medal was awarded to Messrs. George Paul & Son, Cheshunt, for a collection of hardy herbaceous plants, including several Lenten Roses, such as Helleborus niger ruber, H. colchicus, H. atrorubens, also Leucojum vernum, Cyclamen Coum zonate, Saxifraga Burseriana majus, and others.

Mr. Ridout, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, exhibited a Cypripedium, a hybrid between C. Drurii and C. superbiens. Mr. W. Swan, gardener to G. C. Raphael, Esq., Castle Hill, Englefield Green, exhibited a fine spike of Dendrobium undulatum with twenty flowers, and another of Odontoglossum nebulosum pardinum. A fine piece of Lælia elegans Blenheimensis was shown by the Duke of Marlborough, Blenheim Palace. A beautifully blotched variety of Odontoglossum Pescatorei was exhibited by J. F. Jackson, Esq. (gardener, Mr. Dowsett), Bourne Place, Bexley, who received an Award of Merit for it. Mr. T. Rawlings, gardener to T. W. Yates, Esq., Birches Green, Erdington, Birmingham, showed Cattleya Trianæ Yatesi; while Mr. C. J. Rowe, gardener to W. H. Scott, Esq., Mumfield, Dumfries, showed Lælia anceps Scottiana, a very fine variety; and Mr. H. Batchelor, Catton Park, Norwich, had a twin-flowered spike of Cypripedium insigne. Mr. R. Owen, Maidenhead, showed three boxes of very fine Chinese Primula blooms, called the Imperial strain, which was commended. Mr. F. Ross, gardener to Sir George Macleay, exhibited Acacia oxycedrus, and a flowering spray of Thunbergia laurifolia. Narcissus Pseudo-Narcissus Trollius, a very early variety, was shown by the Rev. W. Wilks, Croydon. Mr. R. Dean, Ealing, exhibited a beautiful hardy Primrose called True Blue, and which in colour is the deepest blue yet shown. A quantity of dried Prairie Flowers which had been collected near the Rocky Mountains, in America, was shown by Mr. A. Dean, Bedfont. Half-a-dozen fine plants of Yucca filamentosa variegata were exhibited by Mr. J. R. Pearson, Chilwell, Notts. Chinese Primula blooms were shown by Mr. J. James, Farnham Royal.

The exhibits before the Fruit Committee were of a specially interesting and extensive kind for this time of the year. A Silver Banksian Medal was awarded to Messrs. J. Cheal & Sons, Crawley, Sussex, for a collection of seventy-nine dishes and eight baskets of Apples, amongst which Wellington, Mére de Mènage, Gascoigne's Seedling, Warner's King, Alexander, and Prince Albert were very fine. A similar-sized collection of Apples was shown by Messrs. Geo. Bunyard & Co., Maidstone, Kent, containing fine samples of Bismarck, New Hawthornden, Cox's Pomona, Fippet's Incomparable, Cellini, Warner's King, and others; they were awarded a Silver Banksian Medal. A similar award was made to Mr. G. W. Cummins, gardener to A. H. Smee, Esq., The Grange, Wallington, for a collection of Apples in fine condition, including New Hawthornden, Cox's Pomona, Warner's King, Wellington, &c. Messrs. Rivers & Sons, Sawbridgeworth, received a vote of thanks for a collection of Apples, amongst which were Cellini, Cox's Pomona, Warner's King, &c. They also showed an interesting collection of Oranges, Citrons, Shaddocks, and Lemons. A smaller but fine collection of Apples was shown by W. Roupell, Esq., Harvey Lodge, Roupell Park, who had also some Muscat of Alexandria Grapes ripened in August, cut at Christmas, bottled, and still in fine order. A dish of Apple Carlton Seedling was shown by Mr. W. H. Divers, Ketton Hall, Stamford; another named Bietingheimer Red Apple by Messrs. John Cranston & Co., King's Acre, Hereford; and a dish of Pears by Mr. Geo. M. Breese, Petworth, Sussex. Yorkshire Telegraph Cucumber was shown by Mr. Henry J. Clayton, Grimston Park, Tadcaster; and the Canterbury Prize Onion by Mr C. W. Howard, Bridge, Canterbury. Messrs. J. Veitch & Sons received an Award of Merit for a collection of different varieties of variegated Kale, showing a considerable range of bright colours.

The Annual Meeting.

The annual general meeting was held in the Library, 117, Victoria Street. The president, Sir Trevor Lawrence, Bart., M.P., took the chair, the other members of the Council present being Messrs. A. H. Smee, G. F. Wilson, H. J. Veitch, G. Paul, J. Douglas, F. B. Haywood, W. T. T. Dyer, D. Morris, and the Rev. W. Wilks, secretary. There was a larger attendance of Fellows than usual, but the proceedings call for little comment. The minutes of the previous annual meeting, and of the special meetings held subsequently, having been read at length and confirmed, twenty-eight Fellows were added by election to the society's roll, thirteen of whom are residents in the neighbourhood of Chiswick. Mr. Pearson and Mr. Hamilton were appointed scrutineers of the ballot, and the report of the Council and statement of accounts being taken as read, the president, in moving their adoption, stated in general terms the reasons why the retiring members of the Council had sent in their resignations, and asked the meeting to accord them a hearty vote of thanks for their past services. Sir Trevor then called attention to the principal items of interest in the report, and congratulated the Fellows upon their meeting under much more favourable circumstances than they did last year, and upon the society being at last out of debt. He also paid a well-deserved compliment to the secretary, the Rev. W. Wilks, to whose capacity, self sacrifice, and unremitting labour, they were largely indebted for the society's much improved position. The motion was seconded and carried unanimously. A Fellow congratulated the Council on the metamorphosis from almost decay to soundness and prosperity that had been brought about during the past year, and suggested that the Council should consider the advisability of holding a series of day and night fêtes in the gardens at Chiswick. Mr. R. Dean asked a question with reference to the Chrysanthemum Conference, to be held in November, and the president stated in reply that the Council had that day changed the date from November 12th and 13th to the 5th and 6th, in order to avoid clashing with the Aquarium and Kingston Shows. The scrutineers reported that Sir Charles W. Strickland, Bart, and Messrs. Bourne, Coleman, Courtauld, Pearson, and Rivers had been duly elected members of the Council, and Sir T. Lawrence, Bart, M.P., president, Mr. D. Morris, treasurer, Rev. W. Wilks, secretary, and Messrs. G. Deal, W. Richards, and Harry Turner, auditors. A vote of thanks to the president brought the proceedings to a close.

QUESTIONS AND ANSWERS.

Special attention is paid in the columns of The Gardening World to the answering of questions on all subjects connected with practical horticulture, and the naming of Plants (other than Florists' Flowers) and Fruits, in which department the Editor is assisted by gardeners and specialists of great experience.

It is particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

Collection of Plants.—*Pembroke:* We shall be very glad to assist you in the matter, but desire to know to what class of plants you refer. Do you mean window, greenhouse, annual, or herbaceous perennial plants? Are they to be grown under glass, in a dwelling-house, or in the open air? We are equally at a loss to know the exact meaning, or exact words of your schedule with regard to table plants. If you have the convenience of a stove or greenhouse, we could easily mention what plants you could grow under those conditions. At local shows the circumstances under which the plants are to be grown must be indicated. The following could, however, be grown by you in a window or greenhouse, and correspond to table plants under those conditions, namely, Dracæna australis, Ficus elastica Aspidistra lurida variegata, Pteris serrulata cristata, Dracæna rubra, small Fuchsias, and small, nicely grown Myrtles. If you give us more precise information about the particular classes of plants, we will furnish you with the names of suitable kinds.

Cypripedium barbatum.—*T. Varr:* There is nothing structurally to separate the specimens you sent us from C. barbatum; but the colours are clearer and better defined, owing to there being less brown in the flower. This has the effect of bringing out the white apex and the purple of the standard in a much clearer manner, and in this respect it may be considered a very good variety. This also applies to the petals and lip, which are rosy purple, the former being pale green at the base. The exact price of such a piece as you mention could hardly be determined, as that fluctuates so much with the state of the market so to speak, that is, the supply and demand.

Gardeners in America.—Could any of your readers tell me what is the average wage paid to gardeners in America, and generally say what encouragement is there for a Scotch gardener to go out?—*J. S.* [See pp. 392, 523 of our last volume.—Ed.]

Gardenias.—*G. R. R.:* We are unable to suggest the cause of your plants dying in such a puzzling way. Had they been subjected at any time to an excess of bottom heat, or had been allowed to get dry, the leaves would have turned yellow and dropped off, and the loss of the feeders would bring about the same result. In your case the leaves and shoots are killed in part only, as if they had been dressed with an over-strong mixture of some insecticide. Have you been using paraffin?

Grubs on Lily of the Valley.—*H. and B.:* The grubs sent appear to be the young larvæ of the cockchafer (Melolontha vulgaris). They live in the soil for three-and-a-half years, and when full grown are about 1½ ins. in length; they feed on the roots of plants, doing them considerable harm. The perfect insect is a beetle, which feeds on the leaves of trees and is very harmful when present in large numbers. There are several remedies: Destroy all the grubs you come across in digging the soil; encourage starlings, who feed upon the beetles when they appear above ground, as well as devour the grubs when dug up during frosty weather. Nitrate of soda, sown at the rate of 2 cwt. of the nitrate to 30 bushels of soot per acre, has the effect

of killing a large percentage of the grubs. Gas lime has also been found very useful; apply this material at the rate of 10 bushels per square rood, and besides acting as a manure it will destroy both grubs and insects. The ground should be bare, that is, without plants, when gas lime is applied, but may be planted soon after, when the material mentioned is dug down.

LOBELIA, BLUESTONE.—*W. Langshan:* Try one of the Dublin seed houses: Messrs. W. Drummond & Sons, Dawson Street; Edmondson Bros., Dame Street; Sir J. W. Mackey; or Messrs. Hogg & Robertson. Perhaps some of our readers could tell us who is offering seeds of this variety.

NAMES OF PLANTS.—*R. C. Kingston:* Catasetum roseo-album of Reichenbach. It belongs to the old genus Monacanthus, or the female form of Catasetum. *J. M.:* 1, Asplenium marinum; 2, Asplenium obtusatum; 3, Lomaria alpina; 4, Blechnum brasiliense; 5, Nephrolepis davallioides furcatum. *S. G.:* Cœlogyne flaccida; 2, Odontoglossum hastilabium; 3, Odontoglossum Pescatorei var.; 4, Lycaste Barringtoniæ. *A. C.:* Petasites fragrans, the winter Heliotrope. *M. H. Baker:* Butcher's Broom, Ruscus aculeatus.

COMMUNICATIONS RECEIVED.—J. J. N.—W. H.—W. J. G.—J. P.—Pathfinder.—E. H.—J. D.—W. H. E.—Dr. G.—T. A.—A. O.—J. W.—F. R. S.—C. D.—G. S. A.—B. L.

TRADE CATALOGUES RECEIVED.

HENRY MIDDLEHURST, 11, Manchester Street, Liverpool.—Vegetable and Flower Seeds, Gladioli, Lilies, &c.

MAX DEEGEN, Junr., Köstritz, Germany.—Catalogue of Dahlias.

ERIC F. SUCH, Maidenhead, Berks.—Dahlias and other Florists' Flowers.

THE WEATHER.

SNOW commenced to fall about mid-day on Sunday last in London and suburbs, and continued to fall slowly but steadily till Monday forenoon, when there was a depth of from 4 ins. to 6 ins. all over. Since then there has been occasional slight falls, and the temperature has varied from time to time. It is the first snowstorm of any consequence with which London has been visited this winter. It, however, prevails not only over Great Britain, but over the whole of Central and Northern Europe as well. On Monday night 10° of frost were registered at York and Yarmouth, 11° in London and at Loughborough, 12° at Oxford, 14° at Cambridge, and 21° at Dungeness. On Tuesday morning 13° of frost were registered in the suburbs of London, while on Wednesday morning there were 17°. About 9 a.m., however, the wind veered round to the west, while the temperature rapidly rose, and snow again commenced to fall. Skating has been commenced in several districts round London, and as we go to press there is every appearance of a continuance of the inclement weather, which would have been much more seasonable at Christmas, when it rained, than in the middle of February.

LONDON SEED TRADE.

February 11th.

Messrs. HURST & SON, 152, Houndsditch, report that, owing to the heavy snowstorm, demand for agricultural seeds is checked. Prices of Clovers remain steady. Tares are dearer and are firmly held, though dealers do not operate freely. Rye Grasses remain unchanged.

COVENT GARDEN MARKET.

February 13th.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	6 0	18 0	Genista ....per dozen	9 0	18 0
Arum Lilies..per doz.	9 0	18 0	Hyacinths ..per doz.	6 0	9 0
Azalea.....per doz.	24 0	42 0	Lilies of the Valley, per doz.	12 0	24 0
Cineraria ..per dozen	9 0	12 0	Marguerites per doz.	6 0	12 0
Cyclamen ..per doz,	9 0	18 0	Palms in variety, each	2 6	21 0
Cyperns, ..per dozen	4 0	12 0	Pelargoniums, scarlet, per dozen	6 0	9 0
Dracæna term., doz.	30 0	60 0	Poinsettia ..per doz.	9 0	12 0
—viridis, per dozen	12 0	24 0	Primula sinensis, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Roman Hyacinths, per doz.	9 0	12 0
Ferns, in var., per doz.	4 0	18 0	Solanums....per doz.	6 0	12 0
Ficus elastica ..each	1 6	7 0	Tulips ..... per doz.	8 0	10 0
Foliage Plants, various .....each	2 0	10 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemone, French, per doz. bnchs.	2 0	6 0	Paper White Narciss, 12 sprays	0 9	1 0
Arum Lilies, 12 blms..	3 0	6 0	— — — French, doz. bunches	2 0	5 0
Azaleas ....12 sprays	0 8	1 0	Poinsettia, doz. blms.	4 0	6 0
Bouvardias, per bun.	0 6	1 0	Primroses..doz.buns.	0 9	1 6
Camellias, 12 blooms	2 0	4 0	Primula, double, bun.	0 9	1 0
Carnations, 12 blooms	2 0	3 0	Ranunculus, French, per doz. bnchs.	2 0	4 0
Chrysanthemums, 12 blooms	1 0	2 0	Roman Hyacinths, 12 sprays	1 0	1 6
— 12 bunches	2 0	6 0	— — French, 12 bun.	1 0	3 0
Cornflower, 12 bunch.			Roses, Tea, per dozen	1 0	3 0
Cyclamen..12 blooms	0 6	1 0	— Red .....per doz.	6 0	12 0
Encharis ..per dozen	4 0	6 0	— Red, French, dozen	2 0	3 0
Gardenias, 12 blooms.	12 0	30 0	— Saffrano ..per doz.	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	— Safrano, French per doz.	1 0	3 0
Lapageria, 12 blooms	2 0	4 0	Tuberoses, per dozen.	2 0	3 0
Lilium longiflorum, 12 blooms	5 0	9 0	Tulips ....12 blooms	0 8	1 6
Lily of the Valley, 12 sprays	0 6	1 0	Violets ..12 bunches	1 0	1 6
MaidenhairFern, 12bns	6 0	9 0	— Parme, French, 12 bunches	4 0	5 0
Marguerites, 12 bun.	3 0	6 0	— dark French, bun.	1 3	2 6
Mignonette, 12 bun.	2 0	4 0	Wallflowers, 12 bnchs,	4 0	8 0
Mimosa, French, per basket	4 0	6 0	White Lilac, French, per bun.	5 0	7 0
Pelargoninms, 12 spys.	1 0	1 6			
— scarlet ..12 sprays	6 0	9 0			

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Cobs .. per 100 lbs.	100 0		Pine-apples, Eng., lb.	1 0	1 6
Grapes .....per lb.	1 0	3 6			

Canadian and Nova Scotia Apples, per barrel, 7s. to 17s.

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0		Lettuces ..per dozen	1 6	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages.... per doz.	1 6		Onions....per bnshel	7 0	9 0
Carrots....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes ..per dozen	1 6	
Celery....per bundle	3 0		Small salading, punnet	0 4	
Cucumbers ....each	0 6	0 9	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos ....per lb.	1 3	2 6
Herbs ....per bunch	0 2	0 4	Turnips ....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys. 80s. to 100s. per ton; Champions, 70s. per ton.

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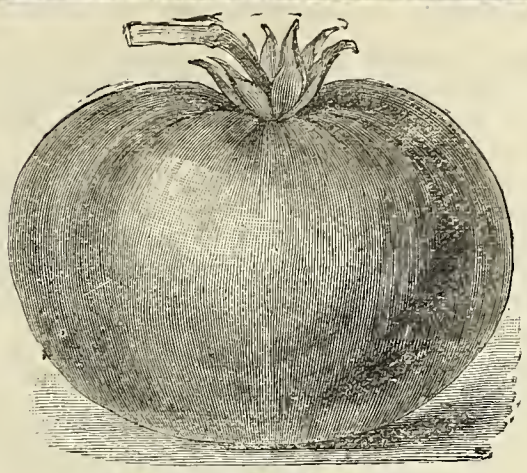

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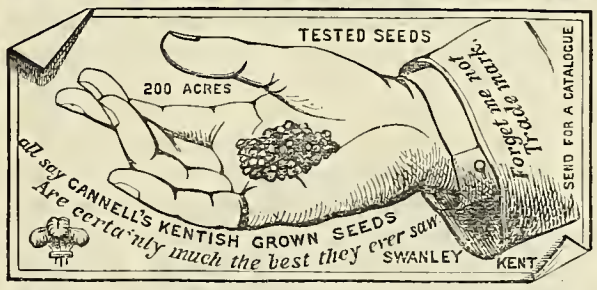

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Next Week's Engagements.

TUESDAY, Feb. 26th.—Sale of Orchids in Flower at Protheroe & Morris's Rooms.

WEDNESDAY, Feb. 27th.—Sale of Lily Bulbs, &c., at Protheroe & Morris's Rooms.

THURSDAY, Feb. 28th.—Adjourned annual meeting of the National Chrysanthemum Society, at 7 p.m.

FRIDAY, March 1st.—Sale of Orchids at Protheroe & Morris's Rooms.

For Index to Contents & Advertisements, see p. 410.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.
SATURDAY, FEBRUARY 23, 1889.

FRUIT FARMING.—Our popular contemporary, *Truth*, is responsible for the statement that Lord Sudeley finds his fruit farm (500 acres) in Gloucestershire a profitable speculation. That is undoubtedly good news. But before we cordially accept that conclusion, we should like to know whether the balance sheet shows any allowance for rent before the profits are calculated. If 500 acres of land be planted with productive fruit crops, it is evident that a rental of £2 per acre would be a very moderate one. Around London such cropped land is let at from £4 to even £10 per acre, which is really an enormous burthen, and one that would be impossible to pay but for the excellence of the soil, the utilisation of the surface soil for flowers, &c., and the contiguity to the Metropolis. But Gloucestershire is remote from London, and the rent based at £2 per acre would seem to be both fair and moderate; still, Gloucestershire is not so very remote from a densely populated district.

Now the point to be fully understood before any declaration of profits is made by Lord Sudeley is, Does he calculate, say, a sum of from £1,000 to £1,500 being first due for rental? If no such abatement is made, then the ground is paying nothing for its use. If, on the other hand, the fullest allowance is made for rent, rates, taxes, labour, manure, and all the other incidentals to fruit culture by tenants, and a fair margin of profit remains, then Lord Sudeley is to be congratulated, and a very important fact in relation to hardy fruit culture has been exemplified. Still, we have no desire to see such huge fruit farms as Lord Sudeley's extended. They prove of no value to the small holder or the tenant farmer; but if in this particular instance, where the cost of supervision must be considerable, a profit

has been realised, that profit should relatively be greater where the culture is under the personal supervision of the grower himself.

Grafting.—It is very distressing to gardeners to learn, on the undoubted testimony of some who, if they do not know, at least profess to know, that we are all wrong in our methods of increasing trees, &c., by grafting. Not for our mentors did the "divine Williams" (if it was not Lord Bacon) declare, that we take a stock of inferior worth, and work upon it a scion of superior value: and hence the product is a fruitful tree. Shakespeare was doubtless no gardener, and if he had lived in our day he would have probably been voted a bungling dramatist. But as he lived when there were fewer of carping critics, he got dramatic canonisation, and now from the distance we regard him as the very prince of playwrights. In addition to his wonderful dramatic powers, he was a quaint and illustrious philosopher also, and we may as well admit that no better piece of philosophy, no wiser maxim, is found throughout all the poet's plays than is his reference with such exceeding truthfulness to the remarkable products of grafting.

Still, Shakespeare, and all the generation of gardeners from his day till now, have all been wrong. We are not sure whether grafting is not now regarded by the new school as advice of the Devil, meant to lead men and the vegetable kingdom astray. To work grafts on to stocks is to seek perdition. There is but one natural method of raising fruit trees, for instance, viz., by seeds, and if these should after all our labours perversely produce worthless things, it only serves to show that we are at fault, and not the system. The beheading of the Dog Rose, and budding it with the products of French gardens has almost wrought the downfall of the nation; whilst working Rhododendrons, Azaleas, and by raising other beautiful shrubs or trees by grafting has only resulted in the most disastrous failure. At least that is what the new school say, and of course they are right. Nurserymen and gardeners, repent from the errors of your ways; forsake grafting and budding, find trees only in stones, and bushes in seeds, and eternal prosperity shall follow!

Forestry.—That Great Britain should be one of the two or three European nations which give no support to forestry as a Government institution is hardly creditable to our reputation. It is true that forestry in India enjoys the patronage of the British Government but the knowledge essential to successful forestry in India seems to be of a diverse character from that essential to successful practice at home. There has been much talk of late with respect to the establishment by the Government of a National School of Forestry, and aspirations are strong in that direction in the locality of that most extensive of all Government forests, the New Forest of Hampshire. Without doubt the district presents very favourable opportunities for the founding of a national forestal school there, because the soils of the district vary so much that almost all of our most valuable timber trees can be grown there successfully.

Whilst the New Forest offers exceptionally ample range for the attainment by the students of practical knowledge, the fine Hartley Institution at Southampton seems to offer special advantages for the study of theoretical forestry and also of botany, and such physical sciences as chemistry and geology, a knowledge of which seems to be essential to the successful practice of forestry. The Hartley Institution authorities are, we note, urging the local Chamber of Commerce to take action in the matter, and it is hoped such will be done with energy. We have too disastrously neglected the study of forestry as a scientific occupation at home. For that reason vast areas of land are now absolutely unproductive, which might be carrying profitable crops of timber; and not least, in clearing off acres of woods without re-planting, we have left the country needlessly exposed to fierce winds and storms.

The Chiswick Manure Trials.—We have heard that whilst some manufacturers of artificial manures have made inquiries with regard to the proposed manure trials at Chiswick, they all seem to gib at the stipulated condition that they should deposit £10. That is very natural, for, as we have previously intimated, the suggestion is of the wildest and most absurd kind, and so far, not a single person has been found willing to say a word in its favour, except the originator of the proposal—a member of the garden committee. Had a sovereign been the fee suggested, some of the merchants might, perhaps, have been willing to enter the lists, and that sum would more than suffice to pay the cost of the individual trial. Besides the ridiculous fee, the condition that the society shall purchase the manure in the open market, also finds no favour, as manures long manufactured hardly retain those active elements found in freshly made compounds, and dealers do not usually tell their customers how long the article sold has been in stock. A liberal offer to test all manures sent in for trial on Potatos, Tomatos, Cauliflowers, plants in pots, &c., would perhaps have brought in a supply that would have been useful at Chiswick in these hard times; but this can hardly be expected under the conditions made public.

The National Chrysanthemum Society.—The brief announcement in our last issue of the willingness of Lord Brooke, M.P., to accept the office of president of this society, if elected, as we have every reason to believe he will be, and by acclamation, at the meeting on Thursday next, seems to have taken many persons by surprise. It was not imagined that the new policy of boldness, inaugurated by the committee, took such high flights, but the desire that exists among the supporters of the society to elevate it into a really national position, can only be carried out by flying at high game, in the *personnel* of its leading officials. Lord Brooke is a genuine admirer of the Chrysanthemum, and will be something more than an ornamental president. With such a head there should be no difficulty in securing the adhesion of many gentlemen of position and influence as vice-presidents of the society. Then, with really national confidence assured, the future of the National Chrysanthemum Society can hardly fail to be a prosperous one.

The Chiswick Chrysanthemum Conference.—The alteration by the Council of the Royal Horticultural Society of the date for holding the proposed Chrysanthemum conference at Chiswick to the first week in November materially changes our views as to the desirability of holding such a meeting. So long as it conflicted with the principal shows of the Metropolis, so long was the conference fore-doomed to failure. All the same, it is due to the Council to say that although they were not the first in the field with a proposal to celebrate the centenary of the introduction of the Chrysanthemum, they fixed their original date in the belief that the National and other leading shows would be held as usual—about the first week in November; but the dates this year have been complicated by the time at which the best show days fall, hence the selection by the chief societies of the second full week in November rather than the first for their shows. As the Chiswick Conference is not to be an exhibition in the ordinary sense, the question of a week can make no difference. All the same, we very much doubt whether the ordinary exhibitor will take part in the display, and it may be that the promoters rather desire to see exhibited other than ordinary show plants and flowers.

The Weather Again.—What strange contrasts the weather of the present month presents! On Sunday week a heavy snowfall was universal over the entire kingdom. Literally, the land was locked in the embraces of winter, for some very severe frosts were associated with the fleecy visitation. We might well have averred that winter had not only come at last with great severity, but also that it meant to endure. But hey, presto! as it were, there came a thaw with rain on the Wednesday, and on the following morning the snow had entirely disappeared. Then came some not unwelcome rain to wash away the foul secretions left by the snow and frosts; and, behold, comes Sunday again, and the weather is delightfully fine, warm, and spring-like, while the birds are full of song and joy, the earliest spring flowers bursting into bloom freely, and all nature rejoices. Truly ours is indeed a capricious climate, for it may give to us one day Canadian winter, and the next the warmth and delicious fragrance of Southern Italy.

Gardeners' Royal Benevolent Institution.—We understand that the Jubilee festival of this institution will take place at The Albion, Aldersgate Street, on Thursday, June 13th, 1889, on which occasion Leopold de Rothschild, Esq., has kindly consented to preside.

Suttons' Farmers' Year Book and Graziers' Manual has been brought out this season in a new form, and contains a good deal of useful information to both arable and grass land farmers, especially the latter.

Gardening Engagement.—Mr. H. Bugden, late foreman at Barrow Point, Pinner, as gardener to Mrs. Andrews, Highfield, Aldenham, Herts.

Hardy Primroses.—On Friday evening next, March 1st, Mr. A. Dean, Bedfont, will read a paper on Hardy Primroses, before the members of the Chiswick Gardeners' Mutual Improvement Society. The subject could not be in better hands.

Wilts Horticultural Society.—The annual meeting of this society was held on Thursday, the 14th inst., and from the report of the committee which was presented to the meeting we are glad to learn that though the receipts, owing to wet weather, were not so large as in some previous years, the society is doing good work in promoting improvement in local horticulture. The society's two exhibitions were of an admirable character as displays of horticultural skill, and it was no fault of the executive that they were not so financially successful as could have been desired. It was decided again to hold summer and autumn shows, and Mr. W. H. Williams, after being heartily thanked for his past services, was again elected to the post of honorary secretary. In the evening the annual dinner took place in the banqueting room of the Council House, the Mayor of Salisbury presiding.

Garden Pottery.—Next to the want of a proper supply of flower-pots for all purposes and emergencies—and how many there are who suffer all sorts of inconvenience from such a cause!—few things annoy a good gardener more than having to put up with pots that are ill-shaped and ill-made, and which will not keep clean for any length of time. We are reminded of some former unpleasant experiences of this kind by the receipt of a sample of garden pottery manufactured by Messrs. R. Sankey & Son, of Bulwell, Nottingham, and which seem to us to well deserve the high character which their ware enjoys. Both the plain, ordinary flower-pots, and the ornamental, rustic designs for various purposes, are of admirable shape and colour, thoroughly well baked, and consequently strong though light; while the clay, the Messrs. Sankey inform us, is carefully selected and impregnated with a sufficient amount of saline matter to prevent "mossing" or becoming dirty in the objectionable manner common to soft pots made of clay devoid of this important element. The "long toms" are admirable pots for the nurseryman, and the deep "market pots" would specially suit Chrysanthemum growers; but hardly assort well with the regulation market "forty-eight." We have got so accustomed to the one size in depth

and width, that the idea of a change in style does not meet with approval.

The Annual Supper of Scottish Horticulturists took place on the 14th inst. at the Windsor Hotel, Edinburgh, Mr. Dunn, Dalkeith, presiding, and Messrs. D. P. Laird and James Grieve acting as croupiers. In proposing "Scottish Horticulture," the chairman referred to Scottish gardeners who had scoured the world for the riches of nature to adorn their houses and clothe the landscape, and said that if they did not now make the best use of the efforts these men had made, it would be so much the worse for horticulturists. He hoped they would do their level best to keep their heads as high as heretofore. Mr. Machattie, Newbattle, in replying, said Scotland's first tutors in agriculture and horticulture were the monks. In every monastery there was one man whose special duty it was to superintend and instruct the neighbouring districts in the arts of agriculture and pomology. The necessities of life having thus been ministered to, time and opportunity gave to men of taste and culture the chance of considering how they could beautify their gardens and protect their homes by graceful shrubs and many-tinted flowers. Mr. Laird, in proposing the toast of "Pomology," stated that there was no doubt that fruit culture was becoming a commercial feature in the country. At this stage a souvenir of the Dunkeld Fruit Convention, held on 31st August last, was presented to Mr. Fairgrieve, Dunkeld, and was duly acknowledged. Mr. Ireland, in responding to the toast of "The Nursery and Seed Trades," proposed by Mr. A. D. Mackenzie, said that the demand for cut flowers was a remarkable development of the last twenty or thirty years. Several other toasts followed.

NEW INVENTIONS.

Messrs. Charles Toope & Co., Stepney Square, London, E., who have introduced many contrivances into public notice of considerable usefulness to amateurs, and especially in the way of small heating apparatuses, for which there is such a constant demand among owners of small greenhouses, have called our attention to a few more novelties which will meet the wants of some one or another. Specially worthy of notice is their Simplex Fumigator, which will prove a boon to all for whom the ordinary fumigators used by professional men are too large and too costly. This simple contrivance, as shown in the accompanying illustration, is just the thing to use in a small greenhouse, or to fumigate a frame, and it has this advantage to a smoker, that he has always got his materials handy. The cap end of the fumigator is taken off, and about a pipeful of ordinary smoking tobacco is put in and lighted in the ordinary way; the cap is then put on, the ends reversed, and the smoke blown under or about the plants as shown. No one need be troubled with green-fly who possesses one of these simple appliances. Another useful article is a hot-water pipe propagator, which we can hardly describe as a novelty as far as the general idea is concerned, but which, nevertheless, would be useful to many. It consists of a tank, made to fit any hot-water pipe, 15 ins. long, 6 ins. wide, and 7 ins. deep, and in which about 1 in. of water is placed, with a perforated dish about 5 ins. deep above, in which to put the cuttings. It is made of zinc, with a small feeder on one side, and therefore is a sound, serviceable article, not so readily liable to get broken as similar propagators made of clay.

HARDY HERBACEOUS PLANTS.

The taste for hardy plants is increasing year by year, and the demand for the best classes is still on the increase, so that we may still hope the day is not far distant when they will resume their old position in our flower gardens. They are fast becoming everybody's flowers, and herein lies the whole secret of their value and utility; and given a few square feet of soil, with sufficient exposure to light, anyone may attempt their cultivation with reasonable hope of success.

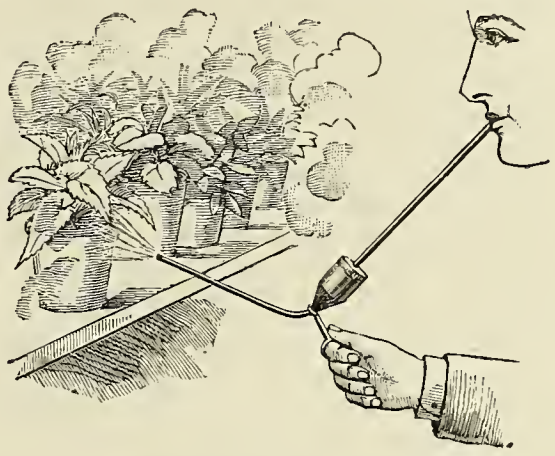
With a thoroughly representative collection, we get a maximum return for a minimum outlay, for when once a collection has been got together, an annual top-dressing, forking over, and timely staking and hoeing, complete the routine of the most important operations in connection therewith. I subjoin some notes on a few which should be grown for cutting from, and the whole, without exception, are deserving of cultivation. They will succeed in the smallest town or country garden, and are quite within the reach of everyone as regards price.

Anemone sylvestris.

In this we have a species that should be grown in every garden where choice subjects are in request. The plant grows from 12 ins. to 18 ins. in height, and producing large pure white flowers, it will be found very useful for cutting purposes, being equal in appearance to Anemone japonica alba, but flowering in early summer instead of in the autumn. A rich sandy loam is what it delights in, and it may be increased by division in early spring.

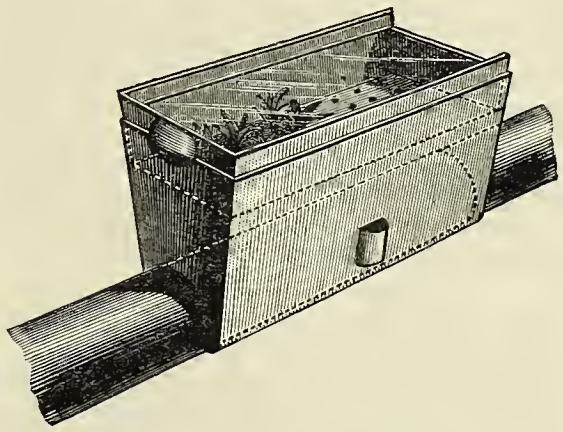
Coreopsis lanceolata (grandiflora).

Here we have one of the best of the hardy perennial kinds, far exceeding in usefulness some of the annual sorts — good as they are—which are well known in



The Simplex Fumigator.

gardens. The plants grow about 2 ft. high, and the flowers are borne in profusion, the individual blooms being from 2 ins. to 3 ins. across, and of a rich shade of satiny yellow. There is another species of Coreopsis closely resembling this—viz., C. auriculata, which is also highly desirable for planting in the herbaceous border, where it will be sure to make a grand show. Both the above kinds may readily be increased by division, and like most herbaceous plants, they delight in rich deep soil, and succeed best in a moist situation.



Hot-Water Pipe Propagator.

Campanula persicifolia alba fl. pl.

This is certainly a most useful and easily grown and propagated perennial, attaining a height of about 2 ft., bearing pure white Camellia-like flowers in great abundance for a lengthened period, and divides readily at any time.

Heuchera sanguinea.

This is certainly one of the finest things in a choice collection of hardy plants, and undoubtedly one of the best introductions of late years. It is perfectly hardy in the open on an exposed place in a dry sandy soil, and thrives well without any care. It forms a neat compact tuft of deep cordate leaves of a light green colour, and slightly hairy. The flower-stems are slender, from 12 ins. to 15 ins. in height, covered with bright crimson flowers, which last in good condition a long time. This plant strikes everyone who sees it in bloom as a gem of the first water, and a surprise is in store for those who do not know it. It may be increased by division to almost any extent.

Veronica longiflora var. sub-sessilis.

An herbaceous species from Japan, surpassing in beauty all the hardy species at present in cultivation. It is not only the best of the family, but one of the finest perennials grown. It is distinct in habit from any others of the genus; the flowers are in dense erect spikes 1 ft. in length, from 4 ins. to 5 ins. in circumference, and of a deep rich blue. It grows about 2 ft. in height, is perfectly hardy, and is increased by cuttings or division.

Scabiosa caucasica.

This is one of the handsomest hardy perennials we possess, and a subject which should be grown by everyone, if only for the sake of its flowers for cutting—a use to which they are particularly well adapted. They last a long time in water, and their peculiar soft lilac-blue shade is always pleasing. It grows from 2 ft. to 3 ft. high, and thrives well in ordinary garden soil. It is a vigorous grower, thoroughly hardy, and a very free bloomer.

Ranunculus aconitifolius fl. pl.

The "Fair Maid of France" is a lovely pure white double flower of fine form. It flowers early in summer, and its average height is 2 ft. The plant has the merit of succeeding well in a partially shaded situation.

Matricaria inodora fl. pl.

This cannot be too highly recommended for cutting purposes, the flowers being pure white, curiously fimbriated and exceedingly double. It continues in flower the whole summer, and has beautiful Camomile-like foliage. In general appearance it resembles a gigantic Camomile. It strikes readily from cuttings in autumn.—*R. J. Hamill, Forest Hill.*

NOTES ON VEGETABLES.

How Synonyms are multiplied.

I am looking forward with much interest to the coming Vegetable Conference at Chiswick, at which I hope to be present. I trust at that conference something will be done to stop the unwarranted manufacture of so-called new varieties of vegetables that now goes on annually at an outrageous rate. I could tell you of some firms who employ skilled hybridisers to obtain for them distinct, new, and improved forms, and I admire the system for its honesty and praiseworthiness; but there are others who do not appear to go to this expense. They have an easier way of doing it, as will be seen from what follows.

In the seed catalogues of Messrs. W. Atlee Burpee & Co., Philadelphia, P.A., for 1888 and 1889, there is a Potato illustrated and described as "Charles Downing." The illustration represents one full-sized tuber in the foreground, and several rows of enormous numbers behind, with two individuals discussing the crop over a fence close by. Although no small tubers are visible, the crop does not appear to be particularly overdrawn, and that might pass, but here is the point it is difficult to get over. In the seed list of Messrs. Oakshott & Millard for the present year, the American illustration of Charles Downing appears in every particular under the name of Oakshott & Millard's "Satisfaction," and another list, *i.e.*, that of Messrs. H. Cannell & Sons, prominently contains the same Charles Downing illustration under the name of "Come to Stay." Messrs. Daniels, of Norwich, offer the same Potato under its original name, so do one or two other English seedsmen, but the cases cited are so glaring and so apt to mislead many buyers, that in my opinion it is only an act of duty to call attention to the matter.

I can see no reason why the Charles Downing of America should not have been the Charles Downing of England. It would undoubtedly have saved many from buying a duplicate Potato, and it would certainly have indicated a desire to aid growers in avoiding synonyms, and simplify the selection of the best varieties of home or foreign origin.—*J. Muir, Margam.*

A Useful Brussels Sprout.

Webbs' Matchless, of which I send you sample stems, is, in my opinion, the true type of a useful Brussels Sprout. It is not a "six-footer," neither does it produce sprouts of coco-nut dimensions, as per many illustrations; but it is of medium height, exceedingly compact in growth, and the stems are well clothed with firm sprouts, not excessively large, yet abounding in quality, cooked or uncooked. The samples sent are just as they were at the commencement of last November, and as they will be for several weeks to come. They are planted at a distance of 18 ins. apart each way. One plant or one row reflects the general character of its neighbour, and all who have seen them assert that they like their appearance much better than their own giants, while I am sure if they had them dished up on their table they would have still more to say in their favour.—*J. Muir, Margam Park, S. Wales.* [The sample received fully bears out Mr. Muir's encomiums. The plants are of medium height, and the sprouts no larger than they should be, but solid, and mild flavoured.—Ed.]

THE ROSE GARDEN.

TEA ROSES ON THEIR OWN ROOTS.

WHO does not like a Rose? Who ever refused a Rose-bud for a coat bloom, or Roses for using in any kind of decoration, personal or otherwise, more especially the yellows and buff-coloured Teas? Why are they called "miffy," when they may be grown as well upon their own roots, and some sorts better in that way than upon any kind of stock? Some of the weakest-growing kinds may be better worked upon the Manetti or seedling Briar; they will make plants sooner, but for choice let me have all that are intended for cultivation in pots upon their own roots.

No ground plants dug up and potted will ever make such plants as those that are rooted from cuttings, and potted on from time to time till they are good strong plants. Neither do those that are worked upon stocks, in pots, and kept continually growing on in the same manner, give so much satisfaction as plants on their own roots do. Worked plants, that is to say, grafted or budded plants, are apt to disappear in the winter time, whereas plants on their own roots have a chance of coming again from eyes that are below the ground line, should the top be killed down so far, and provided they are not in a stagnant state at the roots; therefore, good drainage is essential for preserving most of the tender kinds of Teas from total annihilation during the winter season. The following remarks will be strictly applicable to the

CULTURE OF TEA ROSES IN POTS,

although the self-same plants, when they become well established in pots, may be planted out if the climatic conditions are favourable for the cultivation of the Rose. To obtain Roses on their own roots is an object worthy of anyone interested in horticultural pursuits, therefore it is necessary that preparations should be made in time to accomplish the object in view, and the first thing necessary is to have a few strong plants of each of the kinds it is intended to increase the stock of. If these have been established in pots for a season so much the better, as they can be at once placed in a good light greenhouse, where they will soon start away into growth.

With the new growth, bloom-buds will naturally come, and as the days advance in length, so will the plants increase in strength. All possible means should be used to cause the new growths to be as strong and healthy as possible, and by the time we have reached the month of May, a fair crop of flowers should have been cut from the plants. The young growths made will also, at this period, have become firm; and now will be the time to think about preparing to put in a batch of cuttings. The best way in which to do this, is to prepare a good hot-bed, well turning the manure several times in the course of a week, to allow superabundant vapour to escape, and to modify the heat; afterwards putting it together, at the same time well beating or treading down the manure, so that it may keep up a regular and steady heat long enough to root the cuttings about to be placed upon it. If the manure is at all dry when being placed together, it should be well watered, as this causes decomposition to take place more regularly than when put together in a dry condition.

When the bed is finished it should be allowed to stand a few days to allow it to attain to the proper degree of heat, when it should have sufficient leaf-soil, or old potting soil, placed inside the frame at a regular thickness all over the bed—deep enough to plunge a 5-in. pot in. The bed being ready, the work of putting in the cuttings must proceed rapidly. Drain well a number of pots, covering the crocks with the rough material that has been taken from the soil prepared for the cutting pots. This should be a mixture of loam and leaf-soil, with plenty of sand added, making the whole of a very sandy nature. In filling the pots make the compost rather firm, as Roses do not like to be put into loose soil, and as soon as a number of pots are made up, the cuttings should be obtained at once and got in.

It is advisable to select a dull day, or early in the morning, to put the cuttings in, as they do not flag so soon as if it were a sunny hot day; but wood that is moderately firm (avoid all soft or pithy wood) may again be cut up into lengths of two eyes each. Trim the bottom leaf off, and cut square and clean below the joint, but avoid cutting the bud out when trimming the leaf off from the base. This applies to the strongest wood. The weaker wood may also be taken when it is absolutely necessary to make a large number of plants, and this may be taken off with a heel, and afterwards be cut clean if it requires it.

It often happens that there are a number of what are usually termed blind shoots, or those which fail to produce flowers at the points, and these invariably root well; but for choice, the stronger wood is preferable. These cuttings should be inserted on the edge of the prepared pots as quickly as possible, keeping the strongest by themselves, and as soon as a number are done, they should be watered overhead with a fine rose water-pot, and allowed to stand for a short time till the foliage dries, when they should be at once plunged in the hot-bed. Should the state of the bed warrant it, leave a niche of space open at the top of the light to allow any unpleasant odours or vapour to escape. This precaution will only be necessary for a few days.

The cuttings will require to be shaded from strong sunshine, and will want looking over once or twice a week. At the end of the fourth week the majority of them will be rooted, provided they have done well. They should be potted off as soon as convenient, using pots according to the size of the young plants. The best place to put them after potting is back into the dung-frame; but while the cutting pots are out, it should be well shaken up and re-made, when it will generally give heat enough to start the little plants well on their way. As soon as the plants are well rooted they should be shifted into larger-sized pots, and a warm greenhouse or pit will carry them well along during the summer months, so that by the time winter approaches the bulk of the plants will be in a good established condition. The only other care they will require during the winter will be to watch that they do not suffer from damp, which is the greatest enemy they will have to contend with. Plants grown along in this way will be ready to start off any time when convenient at the present season of the year, and a good strong plant will be made before midsummer is reached again.

The hot-bed is much to be preferred to any other way of rooting Teas, besides coming in so useful afterwards in the rotten condition for either potting or putting upon the land.—*W. G.*

USEFUL STOVE PLANTS.

PLUMBAGO.

A few species of these belong to stove plants proper, and are very effective as winter-flowering plants, yielding spikes of Phlox-like flowers, from pink to deep crimson in colour. P. rosea and P. coccinea superba are high-coloured forms, and ought to be grown where cut flowers are wanted in the winter season. They make rapid growth through the summer season, and may be propagated easily from cuttings; and after potting on they require to be kept in a moist growing temperature, as the foliage suffers badly from the attacks of thrip if allowed once to get ahead.

RUDGEA MACROPHYLLA.

This is an extremely useful plant when under good cultivation, the large heads of waxy white, sweet-scented flowers being very attractive whilst they last, the great evil being that they are short lived; before the whole head of bloom can become developed the outer ones have begun to decay and will fall off. It is apparently useful amongst florists where white flowers are wanted for immediate use, as in this instance the flowers can be taken off as they open and be used up at once. The plant produces very large and leathery foliage, and is quite erect in habit; the flowers are produced at the terminal points. It is not a free-rooting plant, and often suffers from being over watered; therefore, in potting it, plenty of drainage should be used to carry away superabundant moisture. It delights in a strong heat, and requires the same when being rooted in the cutting state.

VINCAS.

When well grown, the Vinca will take a prominent position amongst dwarf-growing stove-flowering plants. They require a good deal of management to get nice large plants equally grown and well flowered, and want a good amount of pinching and tying out to make such plants, or else several grown together in large pot. The very pure white petals and distinct rose-coloured eye in V. alba make it very attractive and showy, and for choice I prefer it to any of the others, although V. rosea is a telling specimen plant when nice and fresh. They are apt to suffer from the effects of over-watering, and should be potted in a very fibry soil of equal parts peat and loam, with the addition of a little thoroughly-decayed cow manure and sand in proportion. This compost allows the water to pass away quickly from the roots. They strike very freely from cuttings, and where the plants may not be wanted to be grown into large specimens, a few little plants of them standing about are extremely pretty.—*W. G.*

GARDENING NOTES FROM IRELAND.

HARRIS'S BERMUDA LILY.

I NEVER lose an opportunity of commending Lilium Harrisii to my friends. I have seen it thriving well in the cool stove—I mean in a temperature not exceeding 70° in autumn—of the duke, and when properly treated it is equally at home in the window of the artisan, growing luxuriantly in a winter temperature not often exceeding 50°. At the present time, when flowers are so scarce, I have, in my sitting-room, two fine specimens coming into bloom that have been thus treated with a number of others. They had been shaken out and re-potted with the general stock of bulbs last October—the smallest bulblet being retained, as they rapidly grow into flowering specimens—placed on a bed of leaves, and were removed last December to a cool conservatory attached to my house, in which the frost is barely kept out. They were subsequently placed in the sitting-room window with some hardy Palms, Hyacinths, Cyclamen, Dielytra, Aspidistras, Iris reticulata—which is now commencing to bloom also—and some other things, where they have more light and a warm dry atmosphere. I thought the dry atmosphere would hardly suit them in winter, but it has, if anything, added to their luxuriance. Now, then, here is a hint for ladies who are window gardeners, and who find it objectionable to go out to detached conservatories in winter, to succeed with really splendid plants, both in foliage and flower. I will willingly tell any reader interested where I got mine, as there are good and bad strains. It will grow in any soil, but a mixture of loam, leaf-soil and a small portion of sand seems most suitable.—*W. J. Murphy, Clonmel.*

THE FERNERY.

ON THE CONSTRUCTION OF ROCKERIES.

Having selected a site, and determined upon the outline or leading features which it is resolved the rockery shall assume, the next thing to be undertaken is to set about building it. The locality or site itself must to a great extent pre-determine the general outline, if when completed it is to present a natural appearance, and not a mere artificial heap. Should the ground be rising, so as to form a mound or knoll, then the effect can be greatly enhanced by increasing the natural height, carrying portions out into bold and prominent headlands, or even abrupt escarpments, always bearing in mind the means of supplying moisture to the plants to be grown, and whether the Ferns will be sufficiently shaded. In sunny southern districts, with a dry atmosphere, rockeries should never be run up very high.

Where the ground is naturally sinking or sloping to hollow, then any building that is constructed should be against the rising slopes, while the lowest point could be very effectively occupied with a small pond, or even a tank with a cemented bottom. In some districts it is advisable even to make a cutting below the general level of the ground, and secure height by throwing up the soil. In all cases avoid, if possible, the carting of the latter from a distance. At the same time, the body of the rockery should not be made up of dry rubble, otherwise the Ferns will be liable to perish through over-drainage and drought; nor must perishable material be used, otherwise the whole structure will be liable to subsidence, shifting and disturbing the cemented portions of the work. The natural soil, if there is sufficient, will answer admirably, provided it is not an adhesive clay, so close as to prevent the superfluous moisture from percolating away. The soil for filling the pockets can be made up after the building is accomplished.

The largest stones should be used in making up the base, likewise in a few of the more prominent positions, where they can rest on a good body of soil or be supported by other blocks of stone, without danger of coming down after frost, rain, or other disturbing causes. A jutting piece of rock here and there need be no eyesore on a rockery, whether planted with Ferns or flowering subjects, as it serves to give boldness and relief to what would otherwise be a mere mass of greenery after the Ferns become established, if their progress has been tolerably satisfactory. Besides bold and prominent rocky points, there must also be recesses and shady corners for different kinds of Ferns, and also moist flat positions for Ferns that grow in shady glens and woods, such as the Beech and Oak Ferns, and the Marsh Ferns, such as Nephrodium Thelypteris or Osmunda regalis.

When the bolder pieces have been got into position, and the general shape of the rockery fashioned out, the smaller pieces of stone should be used for building or constructing pouches of various sizes, so as to make the whole as diversified as possible. In utilising these smaller pieces it will be necessary to use cement, otherwise the soil will be liable to be washed away in the process of watering, and the stones will tumble out of position, giving the whole a dilapidated appearance. Ordinary cement used alone would be expensive, besides giving the work too much the appearance of the builder. It is, however, more holding and better in every way than mortar, and may be mixed with clay or even ordinary soil, so as to make it go farther and tone down the colour.

If the rockery is sufficiently large to necessitate making paths over it, they should be made substantial enough to walk upon comfortably even in wet weather. Their course should be winding and irregular, which has the effect not only of making them appear longer, but they will be less formal and artificial.

GLENFINART.

The estate of Glenfinart, and family seat of Charles J. C. Douglas, Esq. (late of General Sir John Douglas, G.C.B.), is beautifully situated on the shores of Loch Long, in Argyllshire, and at the entrance or mouth of a glen between two hills, from the summit of which rises a tiny brook, which, as it flows onward to the loch aforesaid, is augmented by numerous tributaries until it expands into a majestic river called the Finart, from which the estate derives its name. The mansion is of Elizabethan architecture—all finely-hewn ashlar—with a very handsome porch over the front door bearing the family crest, is approached by a short avenue, and surrounded with beautiful lawns, four miles drive from Blairmon, and within ten minutes' walk of Ardenfinny, where steamboats call several times daily. Opposite the main entrance is a beautiful waterfall, tumbling down over a rocky precipice of about 100 ft. The water is as clear as crystal even in the wettest of weather, and is the overflow of the fountain-head, which has never been known to be dry. Further along the public road is Fingall's Well, where the late Sir John had a jug attached for foot passengers to refresh themselves. The water is as cold as ice in the warmest weather.

The Finart passes the gardens and principal part of the grounds in serpentine form, and is spanned by three beautiful bridges, two of which form the main accesses to the flower and kitchen gardens. The former is of triangular form, and embraces an area of about two acres, finely sheltered from all winds. On the north side is a Rhododendron hedge, 8 ft. high, at the back of which is a high bank, interspersed with various evergreens, and large Oak and Beech trees. On the south the river flows, and divides the flower garden from the Pinetum.

The east end of the mansion is sheltered by the kitchen garden, and screened therefrom by an English Yew hedge of quaint, though elegant appearance, and of itself a feature in the garden. It is 6 ft. high, 6 ft. broad, and 185 yards long, and has four arches in it opposite the different entries to the kitchen and flower gardens. These arches are 12 ft. high, and are square on the top, with the exception of one, which is semi-circular, and all as dense and green as a finely kept lawn.

Returning to the flower garden, we note its unique design, with spacious beds, some of which must take several thousands of plants to fill, as they are for the most part panelled—very few massed. One portion of this garden was re-modelled in 1887 in honour of the Queen's Jubilee, and is called the Jubilee garden. It consists of two crowns, two Prince of Wales' Feathers, and a huge Victoria Cross as a centre. The two Prince of Wales' Feathers were last season filled in with the family crest and monogram, and carpeted with Mesembryanthemum cordifolium variegatum.

The crest was formed with Echeveria secunda glauca and Pyrethrum aureum selaginoides, and the monogram with Iresine metallica and I. Lindenii, which were kept neatly pinched, and thus had a very distinct effect on the carpeting of Mesembryanthemum. No Sedums are used here in carpet bedding, and thus the stiff, formal appearance usually seen in such work is reduced to a minimum, the designs being neat and yet natural. Lobelias are raised from cuttings by thousands—blue and white—and, indeed, any dwarf-habited plant, effective in flower and foliage, is taken advantage of, and harmonies in colouring and design wrought out. Nor, indeed, are the usual occupants of the flower garden ignored, Pelargoniums, Calceolarias, Ageratums, &c., being used by the thousand, with centres and dottings of Dracænas, Palms, &c. We must not leave the flower garden without making special mention of a magnificent Araucaria, which is 37 ft. high, and 5 ft. in girth at 4 ft. from the ground, and has a circumfereuce of 68 ft. This specimen is furnished to the ground, and is of peculiar appearance, each branch resembling a saddle with from forty to fifty side branches.

The most indifferent tyro in horticultural—or rather arboricultural—pursuits cannot fail to observe this specimen, as it strikes the visitor at once with its rare proportions and graceful outline. Another specimen of the same is fast approaching the height of this one, but lacks the girth and circumference, though possessed of the same graceful habit. There are also three splendid specimens of Cedrus deodara, which with their pendulous growth and pale green colour lend a rare and pleasing contrast. The queen of flowers, the Rose, is not forgotten here, but is grown largely and in various ways—bedded, and pegged down, also in borders and over arches. These do remarkably well; indeed, they bloom well into the winter, and on the gardener's house is a Gloire de Dijon, which is usually blooming at Christmas with perfect freedom. The finest Teas and Noisettes grow in the open borders, and are seldom injured, even in the severest winters. This is very remarkable when the exceptionally humid atmosphere and proximity to the river is considered.

The kitchen garden is a walled enclosure, and has the fault of being rather flat and low lying. It is only about 4 ft. above the sea level; indeed, the tide used to overflow it once a year, and would do so still but for a few small arrangements of trifling detail. The soil being light and gravelly is easily worked and easily dried; but precautions have always to be taken in planting trees to keep them well to the surface, otherwise failures would ensue. The garden is well stocked with healthy, good bearing trees of all the popular kinds, Apples, Pears, Plums, and Cherries annually producing very fine crops. Plums are specially good, and the walls are principally planted with these. All small fruits are grown on a limited scale, but are really splendid. Vegetables are produced of excellent quality and in large quantities, but great difficulty is experienced in producing them early and seasonable; and winter vegetables are difficult to keep sound, especially Broccoli.

The main range of fruit and plant houses is inside the kitchen garden, and is 300 ft. long, divided as follows:—Three vineries in the centre, with a greenhouse and stove at either end, and at each end of the range is a Peach house of 70 ft. in length. The early vinery is planted with Black Hamburgh principally, and last year finished a heavy crop of fine fruit—bunches for the most part of a very useful table size, but many larger ones of from 6 lbs. to 7 lbs. weight interspersed the rods. The second is a Muscat house, and is planted with Muscat of Alexandria and Muscat Hamburgh, with one rod of John Downie, and one of Buckland Sweetwater, the latter preserved when the house was altered, as it carried and finished such fine fruit, and does so still—berries as pure as amber, and as large as good Black Hamburghs. The third is a late house planted with the usual late sorts, Black Alicaute, Lady Downes, Mrs. Pince, &c. The latter at the warm end of the house finishes and crops well.

The Peach houses are planted with the leading sorts, and are all in the best of health, and produce heavy crops annually. In the early Peach house is a Royal George, which has a spread of branches of over 40 ft.; the girth of the stem is 3 ft. 3 ins., and its height is 12 ft. This tree annually carries an average of 300 Peaches, and it is no uncommon thing to find them measure 15 ins. and 16 ins. in circumference, none under 10 ins. Grosse Mignonne, Noblesse, Stirling Castle, Alexandra Noblesse Peaches, and Violette Hâtive and Pitmaston Orange Nectarines fill this house. The second or late house is planted with Violette Hâtive, Bellegarde, Noblesse, Walburton Admirable, Gregory's Late, A Bec, and Grosse Mignonne Peaches, and one Elrnge Nectarine, all in high-class bearing order. The house is filled with the usual occupants in foliage and flowering plants, with some exceptionally good Eucharis. The back wall is utilised in a substantial way for growing all sorts of foliage plants, &c. It is fitted with wire netting 4 ins. from the wall, the vacancies being filled in with sphagnum, in which the plants are grown. The rafters are covered with the usual stove creepers, while from the roof at intervals baskets of Ferns, &c., are suspended.

The greenhouse is filled at different seasons of the year with the various seasonable decorative plants, and usually filled with winter-flowering Pelargoniums from October to January, for which purpose all the best flowering sorts are struck early each spring and grown out of doors all the summer, and regularly pinched. Another range at the south side of the gardens, which will be of considerable interest by-and-bye, consists of two orchard houses, each 100 ft. long, intersected by a Rose house—span-roofed, and forming a very neat and fitting entrance to the garden. These orchard houses—built three years ago—will, in the course of two or three years, be in fine bearing order. They are planted with all the best and most popular sorts of Apples, Pears, Plums, and Apricots. One of them is devoted to Apple and Pear culture, while the other has the stone fruits. All are planted in thoroughly prepared borders—indeed, concreted and drained like Vine borders; and thus the very best results may be looked for, as the trees have all made a good start. The Rose house is planted with Maréchal Niel, Gloire de Dijon, W. A. Richardson, and other fine Tea Roses, and on our visit was a fine sight, many of the Maréchal Niels measuring 7 ins. and 8 ins. in diameter.

In the flower garden is another house, commonly called the conservatory, of octagon shape and span-roofed. In this house is a Maréchal Niel Rose planted three years ago, and many of its branches have attained a length of 50 ft.; this season it carried no fewer than 412 Roses, and when in bloom, as on our visit, it perfumed the air for a good distance away. In the centre bed of this house are planted Camellias and Roses, all doing remarkably well, the bed itself being fringed with Selaginella Kraussiana. The side staging is covered with fine gravel, on which the pots are set, and has a sub-tropical appearance, being dotted with numerous stove plants.

Liliums are a great feature here in their season, about one hundred pots of various sorts being grown. This conservatory is usually filled with these in the shooting season.

At the rear of the kitchen garden, and beside the potting shed, numerous pits and frames are arranged for forcing and growing on young stuff to supply the houses, and also for Melon and Cucumber culture.

It may be noted in passing that the main range is heated by one boiler, which is placed in the centre, the valves and connections being well arranged, so that any may be cool or warm as desired, whilst the service pipes are carried along under the paths. In all the houses slate tanks are fitted up, which are supplied with rain-water off the houses, and also gravitation water *ad libitum*.

We now leave the gardens, and cross the river by a beautiful suspension bridge, from which a glimpse of what is called the Rhododendron bank is obtained. Across the bridge, we find ourselves on the terraces, which are newly made, and present a vast improvement on the late formation of the same ground. From these we have a commanding view of the Pinetum and Rhododendron banks, the former being quite under our feet, with the latter on our right leaving us in semi-circular fashion, and giving the Pinetum an amphitheatre appearance—really picturesque.

For several months the Rhododendron bank is very pretty; but seen in June it is one of the prettiest sights one can wish to see, and is to be made more effective by the introduction of many more hybrids. It is very effectively relieved by numerous Cupressus, white and a late yellow Broom, Lilacs, Azaleas, &c. This bank is over 300 yards long, and 36 yards broad, or rather, deep, as it has a considerable incline. The soil is rather shallow and of a gravelly nature, but from the position of the bank it is naturally moist, which no doubt accounts for the luxuriant growth of all the specimens.

The Pinetum is planted with some good Conifers, but all are young, and consequently not so interesting. Numerous specimens of Araucaria, however, form an outline of it, running parallel with the Rhododendron bank and the terraces, while along the side next the river a splendid row of Irish Yew forms a fine background.

The atmosphere here is very mild and humid, indeed, too humid at times, as it sometimes rains for weeks. The average annual rainfall for the past three years is 73·08 inches. On July 10th, 1884, the glen was visited by a storm which did thousands of pounds worth of damage, and covered the gardens with 8 ft. of water. The gardens are in charge of a most able practitioner, Mr. J. Proctor, and great credit is due to him for the admirable manner in which every department is maintained.—*J. Downie.*

FLORICULTURE.

Carnations and Picotees.

Our friend Mr. Wardill (p. 388) asks, "Why should the self-coloured and fancy-coloured striped Carnation be excluded from the class or stage flowers?"

The reply obviously is that they are excluded from the class flowers just as the class flowers are excluded from them, because the characteristics of each are wholly different and distinct. But they are *not* "excluded from stage flowers" as being grown for exhibition; they are in all respects "stage flowers" themselves. They are grown with the class flowers on the same stage, and are staged at exhibitions under the same conditions with them.

The National Carnation and Picotee Society provides five classes for selfs and fancies, viz:—

Class I,	24 blooms	6 prizes
,, K	12 ,, ...	6 ,,
,, L	12 ,, (yellow ground) ...	4 ,,
,, M	6 ,, ,, ...	5 ,,
,, N	12 plants of any class or classes in bloom in pots, including tree Carnations	3 ,,

Special attention is called in the schedule to the last-named class, the object of which is defined to be "to develop excellence as decorative subjects," and, it is added, "the judges will be instructed to award the prizes for cultural excellence, and a liberal head of flowers, which may not be shown on cards. The plants may have been lifted from the open ground, and the pots may contain one or more plants at the discretion of the exhibitor."

The Carnation and Picotee Union will have this year four classes for collections of selfs, fancies, and yellow grounds, viz.:—

Selfs, fancies, and yellow grounds,	12 blooms,	8 prizes.
,, ,, ...	6 ,,	9 ,,
Yellow grounds only	6 ,,	9 ,,
,, (Kilmurry seedlings)	6 ,,	9 ,,

besides the single bloom classes for these three sections, with eight prizes in each. Yet Mr. Wardill and others say that "professed florists banish self and fancy Carnations to the border."

To Mr. Wardill's second query, "Why is the flash, flame, or the feather excluded from the white ground or the yellow ground Picotee?" one can only reply in the same terms as to his previous challenge. There are cases where relatives are best apart, and the present is one of them; but this applies to the white ground Picotees only. The flashed, flamed, and feathered flowers are *not* excluded from the yellow ground Picotees, which have at present none other than these characteristics.

Mr. Wardill says, "For exquisite beauty of colour and delicacy of marking, commend me to fancy and self Carnations and Picotees." The styles of colouration and marking in these and in the class flowers are so different, that comparisons are not only odious but idle; but let us say that the colouration is each of its sort equally beautiful. "Exquisite delicacy of marking" is, however, the distinctive characteristic of the class flowers. It is to the fact that the selfs and fancies are not so much "delicately" as freely and boldly marked that they owe their picturesque beauty for the border, and their decorative value in the house.

Our friend finally exhorts us to "lay aside one-sided restrictions, and let quality and beauty be our guides." He can no doubt remember the papers of the Rev. George Jeans on the "Philosophy of Florists' Flowers," when they first appeared in the papers of the *Florist* of 1849. Let him lay aside Glenny and recur to these admirable papers, and he will have to admit that quality and beauty have ever been the guides of the true florist. Restrictions, indeed, we have, but they are not "one-sided." What Mr. Wardill calls "restriction," is no more than the order and the system which attend development, whether in the Carnation and Picotee or in any other branch of human work.—*M. Rowan.*

INDICATIONS OF SPRING.

A visit to Kew Gardens in the middle of February, with the thermometer standing at 56°, and the bright beams of old Sol lying warmly athwart the flush of floral beauty, which his vigour has induced to come out; with winter Aconites, gorgeously coloured like golden Buttercups; Snowdrops, white as milk, and in variety; Crocuses, striped and feathered, veined and reticulated, glowing in beauty; Anemone blanda, with its pure blue tints; Narcissus minima, dangling its tiny golden bells; Chionodoxa Luciliæ (the Glory of the Snow, in its native habitats); Erica carnea, and its white variety alba—these and other less conspicuous flowers offer sure and certain indications of the good time coming. A day such as this (February 17th) has resulted in, is a day to be recorded in the columns of The Gardening World, for such days are, with us, in our cold inclement climate, of very rare occurrence.

The gardens were well attended, and the early flowers seemed much appreciated. Even the Alpine house, which is not generally known, contained a fair sprinkling of interested people. Here the wealth of floral magnificence concentrates chiefly upon the genus Crocus. These short-lived but truly gorgeous early bloomers may be said to be the *avant courriers* of the glowing spring.

C. Susianus is particularly showy, with its brilliant orange-coloured segments, these, on the outside of the perianth, being variously reticulated or feathered with deep brown; hence it is a handsome species even in the bud. A native of the Crimea and the Caucasus, it is one of the liveliest and earliest of our winter flowers, and well deserves the common designation "Cloth of Gold." C. biflorus, a very variable species, with the segments of the perianth ranging from white to lavender, is also an interesting subject, as the outer petals are beautifully and regularly marked with deep purple. The sexual organs also stand out prominently both in this and the preceding species, and their rich orange-coloured anthers and stigmata, in consequence, lend additional charm to the soft tints of these Alpine gems. C. Imperati must complete this list, the flowers of which are of a fine lilac-purple on the inside, the external parts being richly veined dark purple, and combining withal the odour of sweetness, it is thus rendered most desirable as a subject for pot culture. Although the flowers of the genus Crocus are of a somewhat ephemeral description, yet the plants or corms are amenable to the simplest treatment, and are thus within the reach of all classes, especially the numerous varieties of C. vernus, which are cheap and easily obtainable; hence no garden, London or otherwise, should be without one or more representatives of these gorgeous though fragile harbingers of warmer weather, and of brighter skies.—*C. B. G., Aeton, W.*

CHRYSANTHEMUM NOTES.

The Prominent Flowers of 1888.

If there is any period of the year when the Chrysanthemum grower can be said to have an opportunity of taking things quietly and looking back upon the work of the past year, we should say it is the month of February. All trade Catalogues are issued; exhibitions are a thing of the past; a conference has been held; intending exhibitors at our 1889 shows have inserted their cuttings, and have for the most part made their selections of such of the novelties of recent introduction as they intend to add to their stock; still it is not too late for a few notes upon the prominent flowers of 1888. The Japanese classes, as a matter of course, claim the greater number of the novelties; some good additions have been made to the Anemone section, but the most important additions have been made to the section most in need of the additions—viz., the Incurved—and in nearly every case they have been sports from well-known flowers, and as sports invariably follow the habit of the parent plant, it is only necessary to give a description of the colour and the name of the plant from which the sport is derived, to give the grower a very good idea of what he may expect from the new flower. We will first deal with the most recent introductions to

The Japanese Section.

Sunflower (Cannell), a rich golden yellow, similar in style to Mdlle. Lacroix, and blooming about the same time. Has received three First Class Certificates.

Stanstead Surprise (Laing), one of the largest blooms of this season's novelties, with long reddish purple florets; very free, but rather a tall grower.

Etoile de Lyon is a very large and attractive flower, with broad straight florets of a rose-violet colour; a dwarf sturdy grower.

George Daniels is a flower very similar to Etoile de Lyon, both in colour and build of the bloom, but grows a trifle taller.

Mrs. C. H. Wheeler, a variety introduced from America, has this season secured the First Class Certificate of the N. C. S. It is an enormous flower, similar in character and colour to Edwin Molyneux, except that the petals are broader. It is a strong grower, and of medium height. Our American cousins hold a very high opinion of this flower, and we notice that amongst the new seedlings exhibited at the American Chrysanthemum shows last November were several good things raised from seed saved from this variety.

Mons. Bernard is similar in colour to Mdme. de Sevin. It is an excellent flower, and well merits the Certificate obtained for it by Messrs. Laing this season, although it has been out several years. It is a good thing for grouping, and retains its foliage well.

Alcion, a Japanese reflexed, is an attractive, deep, reflexed, rosy carmine flower.

Mrs. W. A. Harris is a large Japanese flower of a fleshy pink colour, with twisted florets.

Miss Gorton, a sport from Bouquet Fait, creamy white suffused with rose, is a very attractive flower.

Avalanche, which was introduced last season, has made its way to the front with great rapidity, and judging from the demand for it, is likely to hold its own for some time to come. Few collections will this year be without it.

Florence Percy, another of last season's introductions, has come well to the front.

Fimbriatum, a blush-pink of American origin, is a good flower.

The French Novelties.

Of all the new varieties sent out from France last year, few indeed among the Japanese were worth having, though it is possible that out of the large consignment a few more may prove to have good qualities, but which we have been unable to discover the first season—take for example Hamlet, sent out in 1887, it last year turned out a very fine flower. The best of the 1888 set are *Mdme. Louis Leroy*, a pure white flower, very full; a strong grower, of medium height. *Anatole Cordonnier* (Délaux), a large rich purple, lightly spotted with white. Care must be taken in selecting this variety, as there is another of the same name sent out the same year by L. Lacroix. Good white flowers are always acceptable, and *Condor* is a promising variety with broad petals. *M. Le Comte Foucher de Cariel*, rose-violet and white, is a large flower, rather early, and a somewhat tall grower.

Incurved Varieties.

The additions to the Incurved section this season consist of both sports and seedlings, but the latter, judging from the blooms we have seen, are not all triumphs of success, though they may improve by next year.

Souvenir d'Alfred Mott is a fine colour, and will turn out an acquisition.

Violet Tomlin (Davis & Jones) is considered to be the finest introduction of the year. It is a bright purple-violet sport from Princess of Wales, the qualities of which are known to every "Mum" grower. There is also a golden sport from the same source named

Mrs. S. Coleman, which has not yet received a Certificate, but it is in the hands of the right man. Mr. R. Owen will no doubt this forthcoming season stage blooms bringing out all its good qualities.

L'Automne is an attractive flower for this section, of a striking soft salmon-buff colour; it is of French origin, and although it has been out several years it has not been seen in this country before, and well merited the First Class Certificate awarded to it by the N. C. S. The petals are broad, but it is a very shy weakly grower.

H. Shoesmith is a good bronze sport from Golden Beverley.

Alfred Lyne is a good lilac-coloured sport from Novelty. Another well-known variety, Mrs. Heale, has produced a good sport of a clear yellow colour, named *Miss M. A. Haggas.*

One of the most curious instances of sports has been seen this season. Cullingfordi, with the colour of which every grower is familiar, has thrown a perfect incurved flower, following the parent in every respect except the shape of the bloom, which is as perfect as Lord Alcester, or any of the Queen Family, retaining at the same time the intense crimson petal with the golden reverse.

The only valuable addition to the early-flowering section has been *Mrs. Hawkins*, which is really a golden Mdme. Desgranges, being of a deep yellow hue, and not a pale straw colour like the variety that has hitherto gone by the names of Golden Mdme. Desgranges, Mrs. Burrell and G. Wermig.

The Anemone section has also been augmented. *Nelson*, a rose-violet flower with the centre florets tipped with creamy white, is a very fine attractive bloom, and will soon hold a prominent position on the exhibition table. *Souvenir de Mdme. Blandineries* is a Japanese Anemone, of a rose-crimson with a yellowish tint on the tips of the centre florets.

Dr. Audiguier is said to have raised some new Anemone varieties, which Délaux sent out last year, amongst them being

M. Castex.—This is Nouvelle Alvéole, sent out years ago, and certificated by the N. C. S. in 1885.

It would be as well if our trade growers could resolve not to invest their cash with our French friends until they have had a chance of inspecting samples of the new things to be sent out. Let Messrs. Délaux, De Reydellet, and others have a stand at the next National show, and exhibit the seedlings they are going to produce. Many pounds would thus be saved to the trade grower that are now thrown away on worthless rubbish.—*P.*

ON PROPAGATING BEDDING PLANTS.

A FEW remarks on this subject may be appropriate just now, as the time has arrived for the work to be taken in hand with something approaching to earnestness. Of course, there are many gardens where the means for early propagating do not exist—at least to the extent of not having a specially constructed pit or house for the purpose, and in such cases it usually happens that recourse must be had to hot-beds or dung-frames. Under such circumstances as these, it is unwise to make a beginning with cuttings before the first or second week in March, otherwise it will be found that great loss from damping off will be the result, and this, too, in spite of the best care and attention in regard to shading and ventilation.

The preparation of heating material ought to be taken in hand forthwith, which is best done by throwing up into a conical heap a quantity of stable litter, adding thereto a few half-decayed leaves, where these are obtainable. As soon as the heat has fairly begun to rise, the heap should be turned over twice or three times at intervals of a few days, after which the bed may be made up, allowing about a foot more space outside the margin of the frame, and not less than 5 ft. high, with a gentle slope to the front. Inside the frame should be placed about 4 ins. of leaves, or what is much more preferable, coco-nut fibre refuse, as a plunging material for the cutting pots. Do not make use of hot-beds too soon after being made up—*i.e.*, not until the heat of the dung has attained its maximum and begun to decline. Such subjects as Verbenas, Iresines, Lobelias and Ageratums may be freely rooted under these conditions, provided proper care and attention is given to ventilation, shading, and covering the frames at night with mats.

Unquestionably the best and safest method of propagation will be found in a good lean-to, or span-roof pit, heated with hot-water, and fitted up inside with glass cases, &c. Happy are those who have such conveniences at command. Forcing houses, such as plant and pine stoves, or an early vinery, are structures in which, perhaps, more plants are propagated than in pits or frames. A very good plan to adopt, where a forcing house exists, is to employ shallow boxes about 18 ins. long, 14 ins. wide, and 4 ins. deep, with holes in the bottom to allow of water passing through. These should be three parts filled with a suitable compost, consisting of two parts sifted loam, one of leaf-soil, and the other of sand. Press down moderately firm, and put a layer of sharp silver-sand on the top, water lightly through a fine rose watering-pot, and place them on the hot-water pipes for a couple of days previous to inserting the cuttings. The latter should be put in rather thinly, afterwards covering the boxes with panes of glass, allowing a small space between for the first day or two, so that the superabundant moisture may escape. Under this plan we have propagated large quantities of Alternantheras, Iresines, Verbenas, Ageratums, Lobelias, Mesembryanthums, Tropæolums, Heliotrope, and Petunias, with very few losses.

As soon as it is seen that the cuttings are rooted, they should be inured to more air by degrees, and in the course of a day or two the panes of glass removed entirely. If properly attended to in regard to heat, moisture, and ventilation, there ought not to be a loss of 5 per cent. It is a good plan to place in the bottoms of the boxes a layer of decayed manure and rough pieces of turfy loam. By so doing the young plants will be kept on the move, and may remain in the boxes till bedding-out time arrives. Dahlia tubers may be started in heat towards the end of this month, in a temperature of from 55° to 60°. Cover them with finely-sifted compost, and withhold water till young growth makes its appearance, after which period they ought not to be allowed to suffer from dryness at the roots; syringe them also overhead occasionally. When the young shoots are about 2 ins. long, cut them off near the base with a sharp knife, and insert singly in thumb-pots, plunging the latter to the rims in a bottom-heat of from 70° to 80°, not forgetting to shade from bright sunshine.

Such things as Cannas and tuberous-rooted Begonias may also be started in heat without further delay, and may be increased by division when active growth has begun. Where it is desired to make the most of the latter, the tubers should be cut into small pieces, with at least one shoot about ½ in. long to each. Pot them off into 3-in. pots, and shift into larger ones when necessary.—*J. H.*

GALANTHUS ELWESII.

SNOWDROPS.

ALL the three recognised species of Snowdrop are now in perfection. The season commenced with the early-flowering varieties of Galanthus nivalis, including G. n. præcox, and since the recent snowstorm disappeared, the others, induced by the genial mildness of the weather, have come on rapidly. Of the common Snowdrop there are several very distinct varieties, so much so that several of them have been described as species. Of these G. n. Imperati is distinguished by its broad very glaucous leaves and large flowers. G. n. latifolius is another, with equally broad but grass-green foliage, quite unlike any other kind. In G. n. reflexus the outer segments of the flower are reflexed in a similar manner to those of a Cyclamen. G. n. etiolatus has the ovary and the tips of the inner segments yellow instead of green, giving them a curious blanched appearance, as the varietal name implies. G. n. Shaylockii is characterised by having green blotches on the tips of the outer segments, and a curious bifid spathe, resembling two small green leaves; while G. n. virescens has the whole of the inner segments green. The double form (G. n. flore pleno) is a popular market variety, but loses much of the gracefulness of the single one. All those named are sufficiently distinct to be included in a collection, and would prove most interesting to lovers of hardy plants.

The finest of all the Snowdrops is undoubtedly G. Elwesii, of which we give an illustration. The flowers are large and handsome, the outer segments broad and spreading when in perfection, showing off the inner ones to best advantage. They stand erect, forming a narrow-mouthed cup, and have two very characteristic deep green blotches on the outside. It was introduced from Asia Minor in 1875. The third species—namely, G. plicatus—is a native of the Crimea, from whence it was introduced in 1818. It is similar to the common Snowdrop, but has a longitudinal fold or plait between the midrib and margin of the leaf on each side; hence the specific name. It seems to be flowering rather early this season.

FORMS OF LEAVES.

(Continued from p. 359).

UNEQUAL PAIRS OF LEAVES.

The Sycamore (Acer Pseudo-Platanus) has five-lobed leaves, resembling in a measure those of the Plane, but they are in opposite pairs, and the five primary nerves originate at the base, which is cordate. This latter character is traceable back to the first pair of leaves of the seedling, which are heart-shaped. This was, no doubt, the ancestral form possessed by the tree, and which gradually evolved to what we now see it. Maples are abundantly represented in the tertiary system. On horizontal branches the influence of light destroys the symmetry of the leaves, making the pairs of unequal sizes. The companion leaf on the under side of the branch is often conspicuously larger, with a remarkably elongated stalk. If the upper one had been the larger it would only have increased the evil by overshadowing the lower one altogether. Towards the apex of the shoots, where there is an equal exposure to light, the companion leaves of each pair are more nearly, if not quite, equal, and remarkably aggregated, forming a rosette, with the uppermost ones gradually smaller, and occupying the centre. This ensures the maximum amount of surface for collecting the sun's rays with the least expenditure of energy and waste of material. In another species of Maple (Acer dasycarpum) as many as from ten to fourteen leaves are sometimes clustered on the tip of a shoot not more than 3 ins. long. This could not be carried out on any other part of the branch unless the leaves were reduced to pigmies.

The Ash-leaved Maple (Negundo aceroides) is also characterised by opposite more or less unequal-paired leaves. The companion pairs placed perpendicularly to the earth's surface are unequal, while those placed horizontally are generally about equal, because one does not shade the other; but the special point in this case is that the leaves are pinnate, with from three to

five leaflets, although so closely allied to the true Maples that both are often included in the same genus. The spaces between the principal nerves become greatly elongated, so that the primary leaf gets cut up into secondary ones or leaflets. This is of common occurrence in Rubus, Potentilla, Rosa, Fraxinus, and many others, where two or more forms may occur on the same species.

The Horse Chestnut (Æsculus Hippocastanum) shows the same disparity in its companion pairs of leaves. This is strikingly illustrated in old trees with a spreading head and drooping branches, where the leaves towards the base of any given shoot are larger, with greatly elongated footstalks, as if making a determined effort to get beyond those above them and reach the light. The individual leaves are digitate, with five to seven leaflets. It furnishes a third very distinct type or form, belonging to the same natural but variable family as the two previously-mentioned genera. The common Ash, Catalpa, Paulownia, and numerous others might be cited to illustrate the inequality of leaves brought about by the influence of light.—*J. F.*

(To be continued.)

The Amateurs' Garden.

Gladiolus Colvillei and its Varieties.

The corms of this class of Gladioli should be planted at the first favourable opportunity, or should the soil out of doors not be in suitable condition, they may be put into a small pot for the present, and stood in some cool house or frame until a favourable opportunity occurs for getting them outside. If allowed to make growth in a dry state the corms get exhausted, greatly to their disadvantage. If so desired, they may be grown on and flowered in pots for the decoration of the greenhouse during summer. Being of much smaller stature than the ordinary tall-growing kinds, they are well adapted for pot culture. The typical form has warm, rosy red flowers, with conspicuous white blotches on the three lower segments, surrounded with deep purple lines. The pure white variety, G. C. albus, is also known as The Bride. Delicately pale-coloured varieties are Blushing Bride and Delicatissima, having a white blotch on the three lower segments, edged with rose. A rosy scarlet variety, named Prince Albert, is rendered additionally attractive by the great size of the white blotches on the three lower segments. That named Brilliant is of a brilliant scarlet, with white blotches, and is quite distinct from Fire King, which is fiery scarlet, blotched on the lower segments with rose. The garden varieties of this Gladiolus, itself a hybrid between G. cardinalis and G. tristis, are already very numerous, but the above is a good and representative selection.

Hollyhocks from Seed.

Those who are not particular about named kinds of Hollyhocks can readily raise any number from seeds, which, if sown at the present time, will flower grandly towards autumn, provided they have been fairly dealt with during the growing season. Commence at once by sowing the seeds in a moderately warm greenhouse. Any tolerably light sandy loam, with a quantity of leaf-soil, will answer as a compost in which to raise seedlings. Sow sufficiently thin to avoid crowding of the seedlings till they have made a rough leaf or two, when they should be pricked off into boxes about 2 ins. apart each way, or potted off singly in 3-in. pots. They should then be returned to the quarters from which they were taken, and watered, keeping them there till they commence growth afresh, and appear tolerably well established. A cold frame would then prove a suitable place for them. Air should be given on all favourable occasions to prevent them becoming drawn and weakly. As the days lengthen, and the sun becomes warm, attend well to the young plants in the matter of watering, so as to get them well forward by planting time in May, or even earlier should the weather prove propitious.

After being planted in the open, water liberally in dry weather to enable the young plants to strike root deeply, and they will grow so vigorously that the value of their flowers can be determined the first season. Seeds of a good strain will give rise not only to beautiful single and semi-double varieties, but doubles of superior merit will occasionally make their appearance. During the first year seedlings may only attain a height of 3 ft. or 4 ft., but afterwards, in well-tilled and richly manured land, they will grow 6 ft., 8 ft. and 10 ft., producing long spikes of richly-coloured flowers of great decorative value.

Maréchal Niel Rose.

Satisfactory results cannot be obtained from this, the most popular of all yellow Roses, when planted out of doors. In planting under glass, however, serious mistakes are made by putting the plant under conditions that are altogether unsuitable — either the temperature is too high, or there is too little ventilation and too diffuse a light. A common practice is to plant at the foot of the back wall of a lean-to house, and train the shoots up the wall, or even on wires. It is impossible under the circumstances that either satisfactory growth can be made or any flowers produced till the shoots reach the upper part of the wall and derive benefit from the light. Those contemplating the planting of this, or, indeed, any other climbing Rose, should make provision for the foliage and shoots being fully exposed to light. The house must also be ventilated top and bottom to keep the plants vigorous, and to prevent the attacks of insects, such as green-fly, which is always an inveterate enemy of the Rose, both out of doors and under glass. Should the Rose be trained under glass, the subjects beneath it will be more or less shaded, unless restrained within due bounds by preventing the shoots growing above a certain height. Little pruning in the ordinary sense of the term should be given. Merely thin out old and useless or weak wood from which no flowers can be expected, and train in the young shoots nearly at full length.

Onions and the Grub.

Many are now contemplating where to sow their Onions this year with the view of getting a crop without being destroyed by the Onion maggot. There can be little doubt that fresh soil is freest from this insect pest, but it cannot always be bad. On the other hand, Onions have been very successfully grown on the same border for many years in succession. A common practice that meets with success in many gardens is to prepare the soil, and after treading it down in the usual way and levelling it, a quantity of soot is spread on the surface. Then draw shallow drills for the seed, and sow the latter, covering it up, not forgetting to rake fine. The soot has the effect of keeping the grubs at bay, while it acts as a stimulant to the crop.

Gardening Miscellany.

Paullinia thalictrifolia.

Those who are acquainted with the herbaceous Thalictrums can form an idea of the foliage of this beautiful climber, the individual leaves of which are triangular and three times cut, the pinnæ being also triangular in outline. They are dark green, and when making clean, healthy growth, the leaflets are distinctly marked with a silvery grey tint. When allowed space to develop, with plenty of root room, it constitutes a climber attaining a height of several feet, and in this condition forms a beautiful screen for the glass partitions of a stove. It may also be grown as an ornamental-foliaged plant in pots, as it can readily be pruned back to any required dimensions without injuring its beauty. Small pot specimens are grown in the nurseries of Messrs. J. Laing & Sons, Forest Hill.

The Butter Nut.

The costermongers' barrows in the streets of London can now be seen loaded with Butter Nuts, and they appear to be objects of great curiosity to passers-by. They are the fruits of Caryocar nuciferum, the Souari or Butter Nuts, which are sold in the shops of this country, and greatly appreciated for their fine, bland, milky flavour. The Caryocars are tropical trees of immense size, growing to a great height, making it difficult to get at the fruit. Another tree known as the Butter Nut Tree is Juglans cinerea. It is one of six or seven North American species, in addition to the common European Walnut of this country, J. regia. The only other which ripens its fruits in this country appears to be the Black Walnut, J. nigra, the nuts being occasionally ripened in the southern counties, and sometimes imported to a small extent. Mr. A. J. Downing states that the Butter Nut is J. cathartica, but this is synonymous with J. cinerea. He says that "it is chiefly esteemed for its fruit, which abounds in oil, and is very rich and sweet. The foliage somewhat resembles that of the Black Walnut, though the leaflets are smaller and narrower. The form of the nut, however, is strikingly different, being oblong, oval, and narrowed to a point at the extremity. Unlike the Walnut, the husk is covered with a sticky gum, and the surface of the nut is much rougher than any other of the Walnut genus." The common Walnut is so well known that it is scarcely necessary to refer to it. Its fruit is imported to this country as well as to the United States, and as they are chiefly brought from Spain and Madeira, they are known as the Madeira Nut. A Lithuanian legend recounts that at the deluge, as men were being drowned, Perkun, the chief deity of the race, was eating nuts. He dropped the shells in the raging waters, and in them certain virtuous people escaped, and afterwards re-peopled the earth.—*R. D.*

Thunbergia laurifolia (T. Harrisi).

Where the rafter of a stove or some similar place can be given this species, it forms a very beautiful free-flowering climber that seems to enliven the stove or warm conservatory during the winter and early spring months. If allowed to attain its fullest dimensions it would cover a very large area of the roof of a house, and flower in proportion; but unlike many climbers that must attain a large size before they bloom freely, it can be grown in a comparatively small state in pots, as we noticed the other day in the nurseries of Messrs. J. Laing & Sons, Forest Hill. We have also seen it trained up the rafters of a low span-roofed stove, where it flowered finely in winter. After flowering, the superfluous wood can all be cut away, and having the summer before it to produce new growth, the plant will be in a condition to bring forth its large blue flowers the following winter.

Croton Bragæanus.

The narrow-leaved varieties of Croton, as well as Dracæna and others, are most popular at present for table decoration, and consequently we find them being largely cultivated to the exclusion of those broad-leaved, old-fashioned kinds which used to figure so much at plant exhibitions. The variety under notice has leaves from 1½ ft. to 2 ft. long, even when grown as small plants about the size used for table decoration. They are linear and irregularly blotched with crimson and yellow on a deep green ground. Their under-sides are purple. The variety is by no means new but will doubtless be more grown as its merits for the purpose above mentioned become recognised. It is conspicuous amongst other kinds at The Grove, Teddington, Middlesex, where the stove is a fine structure recently built.

Chamærops humilis.

Considering its dwarf and compact habit and slow growth, this South European species is less frequently met with in private establishments than C. Fortunei or C. excelsa, now, however, classed as species of Trachycarpus. C. humilis was first introduced to this country in 1731, but has since, to a great extent, been neglected, except in botanic gardens and a few others. There is a fine specimen at The Grove, Teddington, where it is grown in a large tub, and stood somewhere about the grounds during the summer months. Being so nearly hardy in our climate, it is simply stood in a cool conservatory, where very little fire heat is employed during winter. The stem is about 6 ft. high, and bears a well-furnished head of foliage. It flowers very freely, and its numerous flower branches are not uninteresting, even if not showy.

Dracæna Hendersoni.

Those who give preference to variety of colouring in table decorative plants would find a considerable amount of colour in this kind. The leaves are lance-shaped, moderately broad, and assume an ascending direction. They are variously striped and banded with rose, red, and creamy white on a green ground. For the sake of comparison as to habit, it may be likened to D. terminalis, but has broader and less sharply-pointed leaves. We noted a thriving specimen in the new stove at The Grove, Teddington.

The Two-leaved Squill.

In the open border the earliest Squill to make its appearance is Scilla bifolia, which, as the name implies, produces two leaves from each bulb, seldom more. The typical form has deep blue flowers, not unlike those of Chionodoxa sardensis, only smaller, and five or six on a scape. Like its congener S. nutans, with which every one is familiar, it has sported into several distinct colour varieties, including purple, pink, and white; and this notwithstanding the fact that white should be

excluded from the genus according to the technical distinction between this genus and Ornithogalum, the prevailing colour of which is white. The Scillas under notice, however, are very pretty subjects for border or rockery, and very hardy. To get the finest effects they should be planted in clumps of a colour.

Ground Nuts.

THE fruits of Arachis hypogœa are pretty frequent in the greengrocers' shops of London and the suburbs. They are more often described as Monkey Nuts than Ground Nuts, the older name given them in this country. The so-called nut is really a pod, as it belongs to the Pea family, and contains two seeds. The pod is about 1 in. in length, cylindrical, slightly curved, and reticulated—that is, netted. The seeds are about the size of peas. The name Ground Nut has been suggested by the habit the plant has of burying its fruits in the ground while still in a young state. It there swells to its natural size, while if left uncovered would never get any size nor mature. Originally it was a native of the West Indies and West Africa, but is now cultivated in most tropical or sub-tropical countries.

Rock Candytuft.

THE flowers of Iberis saxatilis are smaller than those of any other of the popular kinds, but are, with the exception of those of I. semperflorens, the first to expand under natural conditions. They are pure white, and borne on slender, twiggy branches. The leaves are also small and evergreen. The plant would no doubt become more popular were it thoroughly hardy, and better able to take care of itself in the open. It is, however, an interesting and choice subject for collectors of Alpine plants, and is specially suitable for cultivation in pots. During winter it may be kept in a cold frame, and even with a northern exposure will flower at various periods during winter and spring if the season is a tolerably mild one. Seeds are rarely produced, but like other species of Candytuft it may readily be propagated by cuttings just getting firm after the new growth has been made in summer.

Doryopteris nobilis.

THE species of Doryopteris, with the exception of D. palmata, are by no means common in ferneries. They are, however, bold and distinct-looking Ferns, and when well grown are by no means devoid of beauty. The species under notice is undoubtedly the boldest in cultivation, and might well be introduced into every collection of stove Ferns. The adult fronds in well-grown specimens have a blade of 12 ins. or 18 ins. in length, and palmate in outline, that is, having large divisions given off in the same manner as in the better known species already mentioned. They are bright green, and in the young state there is a broad silvery band extending along the primary and principal midribs. A high temperature is not particularly necessary. A loose porous soil is very beneficial, and should consist of peat with a quantity of chopped sphagnum, some rather finely broken potsherds, and sufficient silver-sand to render the whole porous and open.

Crocus susianus.

THE hardiest and one of the earliest of the yellow Crocuses is that here named. It is also one of the most easily recognised. The flowers appear in February or early in March, and are of a rich golden yellow, bearing a deep brownish black band along the middle of the three outer segments, externally. After the flowers first expand, through the influence of mild weather with a little sunshine, the three outer segments never close up again, but becoming recurved, exhibit their golden yellow colour only. By this peculiarity alone the species may readily be recognised by those who are not botanists. The flowers are not so large as the improved C. aureus luteus, spoken of as the Large Yellow or Dutch Yellow; but the species is equally hardy, and when once planted may be left to take care of and establish itself. Being very dwarf it is highly suitable for naturalising on grass.

Spring Snowflake.

NOTWITHSTANDING that this is the neatest, prettiest, and largest of the Snowflakes, and has been more or less grown in this country since 1596, it is the least common in gardens at the present day. Botanically it is the Leucojum vernum, and is a native of Central Europe. Its flowering season has now commenced, and will continue for several weeks. The flowering stems, surrounded by three to five deep green leaves, rise to the height of 6 ins., and carry generally one flower each. A vigorous variety is sometimes met with under the name of L. v. biflorum. The flower consists of six segments of equal length and size, white externally, with the exception of a deep green blotch beneath the tip of each. Internally they are more or less stained with yellow. The generic name comes from *leukos*, white, and *ion*, a violet. The flowers are deliciously fragrant, smelling of violets at a certain stage. It may interest those who grow hardy plants in pots, to know that the Spring Snowflake may be grown in that way.

Indian Pinks.

THOSE who have to supply cut flowers in any quantity and variety will find the Dianthus Heddewigi, or Indian Pink, a grand acquisition. They are really perennials, but I think for convenience and all general purposes they are best treated as annuals, sowing the seed in early spring in heat, and treating them in the same manner as half-hardy annuals, finally transplanting them to the beds or borders where they are intended to flower in the early part of May. There are some good varieties of double form, or with peculiarities in form or colour, which it may be thought desirable to perpetuate or increase. This can easily be done by division or cutting, but a packet of mixed seed procured from some reliable source, and treated in the manner described, will usually produce a large number of plants, the flowers of which present great diversity of peculiarly rich and brilliant colours, many beautifully striped, with fimbriated or ragged petals, very different in appearance and character to most other garden flowers. Combined with light-foliaged Ferns or grasses, they make a nice variety for table decoration.—*Alfred Gaut.*

FLORAL DECORATIONS.*

IN the following remarks I shall confine myself almost entirely to what are termed table decorations, because when a young gardener can dress stands suitable for a dinner-table he need not fear to undertake any other kind of decoration of a floral character, and also because I think that if there is one particular kind of decoration more than another which the gardener of the present day ought to study, it is the decoration of the dinner-table. I must at the outset carry you back with me for a period of about twenty years to show what progress has been made in this branch of our profession. At that time dinner-table decoration was very rarely seen in private establishments, and what few attempts were made were of a most primitive description, still less were decorated dinner-tables to be met with at exhibitions; while now it is the exception and not the rule to find a flower show without them—and what is more attractive?

I had vases to fill at a time as far back as that to which I refer which were of a most ugly pattern, and try as one would they rarely looked satisfactory to the dresser when finished. I am glad to say that such vases are now seldom to be seen. For the great change which has taken place in the public taste in this matter we are, in a great measure, indebted to the Royal Horticultural Society and the Crystal Palace Company, who commenced about the year 1868 to offer substantial prizes for the best floral designs for the decoration of a dinner table. The gardener I was then serving under in the south of England took a trip to London, with the object of securing the first prize, but he came back disappointed at not being first. When, however, I tell you that his display consisted simply of Maréchal Niel Roses and Iresine Herbstii, with a little Maidenhair Fern interspersed, it will give you some idea of what was then considered good enough to win a handsome second prize. Still, he learnt a lesson by going, as he saw other tastes and styles, which enabled him, after a few trials, to attain the much-coveted first place.

I had never seen a competition of this kind till about 1874. I was then living in Buckinghamshire, and came up to one of the Royal Botanic Society's shows to assist my old master, who was exhibiting. This certainly opened my eyes, and when I think of the style in vogue then as compared with that of the present day, I must say that the difference is marvellous. The stands were then of a very heavy clumsy description, and it required a great deal of skill to dress them properly. There were too many side or intermediate trumpets, the stands were too short to show anything like distinctness between the dressing of the base, intermediate trumpets, or hanging baskets, as the case might be, and the top trumpets—in fact, it was *en masse*. We have now stands of the simplest character, which make the operation very much easier for the dresser.

The two descriptions I prefer for giving variety are the pattern shown in my modest illustration here to-night. The other I would describe as having simply a dish at the base, with a long clear glass trumpet rising from the centre. The stands should vary in height, the centre one, if three are used, being some 4 ins. higher than the two end ones. To dress a table to completion, a few small trumpets or baskets should be placed outside the stands, running lengthways of the table, and a spray or button-hole should be placed in very small glasses for each guest. I am well aware of the many other ways of dressing a table that has sprung into existence of late years, such as placing a bordering of Fern and flowers, or leaves, grasses, &c., shaped in all manner of designs on the table-cloth, but to my mind there is nothing which approaches the stands for effect, if lightly dressed.

I now come to the actual dressing of the stands, and would wish particularly to impress on young beginners the one essential point, if success is aimed at, and that is the selection of colours. You may easily have too many, but it would be difficult to have too few. Whether for the family dinner-table or for competition nothing is more distasteful than to see in one stand or vase ten to a dozen and sometimes more shades of colour. The vase may be perfect as regards the dressing, that is, in quantity of material used, and style of arrangement, but if blues and violets, pinks and yellows, reds and crimsons happen to come together, such a conglomeration of colouring is produced as every lady would condemn. In a competition such an effect would simply be ignored.

In dressing three stands for competition (it is some years since I did anything of the kind at a private establishment), I generally commence with the top trumpets, as this is the most tedious, and requires to be done very lightly, a few grasses towering up for a centre, then a few very light pieces of flower, the colour to harmonise all through the stands alike; or for a change introduce a little more colour in the centre stand, and dress the two end ones alike. A few sprays of a drooping character, either of flower or foliage, should be placed round the edge of the trumpet; this gives a good finish to the top, which at all times should be so light as to be seen through. Then follow in like manner with the side trumpets, if any, which also require to be very lightly dressed—three or four small light flowers, a little Fern and Grass, and it is complete. As to the base, the centre stand should be dressed rather bolder than the two ends, as, being taller by some 4 ins., it naturally requires it. Place some moss or Lycopodium over the sand, then select some bold flowers, commencing outside. Water Lilies and pink Dipladenias used alternately are very effective, but do not stand at these, as there are a host of other flowers that answer the purpose. I give this as an example only. A few flowers of a deep crimson colour might be introduced for the sake of variety in the centre stand, and let the flowers rise gradually towards the centre, but not too formally. Use plenty of white for the groundwork, the purer the better, as this will show to greater advantage the other colours afterwards added. Work a little Fern between the flowers so that the stand may not look naked from any view. A few coloured leaves are very effective if placed on the bordering of Fern, and immediately outside of Water Lilies or other white flowers. Introduce some lighter flowers amongst the heavier ones, letting them stand out boldly. This will give great relief, and add wonderfully to the effect. A few light grasses, and some of a heavier nature, sparingly used, will complete the base; and for a change have a piece of Lygodium scandens or Asparagus tenuissimus trailing round the centre stem.

I never like more than two or three colours in any three stands unless they are very delicate shades, such, for instance, as you find in some of the Orchids, Pelargoniums, &c. I have seen some of the sweetest stands dressed with only two colours, such as pink and white and yellow and white, and very cool and refreshing they look for summer decoration; but for winter I should introduce more colour, and so impart an appearance of warmth and cheerfulness, a point which soon speaks for itself when artificial light is brought to bear upon it. Whilst on the subject of artificial light, I may caution young beginners from using yellow or the different shades of blue for night decoration, for however beautiful they may appear by daylight, they are very insipid under artificial light, losing their true character altogether. Much more might be said on this subject, especially on what to use and what to avoid, but I think most young gardeners will gain that knowledge by experience if they tackle the subject in earnest.—*J. Prewett, Swiss Nursery, Hammersmith.*

* Read at a meeting of the Ealing and District Gardeners' Mutual Improvement Society, February 8th, 1889.

POULLET LODGE, TWICKENHAM.

VIEWED from the river Thames, the front of Poullet Lodge, the residence of J. S. Nicholson, Esq., has a very fine effect, but especially so in the summer time, when the beds on the well-kept lawn are occupied, and the large vases along the river bank are gay with flowers, while the trees are in full leaf. At present one must be content with an examination of the indoor department, and Mr. Bates, the gardener, has much with which to entertain the visitor in the well-stocked range of houses, and the admirably efficient way in which every department is made to do its own duty.

The stove is occupied with a mixed collection of plants, amongst which are some large and healthy Palms located on the central stages. A fine plant of Phœnix rupicola has leaves about 6 ft. or 7 ft. long, while the Cabbage Palm (Euterpe edulis) has a 3 ft. stem, bearing a fine head of leaves. Then there are large plants of Kentia Belmoreana, and a piece of Rhapis flabelliformis with eight stems. The plume-like leaves of Cocos Romanzoffianus are 10 ft. long, reaching from the floor almost to the roof. Other foliage plants consist of Pandanus Veitchii, in all stages of growth, so as to be suitable for different purposes. Asparagus plumosus and A. p. nanus receive the attention they well deserve. There is no difficulty in distinguishing the two, nor in seeing the superiority of the latter for decorative purposes. The pieces in 48-sized pots are most useful, but the beauty of a piece 4 ft. to 5 ft. through in a 12-in. pot cannot be ignored. Amongst table plants, Croton augustifolium, and the rich bronzy red and crimson-leaved Dracæna elegantissima, are well suited for the purpose. Anthurium Andreanum was flowering, as well as the sweet-scented Toxicophlæa spectabilis. Equally attractive is the red-berried Rivinia humilis, which keeps in good condition all the winter.

This house is very singular in shape, affording great variety of aspect, and accordingly it can accommodate different classes of plants. One rather shady end is occupied by a rockery planted with varieties of Begonia Rex and Nephrolepis exaltata, which are very effective in summer. The Orchids are also accommodated here, including two large pieces of Sobralia macrantha, and a large piece of Harpophyllum giganteum, which here flowers regularly and is now in sheath. Amongst those in flower are Dendrobium nobile, Lælia anceps, Cœlogyne cristata, C. c. Chatsworth variety, Dendrobium Pierardii on rafts, Cypripedium barbatum, C. villosum, and others. The Harpophyllum is kept with its roots very much confined, and after completing its growth it is allowed to rest till it commences to throw up its flowers.

The Camellia house contains some very large specimens of the old Alba plena, which is still one of the best, if not the best white Camellia. They, as well as others, are flowering. A large plant of Maréchal Niel Rose gives great satisfaction trained over the roof of this house, and affords a large quantity of flowers for cutting. Near by is a huge piece of Clivia miniata in a tub. The greenhouse proper is occupied with flowers of another class, including Azaleas, Aphelexis, Dracophyllum, a large trained piece of Daphne odora, the flowers of which perfume the whole house, and some of the showy hybrid greenhouse Rhododendrons, such as Countess of Sefton, Countess of Haddington and R. Edgeworthii. Another small span-roofed greenhouse is gay with Cyclamens in many colours, and a gayer lot even of Chinese Primulas. The old Double White is very floriferous, as is Chelsea Rose, a very attractive rosy pink sort. Others exhibit white, crimson, red, and other shades of colour, and all are of fine quality. Useful Azaleas in flower are A. indica alba, A. amœna and Deutsche Perle.

There are four vineries, all forming one range, and divided by glass partitions. Curiously enough, the earliest vinery is farthest from the boiler, and the main pipe runs through the backs of the other three. Independently of the main, there are six rows of 4-in. piping in all the houses, and by means of stop-valves Mr. Bates can make any of the houses the earliest one at will. The plans for these were drawn up by himself, and the efficient way in which they work says much for his skill. It may here be stated that the whole of the hothouses are heated from the same stokehole, which contains two boilers that may be worked conjointly or separately.

The earliest vinery is now well advanced, and contains Black Hamburgh, Foster's Seedling, and Buckland's Sweetwater. The house next to this contains the first two kinds only. The third house contains Alicante and Lady Downes. The first is the best flavoured, but Lady Downes keeps better. There are, however, bunches of both kinds in bottles, with the berries as firm and the dense glaucous bloom as fine as when ripening was finished in autumn. The fourth house is entirely devoted to Muscat of Alexandria. In the vineries are large quantities of bedding plants, together with the zinc vases already filled with Pelargoniums in readiness to be dropped into position in the stone vases on the banks of the river.

The trees in the earliest Peach house are already in bloom. One of the earliest is Dr. Hogg, which has large pink flowers and bears heavily. Stirling Castle is another good bearing kind, and is more popular here than Alexander. Lord Napier Nectarine is considered the best of its class. Another range near the vineries is occupied with a varied collection of Peaches, Nectarines, Apricots, Plums, and Cherries. The last two kinds are grown as single upright cordons on the back wall. The most popular Plum is Coe's Golden Drop, which fruits very freely under glass. Transparent Gage is also good, but is less certain as a cropper. The Pine Apple house is a three-quarter span structure, but at the time of our visit they had been removed to another house while their own received a thorough cleaning and repair. Two kinds only are grown—namely, Smooth Cayenne and Queen. The plants are now in excellent condition, and although the house is only of moderate size, about eighty fruits are ripened in it yearly. There is also a structure for Melons and Cucumbers.

The garden round which the houses are built is small, but the kitchen garden is a piece of ground cut off from the park on the opposite side of the road leading through Twickenham. Here are some fine trees of Cupressus Nutkænsis, C. Lawsoniana, and Araucaria imbricata; but the glory of the park is a magnificent Cedrus Libani, about 85 ft. high, and girthing 17 ft. 2 ins. at 3 ft. from the ground. The north and east aspect walls of the garden are entirely covered with Plums, Morello Cherries, and Pears, the former two being a fine sight owing to the vigorous growth they make, although on a wall facing due north. The Plums that do best under these conditions are Coe's Golden Drop, Kirke's, Victoria, and Green Gage. They are fan-trained, but Pears are also trained on the cordon system. Apples are grown as standards, and bear well. Wellington, Blenheim Orange, Cox's Pomona, Cox's Orange, and Sandringham do well. The latter is a culinary sort, but comes in well for dessert at this season of the year.

NOTES ON FRUITS.

LANE'S PRINCE ALBERT APPLE.

Amongst culinary Apples, this is a great acquisition on account of its high quality and excellent keeping properties, being in season from October to March, and is therefore still plentiful at places where it is grown. Although fruited as early as 1857, its merits do not seem to have been recognised by the British public as they might have been, until recently. It cannot be described as a showy Apple, but even in this respect it will compare favourably with other culinary kinds, where colour is altogether of secondary importance. With regard to size and shape it is quite handsome. In colour it varies according to the district in which it has been grown. Those matured under the more favourable southern skies are pale green, becoming yellowish, and more or less heavily flushed and splashed with red on the exposed side, while in northern counties where maturity is not carried on to the same perfection, green is the more prevailing shade. The fruits, even in the latter case, keep sound till March. The flesh is greenish white, but tender, crisp and juicy. The tree bears regularly and heavily.

ROSEMARY RUSSET APPLE.

The flavour of this Apple is excellent from November to February. It is only of medium size but regularly shaped, pretty, and very distinct in outline. From a broad base it tapers gradually to a blunt point where the eye is small and sunken in a shallow even basin. In colour it varies considerably, but generally it is pale yellow, more or less heavily flushed with red on the exposed side, and suffused with russet round the eye and stalk. In fact, the russet is so little noticeable that the name is hardly applicable when we compare it with most other kinds to which the name Russet is applied. The flesh is tender, crisp, and of a pale yellow tint, and during the early months, while in season, it possesses a highly aromatic flavour. Even now the flesh is still crisp, sweet, and very agreeable to the palate. Of course, it is a dessert kind, presenting a very distinct appearance. It succeeds well over a wide range of Britain.

ORCHID NOTES AND GLEANINGS.

CATTLEYA TRIANÆ DELICATA.

A THREE-FLOWERED spike of a grand form of this variety has been sent us by Mr. F. Exell, The Gardens, Misarden Park, Cirencester. There are numerous forms in cultivation that pass muster under the above name, but many of them are rather indifferent sorts compared with the specimen under notice. The pseudo-bulb that bore the flowers is only 6 ins. in length, whereas the flowers are of unusual size, and all three equally good. The petals measured somewhat over 5 ins. across, a size reminding us of the flowers of C. Mossiæ. Each was 2¾ ins. across, beautifully undulated at the margin, and pure white, as were the sepals. A long-tubed lip is very characteristic of C. Trianæ, which has generally a short lamina; but in this case, from base to apex, it measured close upon 2½ ins., while the lamina itself was 2 ins. each way, undulated and crisped at the margin, delicate lilac-pink, with a large two-armed yellow blotch extending and tapering to the base of the tube. With the exception of these tints, which make the name C. T. delicata applicable, the rest of the huge flower is pure white, and Mr. Exell may be congratulated on the possession of such a fine variety.

DENDROBIUM BRYMERIANUM.

THE long fringes on the lip of this curious and beautiful species is sufficient to distinguish it from any other, whether fringed or not. They consist of an interlacing or overlapping mass of much-branched filaments, as if the greater portion of the terminal lobe of the lip had been reduced to the venation, skeletonising it, as it were. The lateral lobes are much more shallowly fringed. The sepals and petals are oblong, and the whole flower is of a golden yellow. Of a plant in the nursery of Messrs. Shuttleworth, Carder & Co., there can be no doubt as to its being the best form, as it is in every way superior to the self-fertilising variety D. B. histrionicum; the latter every grower knows is worthless for decorative purposes, there being little or no fringe to the lip, while the flowers seldom develop properly.

LÆLIA FURFURACEA.

I SEND you the spike of an Orchid one seldom sees, Lælia furfuracea. My gardener says it is an exceptionally fine variety. This plant I bought from the Liverpool Horticultural Co., Limited, in May, 1887, as a newly-imported piece. It made fourteen new growths that season, five of which carried flower-spikes with one bloom upon each. This last summer (1888) it made wonderful growths, most of the bulbs being half as large again as those which it developed in its native forests. It has been in flower here for the last five weeks, and is consequently past its best now.—*Robert Twiss, Birdhill House, Birdhill, Limerick.* [The two-flowered spike sent us exhibited evidence of good cultivation, for although three blooms on a stalk may be produced under certain circumstances, one is the more usual rule. At first sight, the appearance of the flowers reminds us of L. autumnalis, to which it is most closely allied; but on closer inspection it proves to be very distinct. One thing that strikes the observer strongly is the short, broad, rhomboid, or diamond-shaped petals, and the latter, together with the sepals, were of a warm rose-purple colour, while their thick and fleshy character may be compared to that of Cattleya citrina. To this their long-lasting qualities are to be attributed. The side lobes and the tube of the lip are very pale, while the terminal lobe is the darkest part of the whole flower. The specific name is said to have been suggested by the brown scurfy scales on the ovary; but Lindley, who named this species, might have alluded to the mealy powdery-looking substance covering the whole of the lamellæ or ridge-like plates running along the labellum, and which appears to give rise to the peculiar odour emitted by the flowers.—ED.]

DENDROBIUM DEVONIANUM.

A FINE form of this pretty species has reached us from Mr. George Walker, gardener to H. Druce, Esq., The Beeches, Circus Road, St. John's Wood. It occurs in a batch that was imported last March, and is noticeable for the size and richness of colour of the various blotches that characterise the species. The orange-yellow eye-like blotches of the lip, and the purple tip of the latter, as well as of the petals, are very dark and richly coloured. The latter organs exhibit a tendency to a purple venation, as occurs in D. D. rhodoneurum, but not sufficiently to constitute a distinct variety. If, however, the plant be grown strongly so as to produce strong stems for next year, it will flower equally finely again, and prove a very valuable form.

Catasetum discolor and C. roseo-album.

The first of these, to which the popular name of Dingy Monk's Flower is applied, was originally introduced from Demerara and considered very rare; it was hailed, with delight by the botanists, who believed they had thus further confirmation of a recently constituted genus, namely, Monacanthus, which differed from Catasetum in the absence of antennæ to the flowers, and in the pollinia being imperfect. Since then, however, it has been discovered that Monacanthus is the female form of the flower, while Catasetum proper is the male, and that a third genus also now included in Catasetum is a hermaphrodite form. C. discolor is by no means a showy plant, but is exceedingly curious and interesting on account of the curious cap-like appearance of the lip, which Bateman compared to an old rusty iron skull cap. It is yellow internally, and greenish externally, being spotted with rusty purple; the sides near the base are toothed or shallowly fringed. The sepals are yellow tinted with red, while the petals are purple and the column yellow. C. roseo-album was recently described by Reichenbach as a species, but it merely differs from C. discolor in the lip being nearly white with a few transverse reddish streaks, and the fringes much longer. The other parts of the flower are also pale, but there is nothing to entitle it to specific distinction.

Odontoglossum Rossii aspersum violaceum.

Like O. R. Humeanum, the ground colour of the flowers of this fine variety is yellow, at least on their first expansion; but the lip afterwards changes to a rosy violet, hence the application of the above name. The sepals are almost covered with chocolate-brown blotches, with narrow transverse yellow stripes. The petals also expand of a yellow colour, but gradually assume a pinkish hue, while they have a few brownish purple blotches at the very base. The crest is of a deep lemon-yellow, while the column is purple, as in the typical O. R. aspersum. We noted the variety in the nursery of Messrs. Boulton & Shuttleworth, 256, Peckham Rye.

Odontoglossum Oerstedii majus.

Like all other dwarf and small-growing species of Odontoglossum, this thrives most satisfactorily when grown in shallow Orchid pans, and hung up close to the glass. In its native habitats it grows upon the trunks of moss-covered trees, fully exposed to all kinds of weather and a low temperature at night. Amongst the smaller kinds it is really a gem, owing not only to the neatness of the flower, but the whole plant. The scape carries from two to five flowers, according to the plant bearing it, and would itself measure the same number of inches in length. The individual blooms measure from 1 in. to 1½ in. across, and are wholly white, with the exception of the lip, which has a yellow callus spotted with orange. It has been flowering for some time in the nurseries of Messrs. J. Laing & Sons, Forest Hill.

Miltonia Warscewiczii.

The general aspect of this Orchid is so different from that of others, that it well merits much more extended cultivation. It is known under a variety of names, such as Oncidium fuscatum, O. Weltoni, and Odontoglossum Weltoni. The colour varies in different specimens; but we noticed a very fine variety in the nursery of Mr. William Gordon, Amyand Park Road, Twickenham, Middlesex. The sepals and petals are of a deep brown, tipped with white, and wavy at the edges. The labellum is of large size, broadly oblong, quadrangular, with a shining brown spot in the centre, surrounded by purple fading into pink towards the margin. The flowers are borne on a close arching spike, and are both conspicuous and remarkable on account of the curious arrangement of colours around the central, shining, brown spot, which is in itself a curiosity. It comes from Peru, and really requires less heat to grow it than the other species of Miltonia do.

The Spotted Odontoglossum crispum.

There are, as every cultivator knows, many spotted forms of this popular Odontoglot; but this note refers more particularly to O. c. guttatum, a beautiful variety that might with great advantage be more plentiful throughout the country. We saw it recently in the nursery of Messrs. Shuttleworth, Carder & Co. The variety was also reckoned worthy of figuring in the *Botanical Magazine*, t. 5697, and even at the present day may be included amongst choice kinds. The sepals and petals are white, with several large reddish brown blotches on the middle, fading to a clear violet. The lip is also characterised by a circle of smaller blotches surrounding the long, central, yellow disk. The petals are more or less toothed at the edges, and the lip fringed.

The Gardeners' Calendar.

THE STOVE.

Alocasias.—Before active growth recommences, plants of this character should receive their annual potting. Like other subjects whose roots are of a semi-aërial nature, they like a loose, open or spongy compost through which their roots can ramble freely, and emit the dense felt-like mass of root hairs with which they supply themselves with nourishment. Amongst those that should now receive attention are A. Thibautiana, A. Reginæ, A. Veitchii, A. Lowii, A. metallica, and others. A good compost for these will consist of fibrous peat with a good admixture of sphagnum, broken crocks, nodules of charcoal, and silver-sand. In re-potting them, remove soil that has become thoroughly decayed and sour, taking care not to injure the roots. The variegated colour of A. macrorhiza variegata is best developed when a considerable quantity of loam is used in the compost, which should be of a light and rather poor nature, so that gross growth may not be encouraged.

Hedychiums.—When grown in pots it is necessary to re-pot, so as to furnish them with something fresh from which they may derive the nourishment required to flower them well. As they become too large they must be divided, placing good-sized pieces in smaller pots. Where plenty of room can be afforded, these bold subjects give great satisfaction when planted out. H. Gardnerianum may be planted in a good, rich, well-drained soil, but H. coronarium and H. flavescens do best in an aquatic house, where the bottoms of the pots may just dip into the water. They also succeed when planted in a bog bed, where the water from a tank may percolate through the lower part of the bed, and supply the roots with an abundance of moisture. Good fibrous loam to which some well-decayed manure has been added will suit them admirably.

Clivias.—Some of the earliest of these are already in bloom, and the rest are now pushing up their flower spikes strongly. Although they will bloom in a comparatively cool greenhouse, yet the flowers are larger and better coloured when developed in an intermediate temperature, the plants being moderately well exposed to light. They should also be supplied with weak liquid manure, or some other stimulant.

THE GREENHOUSE.

Ventilation and Firing.—The temperature must not be allowed to fall too low where a supply of flowers has to be maintained, but during frosty nights it is preferable that it should be somewhat lower than the usual standard than above it, otherwise the evil effects on the plants will soon become apparent, by the encouragement given to spider and thrip, owing to the dryness of the atmosphere. On all favourable occasions give air during the day, provided there is no frost or the sun is sufficiently warm to ward off its effects. A little may be left on all night during mild weather, which we may expect before long. All Cinerarias, whether late or early, should be well guarded against frost, and the leaves not permitted to touch the glass, for if once allowed to suffer from frost they never recover again.

THE FORCING HOUSES.

Vineries.—The earliest houses should be kept at a temperature of 65° by night, rising 10° by day; allowing to rise even higher in the afternoon by closing early so as to economise fuel. Plenty of atmospheric moisture should be kept up to prevent the evil effects that would otherwise arise by hard firing in severe weather. Too high temperatures should always be avoided, however, under those circumstances. Later houses will now have to be carefully attended to in the matter of disbudding and looping down. The shoots must on no account be allowed to touch the glass. A night temperature of 60° will be quite sufficient at this stage with a rise to 70° during the day. Keep the evaporating pans well filled with water.

Tomatos.—Sow seeds to obtain strong plants ready for putting out in May if the weather be then sufficiently mild. In order to reap the advantages of the whole length of our short and generally fitful summer, the plants should be of a sturdy and somewhat wiry nature, by being well hardened off before planting time.

Leeks.—Sow a pinch of seed in a box, and place in the forcing pit so as to bring them on. Those who intend blanching Leeks for exhibition purposes fail to get them far enough advanced unless brought forward in this way. As soon as the plants have germinated, they should be inured to a cooler atmosphere, and brought on gradually.

Obituary.

We regret to record the death, on the evening of the 15th inst., of Mr. J. T. Peacock, Sudbury House, Hammersmith. Mr. Peacock, who was the senior partner of the firm of Nurdin & Peacock, of Wells Street, Oxford Street, was for several years an enthusiastic collector of Cactaceous plants, and got together at Sudbury House perhaps the most complete private collection of Agaves and other succulent plants to be found in Europe, and perhaps no man knew or grew them better than his then gardener, Mr. Croucher. Subsequently, Mr. Peacock took to Orchids, and soon acquired a valuable collection, which, in the hands of Mr. Vicary, gave him an abundance of the flowers that he enjoyed so much himself, and liberally distributed among his friends. A warm-hearted and generous man, who was most considerate to those who served him faithfully, and who gave liberally of his wealth to deserving charities, he will be missed by many, and not least of all by the aged and infirm poor in the home known as Nazareth House.

QUESTIONS AND ANSWERS.

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's *bonâ fides*. No notice whatever will be taken of anonymous letters.

Anthracite.—*A. R.:* The information you require has been given in our recent numbers.

Azalea mollis.—*W. G.:* Your seedling—blush-white, with a yellow blotch—seems to be quite sufficiently distinct and good to be worth propagating.

Camellias for Planting in the Open Air.—*G. G., Holme Cleve:* All the varieties of Camellia japonica should grow splendidly in the open air in the position you describe.

Cattleya Trianæ.—*Reader:* The flowers you sent show a very good form of the type, similar in fact to the best of the kinds which have been introduced from the Popayan district, and sometimes spoken of as the Popayan variety. Otherwise we believe it is not referable to any other named variety. The size of the flowers as a whole, however, and the rich colouring of the lip, show it to be equal to the finest of the unnamed sorts.

Cypripedium villosum.—*W. G.:* We consider it a very good dark form.

Collection of Plants.—*Pembroke:* A collection of six flowering greenhouse plants for exhibition purposes should include such things as Tremandra hirsuta, Dracophyllum gracile, Darwinia (Hedaroma, or Genethyllis) tulipifera, Pimelea spectabilis, Plumbago capensis, and Erica Cavendishii. You may also choose from Darwinia fuchsioides, Pimelea decussata, Erica ventricosa, or some of its numerous fine varieties, E. hybrida, E. tricolor or its varieties, Boronia elatior, Statice Holfordi, Rhynchospermum jasminioides, Epacris miniata splendens, Azaleas in great variety, Aphelexis macrantha purpurea, &c. Foliage plants for table decoration should consist of such things as Aralia leptophylla, Cordyline indivisa, Dracæna australis, Grevillea robusta, Lomatia elegantissima, and Yucca aloifolia. You may also use some of those mentioned last week; and if you have the command of fire heat, the following are excellent table plants, namely, Aralia gracillima or A. Veitchii, Elæodendron orientale (Aralia Chabrieri), Pandanus Veitchii, narrow-leaved Crotons in variety, Dracænas in variety, &c. Stove flowering plants for your collection may include Clerodendron Balfourianum, Ixoras, Anthurium Scherzerianum, Allamanda Hendersoni, &c.

Names of Plants.—*J. Walker:* 1, Æschynanthus speciosus; 2, Dendrobium Pierardi; 3, Croton pictum apparently, but it is impossible to be certain from a single leaf; 4, Miconia magnifica, or the old name Cyanophyllum magnificum. *G. G., Holme Cleve:* 1. Leucojum vernum; 2, Sherardia arvensis; 3, Geranium molle; 4, Ranunculus repens. *S. R. T., Tapton:* 1, Odontoglossum Cervantesii decorum, a good average form; 2, Oncidium cucullatum, an unusually dark variety.

Orchids for Frames.—*A. Russell:* You can with safety place the following in such a frame as you suggest during the summer months, viz., from June to September, and, provided you give sufficient air, very little shading will be necessary after the first few days. Cœlogyne cristata, Cattleya Gaskelliana, C. Trianæ, Dendrobium Jamesianum, D. infundibulum, Epidendrum vitellinum, Lælia anceps, L. autumnalis, and L majalis. You will also succeed with Brassia verrucosa, Cattleya citrina, the Cypripediums, Lycastes, Maxillaria grandiflora, Odontoglossum cirrhosum, O. citrosmum, O. grande, O. hastilabium, O. Insleayi, O. maculatum, O. luteo-purpureum, O. nebulosum, O. Pescatorei, O. triumphans, Oncidium varicosum, and Pilumna fragrans, but all these will require plenty of shading during bright sunshine. In a frame having a north aspect, all the cool-growing Orchids you mention may be successfully grown, including the Oncidiums, Masdevallia Harryana, M. ignea, Odontoglossum Alexandræ, O. Cervantesii, and O Rossii. Dendrobium nobile and D. Wardianum should be encouraged with plenty of heat to make early growth; afterwards they will be benefitted by a sojourn in the open air fully exposed to the sunshine, where the bulbs will get thoroughly matured. We do not advise you to put the Cymbidiums, Stanhopeas, &c, in a frame unless for experiment.

Pruning Red Currants.—*M. A.:* It is the usual practice to prune Red Currant bushes back to the spurs. If your plantation is young, the leading shoots should be left on at some len iu

order to allow the bushes to increase in size. All the side shoots should be cut back to within a few buds of the base. This may be done at any time during winter, while the weather is open, and before the buds push in spring. If done properly, and your bushes are in good health, there is no reason why they should not bear satisfactorily. This method of pruning will answer, whether the Currants are grown as bushes in the open ground or trained against a wall. Black Currants are pruned quite differently; the tips of the shoots only being pruned away, together with dead or worthless branches.

STRAWBERRY BED.—*Mrs. W.*: It is not at all good gardening—quite the contrary—to neglect Strawberry beds in the manner you describe. If the runners were not wanted they should have all been removed as soon as the crop was gathered. What you had better do now is to have the bed well hoed, so as to remove all runners and weeds, trim the permanent plants up neatly, and give the ground a good top-dressing of manure. If this be done at once, you need not despair of having a respectable crop of fruit.

THE CARNATION AND PICOTEE.—*W. O.*: You can get it direct from the author, Mr. E. S. Dodwell, The Cottage, Stanley Road, Oxford. Price 2*s.* 6*d.*

COMMUNICATIONS RECEIVED.—W. W.—J. M.—C. T. & Co.—A. R.—A. O.—R. T.—E. S.—W. H.—J. W.

TRADE CATALOGUES RECEIVED.

SUTTON & SONS, Reading.—Price Current of Agricultural Seeds for Spring, 1889.

E. WEBB & SONS, Wordsley, Stourbridge.—Farm Seeds, Manures, &c.

JOHN WATKINS, Withington, near Hereford.—Seed Potatos.

SAMUEL SHEPPERSON, Prospect House, Belper.—Florists' Flowers and Spring Bedding Plants, &c.

RICHARD DEAN, Ranelagh Road, Ealing, W.—Choice Vegetable and Flower Seeds for present sowing.

THE WEATHER.

AT the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending February 16th was 29·65 in.; the lowest reading was 29·05 in. on Sunday evening, and the highest 30·13 in. on Tuesday evening. The mean temperature of the air was 34·3°, and 4·6° below the average in the corresponding weeks of the twenty years ending 1868. The mean showed an excess on Thursday and Friday, but was below the average on each of the other days of the week. The direction of the wind was variable, and the horizontal movement of the air averaged 13·6 miles per hour, which was 0·6 miles above the average in the corresponding weeks of sixteen years. Rain or snow was measured on six days of the week, to the aggregate amount of 1·19 of an inch. The duration of registered bright sunshine in the week was 8·7 hours, against 10·4 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

February 18th.

Messrs. HURST & SON, 152, Houndsditch, report a steady sale for Agricultural Seeds. English Cow Grass of finest quality realises extreme prices. Super Trefoil also finds buyers at fancy prices. Red Clover, White, and Alsyke unchanged. Rape seed scarce, and much dearer. Rye Grasses steady. Bird seeds unchanged.

COVENT GARDEN MARKET.

February 20th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Cobs .. per 100 lbs.	100 0		Pine-apples, Eng., lb.	1 0	1 6
Grapes .....per lb.	1 6	4 0	Strawberries..per oz.	1 6	

Canadian and Nova Scotia Apples, per barrel, 7*s.* to 17*s.*

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemone, French, per doz. bnchs.	2 0	6 0	Paper White Narciss, 12 sprays	0 9	1 0
Arum Lilies, 12 hlms..	3 0	6 0	— — — French, doz. bunches	2 0	5 0
Azaleas ....12 sprays	0 8	1 0	Poinsettia, doz. blms.	4 0	6 0
Bouvardias, per bun.	0 6	1 0	Primroses..doz.buns.	0 9	1 6
Camellias, 12 blooms	2 0	4 0	Primula, double, bun.	0 9	1 0
Carnations, 12 blooms	2 0	3 0	Ranunculus, French, per doz. bnchs.	2 0	4 0
Chrysanthemums, 12 blooms	1 0	2 0	Roman Hyacinths, 12 sprays	1 0	1 6
— 12 bunches	2 0	6 0	— — French, 12 bun.	1 0	3 0
Cornflower, 12 bunch.			Roses, Tea, per dozen	1 0	3 0
Cyclamen..12 blooms	0 6	1 0	— Red .....per doz.	6 0	12 0
Eucharis ..per dozen	4 0	6 0	— Red, French, dozen	2 0	3 0
Gardenias, 12 blooms.	12 0	30 0	— Saffrano ..per doz.	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0	— Safrano, French per doz.	1 0	3 0
Lapageria, 12 blooms	2 0	4 0	Tuberoses, per dozen.	2 0	3 0
Lilium longiflorum, 12 blooms	5 0	9 0	Tulips ....12 blooms	0 8	1 6
Lily of the Valley, 12 sprays	0 6	1 0	Violets ..12 bunches	1 0	1 6
MaidenhairFern, 12bns	6 0	9 0	— Parme, French, 12 bunches	4 0	5 0
Marguerites, 12 bun.	3 0	6 0	— dark French, bun.	1 3	2 6
Mignonette, 12 bun.	2 0	4 0	Wallflowers, 12 bnchs,	4 0	8 0
Mimosa, French, per basket	4 0	6 0	White Lilac, French, per bun.	5 0	7 0
Pelargoniums, 12spys.	1 0	1 6			
— scarlet ..12 sprays	6 0	9 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	6 0	18 0	Genista ....per dozen	9 0	18 0
Arum Lilies..per doz.	9 0	18 0	Hyacinths ..per doz.	6 0	9 0
Azalea.....per doz.	24 0	42 0	Lilies of the Valley, per doz.	12 0	24 0
Cineraria ..per dozen	9 0	12 0	Marguerites per doz.	6 0	12 0
Cyclamen ..per doz,	9 0	18 0	Palms in variety, each	2 6	21 0
Cyperus, ..per dozen	4 0	12 0	Pelargoniums, scarlet, per dozen	6 0	9 0
Dracæna term., doz.	30 0	60 0	Poinsettia ..per doz.	9 0	12 0
— viridis, per dozen	12 0	24 0	Primula sinensis, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Roman Hyacinths, per doz.	9 0	12 0
Ferns, in var., per doz.	4 0	18 0	Solanums....per doz.	6 0	12 0
Ficus elastica ..each	1 6	7 0	Tulips ..... per doz.	8 0	10 0
Foliage Plants, various .....each	2 0	10 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0		Lettuces ..per dozen	1 6	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages.... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes ..per dozen	1 6	
Celery ....per bundle	3 0		Small salading, punnet	0 4	
Cucumbers ....each	0 6	0 9	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos ....per lb.	1 3	2 6
Herbs ....per bunch	0 2	0 4	Turnips ....per bun.	0 6	

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys. 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

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Next Week's Engagements.

MONDAY, March 4th.—Sale of Lily and other Bulbs at Protheroe & Morris's Rooms.

TUESDAY, March 5th.—Sale of Orchids from Barvins Park at Protheroe & Morris's Rooms. (2 days).

THURSDAY, March 7th.—Sale of Lily Bulbs, Palm Seeds, &c. at Protheroe & Morris's Rooms.

FRIDAY, March 8th.—Sale of Imported Orchids at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MARCH 2, 1889.

CURRENT TOPICS.

DOCTORING SEEDS.—In another column we report an important prosecution at the Southwark Police Court for dyeing Clover Seeds, and do so with much regret, because we had hoped that the detestable practice of dyeing or doctoring seeds by means of sulphur fumes had been stopped by the Seeds Adulteration Act of 1869. Those who remember the circumstances which led to the passing of that Act, will remember also that notwithstanding the disgraceful disclosures that were made of the wholesale doctoring of certain kinds of seeds then carried on, there were many persons who regarded the Act as being uncalled for. That the practice should have broken out again, however, conclusively proves the wisdom of its promoters, and the only thing to deplore in the present case is the inadequate nature of the penalty imposed, which to be effective in checking such frauds should have been of the heaviest, rather than of the lightest character.

No fraud will be killed so long as it is profitable. All sorts of cheating, smuggling, and other evils exist only so long as the profits exceed the penalties, and these latter should in all cases of absolutely proved wrongdoing be made of a crushing nature. In this particular line of seed doctoring there is no middle course—there is no excuse. It is impossible to dabble with bad seeds in the direction referred to without intending to defraud. No dressing of any kind will make bad seeds into good, whilst good seeds will only suffer in the process, therefore, excuses sometimes admitted in ordinary frauds are absolutely untenable in this case. The mere alteration or addition of names to things which may be really good, is of little

moment as compared with the practice of defrauding growers by means of killed or dyed seeds; and so much is it to the interest of the seed trade that the rascally practice should be stamped out, that we strongly urge an appeal to Parliament for an amendment of the Act in the direction of a largely increased penalty.

We commend to our readers a careful perusal of the case of Locke *v.* Matthews tried before Mr. Sheil on the 21st ult. It is beside the question that the deception was discovered by means of a trap. What we are concerned about is the proof that seed doctoring of the nature described in the action is not only possible, but is actually existent in violation of the law.

Manufacturing Synonyms.—A correspondent, Mr. Muir, unquestionably one of our leading vegetable growers, drew attention last week to the unwarrantable multiplying of synonyms in connection with Potatos especially, and with vegetables generally. Mr. Muir expects much may be done at the forthcoming Vegetable Conference to correct this impropriety; and purposes personally trying his level best in that direction. We are sure that hundreds of gardeners, nay, we may say thousands of gardeners, have the fullest sympathy with our correspondent, and coincide heartily with his views.

But after the conference has met, and the fullest agreement has been come to as to nomenclature, not only this conference, but all the conferences in the world will have no power to impose obligations on seedsmen, or, indeed, upon any persons, to respect the conference decisions, and to faithfully abide by them. Very likely there are many who dip into seed lists, who laugh over the glaring inconsistencies and astounding contradictions occasionally found in them, and then treat them with contempt. That is, perhaps, the best way to put down the manufacture of synonyms, but so long as it pays, so long will the practice be continued.

The particular illustration of a wonderful crop of Potatos, referred to last week by Mr. Muir, seems to be too absurd for grave criticism but there is this to be said about it in its adaptation to English seed lists, that it will in some persons' estimation do just as well for one Potato as another; and we cannot admit that Charles Downing is essentially a bigger cropper, or a more marvellous variety than is "Come to Stay"—the oddest of appellations! —or "Satisfaction," or a score of others. Our correspondent may, perhaps, find this same wonderful illustration in some dozen other seed lists next year, and associated with as many diverse Potatos. Woodcuts are comparatively cheap, and even a creative Herod may be out-Heroded by a picture of a crop grown already sacked, needing neither digging, sorting, or other labour than carting away!

Colonial Marvels.—A big grain of salt is often needed when reading the enthusiastic descriptions indulged in by new visitors to the Colonies, who, in remembering the matter-of-fact climate and rate of progression found in the old country, can hardly restrain the enthusiasm of their pens, which run rapidly, as if dipped in milk and honey. A correspondent of one of the daily papers, writing from New Zealand, allowing a wide margin for the effusiveness engendered by novelty, yet rather tries our appreciation for veracity, when he tells us of "yonder smiling homestead, with its beautiful flower-beds, its orchard of young fruit trees covered with blossom, its Strawberry beds rich with promise, and its kitchen garden laden with produce, was a year ago a fruitless waste—the possession of the Manuka and the Fern."

New Zealand may possess a wonderful climate, but the conversion of a wild waste into an orchard of fruit trees covered with blossom in a single year is, if not a figure of speech, at least remarkably quick work. Out there, at least, it can hardly be said that they plant Pears for their heirs; indeed, so precocious do the trees seem to be that they may well exhaust themselves during the lives of their planters, and leave nothing for their heirs. But even with the big grain of salt we can well imagine that old England is in the matter of fruitfulness compelled to look very small indeed in the estimation of colonists.

Australia generally — and that means an area equal to all Europe — has indeed a glorious climate, and with such delightful accompaniments that exhausted, disheartened gardeners here may well regard that distant land as presenting to them a kind of earthly paradise. Some day, perhaps, we shall convert Australia into the garden of Europe, and produce there all those fruits of the earth with ease and enjoyment, which here at home can only be secured with so much labour, and worse still, with so much disappointment.

Seed Peas.—It is depressing to learn that complaints as to the indifferent germinative power of seed Peas, especially of the later wrinkled kinds, are rife. We may be sure that in this case seed growers and seedsmen are doing all that is possible to supply their customers with good, free-germinating samples, but last summer's weather proved to be a terrible obstacle to maturation; and whilst large quantities of the seed split or were so damaged and discoloured as to be incapable of sale, very many others, even though decent-looking samples, are still soft and immature. When it is found that what looks to be a fair stock after all gives but from forty to fifty per cent. growth, it is evident that unless sowings be thicker than usual the standing crop must be a thin one. Now, Peas certainly are often sown far too thickly, and then plants break out and become bushy, and very productive. Still, it is unsatisfactory to find that our present year's Pea crop is already handicapped by indifferent seed growth.

Fruit Prospects.—It seems to be somewhat premature on the part of observers to speculate upon the prospects of the year's fruit crop; but when we find men's minds exercised in that direction it is but fair to conclude that the outcome of the season in regard to fruit is of vital importance. When a grower has to depend for a livelihood on perhaps fifty or one hundred acres of fruit orchards, it is obvious that the loss of a season may prove ruinous; but when we get two or more indifferent seasons following in succession the disaster is intensified. Then, so far as the trees and bushes show, growers do not seem to be greatly encouraged; there are plenty of buds or spears, but they do not swell. It is true that, in spite of the open winter, the weather has not encouraged bud development, but it is a fact none the less that unless buds are well plumped up in the autumn they rarely do so fruitfully in the spring. We still hope for the best, but should like to see better ground for that hope all the same.

Mr. G. F. Wilson Explains.—The disappearance from the office of chairman of the Royal Horticultural Society's Floral Committee of Mr. G. F. Wilson, so long the genial and kindly occupant, naturally provoked remarks, and in the pages of a contemporary Mr. Wilson has explained. He was, with four other members of the Council, created a sub-committee to prepare a new scheme for the government of the committee's work. Mr. Wilson was unavoidably absent from the meeting of this body, and he found recommendations made with which he could not agree. First he objected—as others have done —to the expulsion from the judging committees of all members not Fellows of the society, holding that by so doing valuable aid and advice would be lost; second, that the groups should be judged whilst the committee was sitting, and not afterwards under the authority of the chairman; third, to the recording of the numbers of the members voting in respect of exhibits for certificates, in which objection we do not concur; and fourth, in the recording of the names of the members so voting, in which matter we are in accord with Mr. Wilson, as for many reasons that course is very undesirable.

The Fruiterers Company.—Our friends, the City Company of Fruiterers, seem awakening from sleep. We have before given them a prod—doubtless with good results, and cheerfully give them another, now that it is asserted that they purpose holding a show of soft fruits at the Mansion House, by the permission of the Lord Mayor. Now it seems hard to object to any action on the part of a body that has become semi-moribund, and exhibits a desire to waken into active life, but we cannot well see what benefit to the home fruit-growing community is going to result from an exhibition of soft fruits in the City next July. Grapes, Peaches, Plums, Cherries, Currants, Gooseberries, and similar products are all valuable in their way, and in some seasons are profitable; but only a few of the latter—for Plums make a poor show indeed in July—affect the great question of fruit production as a national enterprise. It is in the direction of hardy keeping fruits that encouragement is required, and if the Fruiterers Company wishes to perform useful work, let it take our hardy keeping fruits in hand.

Finchley Chrysanthemum Society. — The next exhibition of this society will be held on the 5th and 6th November.

The Gardeners' Royal Benevolent Institution.— In order to celebrate the fiftieth or Jubilee year of the institution, the committee propose to place upon the pension list, in July next, the whole of the unsuccessful candidates at the late election in January (seventeen in number), if, in the meantime, the sum of £3,000 can be raised, in order to provide for the great annual expense which would be thus entailed, without trenching upon the reserved funds of the institution.

Gardening Engagement.—Mr. William Minty, late foreman at Balmoral, as gardener to Mrs. Wood, Raasay House, Strome Ferry, Inverness-shire.

The Floral Fete at the Albert Hall.—H.R.H. the Princess of Wales and H.R.H. the Princess Beatrice have granted their direct patronage to the Al Fresco Fayre and Floral Fête, which is to take place in May, at the Royal Albert Hall, Kensington, with a view to raising £15,000 for the Grosvenor Hospital for women aud children.

The Late Mr. William Court.—An effort is being made to secure the election, in April next, to the Royal Masonic Institution for Boys, of Percy, son of the late Mr. William Court, who was for many years in the employment of Messrs. James Veitch & Sons. The little fellow, who is ten years old, is one of four children left fatherless and motherless, and as he cannot again become a candidate, we earnestly beg those of our readers who have votes for this institution to send them to us on his behalf.

Hot-water Pipe Propagators.—Messrs. Thomas Pascall & Sons, 27, High Street, South Norwood, write:—"In your last issue you notice a Propagator made in zinc to fit on hot-water pipes. As Letters Patent (No. 4398, 1888) have been granted to us for this invention, we, of course, have the sole right of manufacture and disposal of these Propagators, no matter of what material they may be made."

Preston and Fulwood Horticultural Society.—The 22nd monthly reading in connection with this society will be given in the large room of the Castle Hotel, Market Place, Preston, this Saturday evening, when Mr. Robert Frisby, of The Gardens, Worden Hall, Leyland, will read a paper on "Mushrooms, and How to Grow Them."

National Chrysanthemum Society.—At a meeting of the general committee, held on the 18th ult., it was unanimously decided again to hold autumn and mid-winter shows, the dates selected being September 11th and 12th for the former, and January 8th and 9th, 1890, for the latter. The dates fixed for holding the meetings of the Floral Committee were as follows: September 11th, October 9th and 23rd, November 12th and 26th, December 11th, and January 8th, 1890. Eight gentlemen were nominated for the five vacancies to be filled up on this committee, and a show of hands resulted in the election of Mr. E. Sanderson, Mr. Lewis Castle, Mr. J. Wright, Temple Gardens; Mr. Kendall, and Mr. Swift.

Gardeners' Orphan Fund.—At the usual monthly meeting of the committee, held on the 22nd ult., it was announced that the result of the recent ticket benefit at the Royal Princess's Theatre was a nett gain to the Fund of over £21. Besides other donations received during the month, was one of £3 10*s.* sent by Mr. Hodges, of Lindfield, Sussex, as the result of a concert given at that place by gardeners and gardeners' children. The committee having considered the question of ways and means in conjunction with a valuable communication on the subject received from one of the trustees, Mr. A. H. Smee, decided that an election of five children to the benefits of the fund should take place at the annual meeting in July. The Duke of Bedford has again kindly given his consent to a floral fête being held in the Covent Garden Flower Market, and a meeting of the stand-holders will be called for at an early date to consider the best means of carrying it out.

Glasnevin Seed List.—It may interest those on the outlook for fresh additions to their collections of hardy plants to know that the list of seeds for exchange this year at the Royal Botanic Gardens, Glasnevin, Dublin, is now published. The list extends to thirteen pages, nearly of the size of foolscap, and there are three columns of names on each page. The names are classified and arranged according to the natural orders to which the plants belong; but the list, no doubt, is chiefly intended for exchange with other botanic gardens. As might be expected, a large proportion of the subjects mentioned are suitable only for botanic gardens, and for such the list is invaluable; but gardeners, speaking generally, unless they were tolerably well acquainted with hardy plants, would be unable to sift out those of horticultural value. For the benefit of such, an asterisk or some other mark placed opposite the names of useful decorative kinds would have been of great assistance. For instance, as far as botany is concerned, many of the species of Draba, Arenaria, Silene, Astragalus, Hieracium, Rumex, and grasses are very interesting, but the greater proportion of them are of no value horticulturally. Judging from the list of Asters of the perennial kind given, the seed harvest in Ireland must have been more abundant than on this side of the Channel last year, for very few seeds ripened. The specialist in hardy plants would, however, find a large number of species from which a really good selection could be made.

Daffodils at the Drawing Room.—We understand that a large bouquet of the white Trumpet Daffodil, Bishop Mann, made in posy shape, pure and simple, with its own foliage, and containing nearly 100 blooms, tied and fastened with white satin ribbon, was sent from Mr. Wm. Baylor Hartland's grounds at Cork, and carried by a lady at the Drawing Room, on Tuesday. As an Irish production, the flowers being cut from the open air on February 24th, the record is unique, and from a scientific point of view is of interest, as testifying to an extraordinary mild winter.

Chinese Primroses.—A box of blooms of Primula sinensis has been sent us by Mr. Robert Owen, Floral Nursery, Maidenhead. They are known as the Imperial Strain, and the blooms sent us, numerous as they were, scarcely presented two having the same shade of colour. For instance, there were several shades of red, vermilion or crimson; but all differed more or less in that respect, as well as in the shape of the eye and its colour, both of which play an important feature in the general character of the flowers. One flower in particular was of a brilliant fiery vermilion. The white varieties were very pure, and of good substance. Then there were blush, rose, carmine, pink, spotted, freckled, mottled, and edged kinds. Some of the rosy mauve kinds were finely fringed and laced all round the margin with a white edge. Another one was beautifully marbled with rose on a white ground. He has also a very fine white edged with pink; and another with a broad well-defined pink border. A rose-lake variety is also a choice and new colour. Another has a greenish orange eye occupying half the flower, while the rest is lilac, with a white edge. A light and a dark shade of blue were also large and beautiful. A number of semi-double kinds also presented the same intense shades of crimson, vermilion, rose, carmine, rose with a white laced edge, and pure white.

THE KING'S NORTON NURSERIES.

As a rule, great depression in business has for a long time been felt by the nursery trade of the country, but with a revival of trade generally, and the mild winter we are so far having, the hopes of the nursery trade run higher than for some time past, and planting is being carried on with spirit. Mr. John Pope, the proprietor of The King's Norton Nurseries, near Birmingham, has recently built, close to his private residence, about half-a-mile from the home nurseries, a large block of glasshouses, at a cost of about £1,600, for the growth of plants and flowers, chiefly to supply the wants of his stall in the Market Hall. There are ten houses, each about 95 ft. long, and these are built on sloping ground facing the south, the lowest of all being 24 ft. wide with an 18 ft. back wall, against which Maréchal Niel Roses are planted, the ends being occupied by large Camellias. A north house of the same size is fixed against the back wall, and is filled with Camellias and Azaleas.

The other houses are low span-roofed structures. No. 1 is a propagating house 18 ft. wide, with centre and side beds. No. 2 has Tomatos planted out, and is also devoted to Maiden Hair Fern in pots, Cyperus, Arums, Aspidistras, Palms, Dracænas, &c. No. 3 has Bouvardias, Maiden Hair and other Ferns, Heliotrope, double Pelargoniums, &c. No. 4 holds Roses, zonals, Euonymus, Aralias, a fine lot of Maréchal Niels in pots, but is chiefly a Rose house. No. 5 is for zonal Pelargoniums, a very fine lot, Gloire Lyonnaise and La France preponderating, but Le Bruante is very fine, and a favourite here. No. 6 is also a house of zonals, Henri Jacoby, Raspail, Le Bruante, and Gloire Lyonnaise especially. No. 7 is devoted to Primulas, for which the firm of Pope & Sons have a great celebrity, some very fine sorts being now in bloom here. No. 8 contains zonals and tricolors, with an immense stock of the best of all the latter, Mr. Henry Cox, and a fine silver bicolor, Miss Kingsbury. No. 9 is filled with Niphetos, zonals, and other fine kinds. For the heating of this large block, one of Hartley & Sugden's top-feeding single-flued saddle boilers is used, with a 6-in. main and 4-in. feeders to each house, and 4,000 ft. of 4-in. pipes are in use. A spacious cistern in each house for water supply is under the floor-level, and altogether it is a fine lot of glass for plant growing.

Amongst the new Primulas raised here, Lady Randolph Churchill, an improved Princess Louise, is very fine indeed; and Mr. Rose, the Primula grower here, has succeeded in obtaining a good cross between Webb's Purity—really a pure white, but wanting in size—and Princess Louise. This seedling, like Purity, is very floriferous, and retains the latter's whiteness, but has also the substance, size, and form of Princess Louise. Mr. Rose is also making a great advance in the blue shades of Primulas. Mr. John Pope, in addition to his business of nurseryman and seedsman, has added that of horticultural auctioneer, and has just taken extensive premises close to the Market Hall for the sale of cut flowers, &c., by auction.—*W. D.*

EARLY-FLOWERING CROCUSES.

Frail as are the flowers of this genus, and short-lived at best, there are few who do not admire their strikingly gay flowers with their endless diversity of colour. They are the flowers of sunnier skies than ours, hence the difficulty of securing so brilliant a display in winter in this country as they would otherwise do under more favourable conditions. The corms and foliage are hardy enough, but unless mild weather prevail a brilliant display of flowers we can hardly expect, without the protection of a hand-light or frame is given. The beauty and interest attaching to them is, however, sufficient recompense for any outlay in this respect. Out of doors, however, the flower-buds are ever ready to expand on the advent of a mild and bright day or two, and even should they be only of ephemeral duration they never fail to be appreciated.

Yellow Species.

One of the brightest at this time is Crocus chrysanthus, a variable species, but in its typical form golden yellow. The flowers are medium-sized, and are rendered additionally attractive by the bright scarlet stigmas. There are several varieties named, according to the marking on the outer three segments. C. c. fuscolineatus has brown lines over the yellow. C. aureus has bright golden yellow flowers in its typical state; but, like C. chrysanthus, it is liable to considerable variation, and is the parent of the large Dutch yellow varieties of Crocus, the origin of which is altogether unknown, as they do not grow in a wild state. The latter is described under the name of C. luteus in some old books. A comparatively new species is C. Korolkowi, with pale yellow flowers, lightly feathered with brown.

Parti-coloured Species.

A number of Crocuses are notable for the number of shades of colour they display, even in the typical wild state. Foremost amongst these for early flowering is C. Imperati. The outer surface of the three outer segments of the flower are of a dull straw-yellow or buff colour, with blackish purple feathered lines, while their inner surface and the three inner segments are lilac-purple. Following close upon the last-named variety is C. etruscus. There is a close family likeness between them, and they are chiefly distinguished botanically by their corm tunics. The outer segments are here, however, of a French-grey, and finely feathered with purple, while interiorly the segments incline to blue. C. suaveolens is even more closely allied to C. Imperati, than which it has clearer purple markings, a purple tube, and is of hardy constitution and floriferous. A better-known and more widely-grown variety is C. biflorus, which varies exceedingly, both in a wild and cultivated state. The Scotch or Cloth of Silver, a large-flowering variety, is derived from it. The outer segments of the wild form are white, beautifully feathered with purple, while the inner ones are lavender. The variety C. b. nubigenus has very tiny flowers suffused with brownish yellow externally, and slightly feathered with purple. C. Thomasianum comes in the same group as C. etruscus, and is a strong-growing, free-flowering species; the outer segments are French-white externally, lilac internally, as well as the three inner segments. C. Aucheri has lilac-purple flowers with darker veins, and the outer segments are of a straw-yellow externally.

Blue or Lilac.

Closely allied to C. vernus is a very distinct-looking species named C. banaticus, from the Banat, Hungary and Transylvania. The flowers are large, of a deep bluish purple, with a transverse much deeper-coloured band a little below the apex of the segments. The latter are curiously truncate at the tip, as if the flower had been clipped away there. C. lævigatus is so closely allied to C. Boryi as to be considered a variety of it by some. The flowers are small, light blue, very pretty, and heavily feathered with blackish purple externally. It continues blooming from October to March when the weather is favourable. C. Sieberi, also known as C. nivalis, is also flowering at the Hale Farm, Tottenham, in Mr. T. S. Ware's nursery, where we noted the above the other day. It has pale lilac-purple flowers, with a bluish tint internally

THE ROSE GARDEN.

TEA ROSES ON THEIR OWN ROOTS.—11.

Granted that the instructions given on p. 402 have been carried out, from the cutting up to making good established young plants, the time occupied in so doing will be but a trifle over twelve months, no longer a period in which to establish the stronger sorts of Teas than would be occupied if the same kinds had been grafted on to stocks, so that it at once becomes apparent to an observant mind that the real advantage must rest with the plants grown upon their own roots. I admit at once that the weaker kinds will take a longer time to establish themselves than they otherwise would do provided they were worked upon the Manetti or Seedling Briar.

It is a generally acknowledged fact that Tea Roses require but very little pruning, and where a quantity of useful-sized buds are required, the greater part of the kinds require no pruning at all, except to cut out exhausted or decayed wood. The buds that unpruned plants yield are more useful to the florist than what larger ones would be; but when both large buds and fine flowers are wanted, then it is advisable to prune the plants in rather sharp.

In the case of climbing Teas or Noisettes, it becomes necessary to encourage these kinds to make shoots as long as possible in a season, so that they may be allowed to flower the full length of the shoot the following season—that is, allowed to flower from every eye all the way up the shoot, taking care that one or

more shoots are trained up to take the place of the one that is allowed to flower. This shoot may afterwards be cut clean away, for it will only be a cumbersome stalk drawing the necessaries of life away from the others that are to replace it.

This brings me to the point—how to deal with the young plants of the climbing sorts that have been established on their own roots. The majority of the plants that were rooted in the month of May, will for the most part have been wintered in about 5-in. pots, and will now at the present time be at work quietly pushing their eyes into active growth. To get a good long shoot or two on these plants, it will be necessary to cut them back to about two eyes from the bottom, or else rub the top eyes out as they show signs of quickening; this will give the whole vigour to the one or two shoots it is intended to grow.

These will, under favourable circumstances, make growths 2 yards or 3 yards in length; and if potted firmly into some good rich compost, and occasionally fed with liquid manure, the shoots will be proportionately strong. These, with full exposure to sun and air, will form the foundation of excellent plants, that may be depended upon to travel along without any fear of canker, and with the knowledge that all suckers that may spring up from the bottom are the genuine article.

Sorts that are not climbers, but bush kinds, will require no knife-work about them for another season at least; but should have all the encouragement that can be given to them, to make the plants as large as possible, always remembering that the larger the bush the more buds to be obtained from it.

The China Roses, the Bourbon, the Fairy, and even the Hybrid Perpetuals may be multiplied and grown on by this mode of treatment, but to go largely into the propagation of these classes must entirely depend upon the room and means at command. In the case of limited means it is better to grow a few, and grow them well, than to fill up with a lot of weak plants, bearing in mind that if Roses are worth growing they are worth growing well, or not at all. Mildew is often very troublesome during the early spring months, but on this I will treat in the next chapter, as also on the planting out of Tea Roses under glass *versus* growing in pots, and the advantages of the two systems.—*W. G.*

FORMS OF LEAVES.

(Continued from p. 406.)

Leaves Adapted to their Surroundings.

In some parts of New Zealand, where it constitutes a peculiar feature of the Alpine vegetation, Aciphylla squarrosa forms perfectly impenetrable thickets, 6 ft. to 9 ft. high. It is closely allied to some of our native Umbellifers, but is modified to protect itself, and also to withstand a dry and arid climate, so that the conditions affecting its life history have brought about such a transformation of the leaves as to make its relationship unrecognisable by the foliage alone. A considerable number of the seedling leaves are perfectly simple, and linear or sword-like, with a sharp point, and as the plant gradually gains in strength, the foliage becomes more and more divided until the leaves are bipinnate; and what is more extraordinary, the divisions do not take place vertically, but the adult leaf is sliced up as it were into several horizontal as well as vertical layers. The whole may be folded together much in the same way as a fan; but when in their natural position the numerous spiny-pointed segments or leaflets spread in all directions like so many fixed bayonets. The settlers of New Zealand call the plant the Wild Spaniard.

The huge floating leaves of Victoria Regia excellently illustrate adaptation to conditions and surroundings, as exhibited by many water plants belonging to different families besides those of the Water Lily family proper. The difference in size and form between the primary true leaf and the adult, shows one of the most remarkable transitions to be found in the whole vegetable kingdom. The first leaf is slender and grass-like, while the second is strap-shaped, and the third halbert-shaped, and all three are adapted to a submerged condition. The fourth is peltate, and invariably comes to the surface of the water, at least, if the latter does not exceed 2 ft. in depth. At each successive stage the leaf becomes more and more orbicular and larger, until with stove treatment in this country they are as round as a table, with turned up edges, and close upon 7 ft. in diameter, and over 20 ft. in circumference. One of these leaves grown in a hothouse, lasted in good condition from the 9th July to the 9th September, a period of nine weeks, but would probably have lasted much longer under less artificial conditions. It attained a diameter of 6 ft. in nine days, and the greatest growth in twenty-four hours, namely 1 ft. 8½ ins., took place on the third day after it commenced to unfold. After the first seven days, growth becomes comparatively slow. The area of a leaf is considerable, and so constructed as to be capable of supporting a considerable weight without sinking. The principal nerves are numerous, and radiate from the centre, where they are from 2 ins. to 3 ins. in depth, to the circumference, where they are comparatively slender, and on the whole show great excellency of design.

The Lattice-leaf plant (Ouvirandra fenestralis) shows an adaptation of a different kind. The whole leaf is reduced to a skeleton or framework, consisting of the venation or vascular network, giving it its characteristic latticed appearance. This form of leaf, and its membraneous texture, is well fitted to collect its carbonaceous food from the surrounding medium, the water in which it is submerged. Numerous other submerged aquatics, such as our Water Crowfoots, are reduced to their vascular framework, but appear less remarkable because the segments are not connected by transverse pieces. The primary leaves of the seedling Lattice Leaf are not perforated, and later ones gradually become so.

Dimorphism.

There are some families in which dimorphism is particularly prevalent, but as a rule it is more obvious in groups or genera confined to particular parts of the world, where the conditions are the cause of it. Two forms of leaves are frequent in the White Mulberry (Morus alba), while some of its varieties produce the characteristic heart-shaped leaf only, and others are almost confined to the lobed form. This character is of frequent occurrence in the order, and seems hereditary but difficult of explanation. Nor is the lobing confined in all cases to the large leaves on robust branches, as we have evidence in the huge undivided leaves of the Constantinople variety. The curiously lobed leaves of the Paper Mulberry (Broussonetia papyrifera) are sometimes mixed with undivided ones on the same plant. It belongs to the same family as the black and white Mulberries, and many other members exhibit the same character.

There is a variety of the common Ash (Fraxinus excelsior heterophylla), the leaves of which retain the juvenile form, even in the adult state. If we examine a seedling Ash we find the leaves are simple, ovate and serrated; but as it grows to be a tree the leaves become large and cut up into leaflets. In the variety under notice even when fully grown the leaves are like those of the seedling, except in a few exceptional instances where they are cut up into three or five leaflets. This may be described as a reversion to the ancestral condition of the Ash, when the leaves were still simple, like those of its near relation, the Olive. An American species of Ash (F. rufa) is normally very variable, with simple, variously cut or compound leaves.

Many species of Acacia, of which A. melanoxylon is a familiar and good example, persistently bear two or more very distinct forms of leaves on the same plant. In the seedling stage, and in the lower part of the plant, large bipinnate leaves are very prevalent; but on the upper reaches of the tree, while this form may occasionally be found, the greater numbers are reduced to the leaf-stalks, which are laterally flattened, and perform the functions of true leaves. They present their edges to the sun in order to escape too great illumination, and the scorching or desiccating effect of long periods of drought and a cloudless sky. This is the explanation of the reduction of the leaves to laterally flattened stalks.—*J. F.*

THE FERNERY

On the Planting of a Rockery.

Planting may be commenced immediately on the completion of the building of rockwork, whatever the nature of the materials used. Before commencing, a quantity of suitable soil, according to the amount likely to be required, should be got ready, and the various pockets intended for the reception of the plants filled or partly so. The quantity required in each pocket will, of course, depend upon the size of the Ferns to be planted, and the bulk of their roots. The soil used out of doors is a matter of less importance than when grown in pots. It may therefore consist of old potting soil from the potting-shed or elsewhere, roughly sifted to take out large stones, crocks, roots of plants, and such-like. Mix with it a large quantity of partly-decayed leaf-soil, peat, and a quantity of sand. When the whole is well incorporated together, wheel it to the rockery, and distribute where wanted.

Specially suitable positions must be selected for each kind. The great majority of them like shade in some form or other, while a few rejoice in the full sun, such as Asplenium Ceterach, A. Ruta-muraria, and some of their allies. A few of the commoner and strong-growing kinds, like Lastrea Filix-mas, L. spinulosa dilatata, and even the Royal Fern (Osmunda regalis), will grow fully exposed to the sun, provided other conditions are equal. If there is a small pond in the Fern garden, or a stream of water running through it, it will furnish suitable conditions for a great many subjects that could not otherwise be grown to any degree of perfection. On the banks of such a stream plant Osmunda regalis, the Lady Fern in endless variety, the Male Fern, the Marsh Fern (Lastrea Thelypteris), and the Ostrich Fern (Onoclea germanica). Such moist positions are not absolutely necessary for the Male and Lady Ferns; but those who have seen them in such positions cannot deny the magnificent and striking dimensions they attain, while their feathery or plume-like appearance is in no way diminished, but rather enhanced.

If a command of water cannot be had, then specially built places should be constructed for such as the Royal Fern, without which it loses more than half its grandeur in the dry climate of the south. A hole should be dug out to the depth of 3½ ft., and have its sides built round with a wall of bricks or stone. The bottom should then be puddled with a fair depth of clay, together with the crevices between the stones in the lower part of the wall. This will serve as a receptacle for the retention of water, which should be copiously supplied during the growing season. Fill up the basin with roughly-chopped peat and turfy loam, and plant the largest rootstocks or crowns that can be obtained, using some of the finer compost about the roots.

The higher portions of the rockery may be planted with Aspidium (Polystichum) aculeatum, A. angulare in an endless variety of distinct and crested forms, Lastrea cristata, L. Filix-mas and its beautiful crested varieties, Lastrea Goldieana, Aspidium munitum, Osmunda cinnamomea, O. interrupta, and Onoclea sensibilis. The last five are not British, but they are perfectly hardy and very beautiful. Lower down and nearer the footpaths, if there are any, dwarfer subjects in great variety should find a place, such as Polypodium vulgare and its varieties, P. v. cambricum (Welsh Polypody), P. v. semilacerum, P. v. elegantissima, and others, all of which are very beautiful. The tops and sides of low walls may be planted with the typical form of the common Polypody, provided the situation is sufficiently shaded so as to retain the moisture. The lower parts will also be suitable for Lastrea rigida, Lastrea fœniscii, the hay-scented Fern, Scolopendrium vulgare in endless variety of beautifully crested and curious forms, Lomaria spicant, L. alpina, Asplenium Adiantum-nigrum, and the Mountain Parsley (Cryptogamma crispa). A moist shady position should be secured for the Oak Fern (Polypodium Dryopteris), and the Beech Fern (P. Phegopteris). A moist bank where the soil is loose and open, so that their rhizomes may ramble at will, will prove highly suitable.

PROFITABLE TOMATO CULTURE.*

The chief points in the cultivation of the Tomato are to maintain a moderately dry atmosphere about them, and not to over-feed in the early stages; this, with due attention to stopping, &c., will generally lead to success. A stock can be easily obtained, either from seed, which speedily germinates, or from cuttings, which strike quickly when put in a light sandy soil and kept in a warm place. Some growers prefer cuttings, under the impression that plants raised from them come into bearing more quickly than seedlings. This may be so, but where large numbers are required, it will be better to raise them from seeds, as it takes less time.

To Obtain Fruit in May or June.

The seed should be sown early in January, either in pots or pans, using a light, sandy soil. Fill the pots nearly full of fine soil, then distribute the seed thinly, and cover lightly. Put the pots in a warm pit or frame, and in a few days the seedlings will make their appearance. They should then be placed near the glass to prevent being drawn. When the first rough leaf appears they should be carefully potted off, and be put singly into 3-in. pots, or if it is desired to economise

* By Mr. S. Summers, R.H.S., Chiswick. Read at meeting of Chiswick Gardeners' Mutual Improvement Association, Feb. 8th.

time and space, larger pots may be used, putting three plants in each. The soil should be light and sandy, a good mixture being one consisting of one part loam to two of leaf-soil, and one of sand. The plants should be kept as near the glass as possible, and after a few days a little air should be given on all favourable occasions. This will prevent their being drawn, and promote a short, sturdy growth, which is of much importance in Tomato culture. They will soon require shifting into 5-in pots, using the same mixture as before. It is not a good plan to use manure in the early stages, as it promotes an excessive luxuriance. We are assuming that this early batch will be grown in pots for fruiting, but if for planting out the same treatment applies. When they have filled the 5-in. pots with roots they should be shifted into those in which they are to fruit, 12's or 16's being the most suitable. A stronger soil should be used at the final shift, but care should be taken not to give them too much manure until some fruit is set. It is a good plan to pot deeply, leaving plenty of space for future top-dressings, as the plants require much more food when carrying a crop of fruit.

It is absolutely necessary to admit plenty of air, and the temperature should not be too high, 55° being a good average. As the flowers expand, they should be carefully fertilised, which may be readily done with a camel's-hair brush. This will help the fruit to set, and if carefully done, a crop of fruit will be almost a certainty. Care must be taken with regard to watering. It is a great mistake to suppose that Tomatos will take unlimited supplies of moisture. We find here that it is much better to keep them rather dry, especially during the early stages or until the fruit is set. Then they require more liberal supplies, and liquid manure may be applied with beneficial results, cow manure and soot being excellent. A little artificial manure may also be applied, scattering it thinly over the surface and watering it in. Any of the various manures may be used, but I would mention Thomson's Vine and Plant Manure as of much value for Tomatos, the results, when applied to plants in pots carrying a heavy crop of fruit, being very good. So far nothing has been said as to the training of the plants, but we strongly advocate their being trained to a single stem. The results are better, and there is much less trouble than when three or four shoots are trained up. It is only necessary to take off all side shoots as they appear, and keep the main stem as strong as possible. Even if wanted for planting out to cover walls or other surfaces, we advise that only one stem should be allowed to each. They are so easily grown, that it is much better to put in a larger number. The fruit is undoubtedly finer, and there is no trouble with regard to training. With reference to

The Second or Main Batch,

I would say that the seed should be sown at the beginning of March, or earlier if the house in which the crop is to be produced is available. The same procedure applies to this crop as to the earlier one, with regard to sowing and potting, but as the days and light increase there is not so much trouble in maintaining stocky or dwarfy growth. It will not be necessary to again refer to the preliminary details, and I will at once proceed to say that the young plants may safely be transferred from the seed-pan to 5-in. pots, three being put in each. They should be placed in a warm light pit after they have made a good start, where plenty of air may be given. Properly attended to they will be ready for planting out in the beds about the end of April or early in May. They divide easily with care, and it saves much time and labour as compared with having them singly, especially where large quantities are grown. If required for planting out of doors they must be potted singly into forty-eights, as it is absolutely necessary to have them of a good size before planting, otherwise so much time will be lost, an important point in Tomato culture in the open. There is considerable risk in growing Tomatos out of doors. In favourable seasons, such as 1887, they do very well, but in a season like last year they will fail more or less completely. As is well known, many market growers lost considerable sums of money owing to the wet and cold summer. We planted a considerable number at Chiswick, but obtained very few fruits, and disease made sad havoc among them. This was also the case under glass in many places, owing to the houses being kept too damp.

The Large House at Chiswick.

It may prove interesting if I give the course pursued in the management of the large house of Tomatos grown here last season, which proved very successful, as those who saw the house can testify. The seed was sown at the time already mentioned, namely, early in March, and the treatment already described was followed to the letter. The seedlings were put in 5-in. pots, three in each, and kept growing in these in a warm frame, until they were planted out about May 3rd. The beds were filled with garden soil, brought from the kitchen garden. It was a light loam, and a very little ordinary stable manure was dug in. Without any other preparation the plants were put out, the house was kept closed for a few days, with the result that they started, and made rapid progress. Plenty of air was admitted on all favourable occasions, but no fire-heat was used from the time of planting until the cold nights in September, when a little was employed. The top ventilators were kept open every night and the house kept dry. In fact, after they were well started no water was applied until the first bunch of fruit was of considerable size. Then a good soaking was given, and this sufficed for quite a month or more. We found this the best plan, for the plants made very vigorous growth, and what is of more importance, the fruit set well. In fact, the first flowers were nearly all set, the fruit resting on the ground. We claim that fertilising was the means of setting them, and they were attended every day, with the result that very few flowers failed to set. This will show how important artificial fertilisation is in the successful culture of the Tomato. There were 460 plants, and two men could fertilise the flowers expanded at any one time in an hour. They were all grown with single stems, and reached a height ranging from 12 ft. to 14 ft., carrying fruit nearly the whole length. The first fruit was cut on August 1st, and the last on December 28th. Over 2 tons of fruit were gathered altogether, and the value of it was over £100. The prices realised in the market was, during August and September, 5*d.* per lb. for the smaller, and 6*d.* per lb. for larger fruits; during October and November the price was 8*d.* to 1*s.* per lb.; and in December the price advanced to 1*s.* 3*d.* per lb. No doubt the bad season helped the price to a considerable extent, but it will show what can be done even in a bad season, under proper management. No disease made its appearance, excepting the black spot, which appeared on a few fruits, but none at all on the plants; this we attribute to the atmosphere being kept dry and a little air being always admitted to the house. The sorts planted were Perfection, which is one of the best, many fruits of this variety weighing over 18 ozs. each, the heaviest being Ham Green Favourite, Horsford's Prelude, and Laxton's Open Air, which was the first to ripen, with several others.

Diseases and Insects.

Before speaking of the best varieties I will briefly refer to the diseases, of which there are several. The worst is, perhaps, the one that resembles the Potato disease, and, like that, it generally appears on the leaves first, in the shape of small brown spots. The leaves soon die; the disease appears to run through the stem, and it soon destroys the plant. The only remedy is to destroy the plants by burning, for so far there does not appear to be any other means of destroying it. As already stated, a damp, close atmosphere is favourable to the disease spreading, therefore it will be found much the safest course to maintain as dry an atmosphere as possible, consistently with the requirements of the plants. As you all know, it makes its appearance in the open air if the season is at all wet and cold, such as last year, when it destroyed nearly all the plants in the open, and this clearly shows what to do under glass to prevent it. Another important point is not to save seed from plants that have been attacked by disease. Another disease is the black spot, which, unlike the former, does not attack the plant, but only the fruit. It first appears just on the surface, and causes it to ripen prematurely. The part affected rots, but does not generally spread over the whole of the fruit. This, as far as we have seen, is not so serious as the first-mentioned, and it is easily detected. The best thing to do is to take off all affected fruits and destroy them at once. Of insects which attack the Tomato, the most troublesome is the white-fly, which appears to increase very rapidly, and to be most troublesome towards the end of the season. It can be destroyed by fumigation, but care must be taken not to overdo it. Green-fly also makes its appearance sometimes, and may easily be destroyed by the same means.

The Best Varieties.

In passing on to consider a few of the best varieties, I would refer to the fact that a trial of about eighty-six reputed sorts was made in the gardens here during 1887. On comparison it was found that out of that number only twenty-seven were considered really distinct; these included many of the small types, which are useless to grow except for ornamental purposes. In selecting varieties one has to be guided by circumstances, and more especially as to the purpose for which they are required, but for general purposes, as well as special, Perfection stands at the head of the list. The fruits are large, round, smooth, somewhat flattened, of good colour and substance, an excellent cropper, free and vigorous in growth. Hackwood Park Prolific is another good variety, which is largely grown, and deservedly so. It is of a somewhat different habit to Perfection, the bunches of fruit being more loose, and the fruits having a small hole in the centre. Hathaway's Excelsior has fruit of medium size, quite smooth, and of good colour. Advancer is a better type of this, as it sets more freely, and is not quite so vigorous in growth. We find Hathaway's rather too vigorous. Trophy is another very good variety, and somewhat after the style of Hackwood Park. These are some of the best of the large, smooth kinds; there are many more, but these are sufficient if we add Ham Green Favourite, which is one of the best of the new Tomatos. The fruits are medium to large, smooth, and of good colour. They are deeper than Perfection, being slightly pointed; the fruit also sets very freely, and is also a decided acquisition. It has been grown here three seasons, and has proved to be a really good Tomato. Another type of fruit is the Large Red, which is largely cultivated by the market growers. The fruits are flattened, and somewhat corrugated, which is an objection. There is also the Early Red, which is a smaller and firmer kind of the Large Red, though earlier. To this class Laxton's Open-Air belongs. It is undoubtedly very early, but there is not substance enough in the fruit for it to become very popular. Acme or Dedham Favourite types produce very fine fruits, and of good quality, but the colour is against them for market purposes, though for private use, where colour is not an object, they are undoubtedly good.

Of smaller varieties the best is undoubtedly Horsford's Prelude, which is most prolific, and sets more freely than any we know; the fruits small to medium-size, smooth, clear, and of fine flavour. Of plum-shaped varieties, Chiswick Red is perhaps the freest, though the quality is quite second-rate. Nisbet's Victoria is one of the best of this class, and another one is Tennis Ball. The fruits are medium-sized, very solid, and of fairly good quality. Of yellow Tomatos the best is Golden Queen, which has fruits of fair size, smooth, round, and of a deep yellow colour. Prince of Orange is another good sort, the fruits being flattened and slightly corrugated, and the colour is very clear. Greengage, though small, is one of the best flavoured of this type. The yellow Tomatos should be more extensively grown than they are, especially where they are required for salads or to be eaten uncooked, as they are sweeter and more delicately flavoured than the red kinds. They are largely used in America, and they also make an excellent jam. We find that anyone who has once tasted them generally asks for them again. I do not consider the very large varieties worth growing, as they are so coarse and ugly, but if very large fruits are wanted, irrespective of shape, President Garfield, Hepper's Goliath, and the Mikado may be mentioned.

Notes from Scotland.

Cardiff Castle Cucumber.—One of the most noteworthy points of excellence in this well-known Cucumber is its remarkably hardy and prolific character. It is specially adapted for cultivation in frames for summer supply, as I had a good opportunity of proving last season. A bed of stable manure and leaves was made up early in spring, for the purpose of raising and growing on half-hardy annuals, and by the time the Cucumbers were planted, the heat had, of course, declined considerably. On that account I was not over sanguine of successful results, but was agreeably disappointed, as despite the cold sunless weather we had for a long time, the plants came into a bearing condition quickly, and afforded a good supply till October. They were regularly supplied with liquid manure in a tepid condition, timely attention being also given to the removal of all surplus fruits, which otherwise overtax the energies of the plants. By growing a plant or two of Cardiff Castle as a succession to other sorts that may be grown for an early supply in the forcing house, a few plants raised from cuttings will come sooner into bearing for the frame than seedlings. Before the cuttings become pot-bound, they should be shifted into 5-in. pots preparatory to planting out, otherwise it is needless to say they will receive a check, which will be inimical to their future vigour and fertility. It is also of importance that the plants should be carefully attended to with tepid water while they are in pots, and the soil warmed previous to planting them in the frame.—*D. Mackie, Ayrshire.*

FLORICULTURE.

The Florists' Laced Pink.

It is to be regretted that the several articles which appeared in The Gardening World a few months ago (see issues of August 11th, September 1st, 8th, 15th, 29th, and October 13th, 1888, &c.) in favour of the florists' laced Pink have met with apparently but little support. I, for one, anticipated that the hearts of many old florists would have been warmed up, and that a few suggestions would have appeared in your journal in support of the object in view—*i.e.*, by once more bringing the Pink prominently before the public by introducing a few stands, either for competition or as specimens, at some of the principal flower shows which will be held about the first or second week in July next. There are several amateurs who I know have small collections, and if some of the old florists possessing influence with the committees of flower shows would try and get the Pink introduced in the respective schedules, and the announcement of same made through this and other florists' periodicals during the next four weeks, I feel convinced that their efforts would be fully rewarded by the response exhibitors would make.

I notice that the "Turner Memorial Fund" trustees have contributed five pounds to the funds of the National Auricula Society, and a similar sum to the Royal National Tulip Society. If those gentlemen could only have had in their minds, at the time these handsome donations were granted, what a lover of the "Pink" the late Charles Turner was, and what a large grower and exhibitor he was thirty or thirty-five years ago, at the time he raised the then celebrated Pinks, "Sarah," "Optimer," and numerous others, they might with very good grace have divided the ten pounds into three, and have voted one third as prize money for Pinks, to be competed for at two or three of the coming July flower shows. The very name of a "Turner Memorial Fund" prize would, I venture to say, bring together such specimens of the Pink, as would not only be appreciated by the public, but would give encouragement to present growers, and induce amateurs to add to their collections one of the greatest charms of florists' flowers.—*James Thurston, Cardiff.*

Auriculas—The Awakening has Commenced!

Dull, gloomy and wintry as it is, the plants are showing signs of growth, and in another fortnight, especially if some warm and sunny weather should set in, they will literally rush forward in the race to flower. It is because the plants should have the advantage of all the solar light and warmth which can be had at this season of the year that it is recommended the plants should have a south or south-west aspect in the early spring months. "Turn the frame round to the sun" was the advice of the old Auricula growers, and the advantage is obvious. The grower can assist nature by cleansing the pots of any growth or slime during the winter, by removing from the surface any stale soil and replacing it with something fresh and sweet, by removing all decayed foliage, and imparting a neat and clean appearance to their plants. All these little attentions are helpful, and the plants appreciate them in their silent and expressive way. If the sun shines out brightly, fresh air rather than shade is what is required. In giving air, secure the plant as much as possible from cold draughts. The coming two months are delightful ones for the Auricula grower, and he will soon begin to look for the first-fruits of the flowering season.—*R. D.*

Carnations and Picotees.

Thanks, friend Rowan, I am delighted to learn that others are searching in the same direction as myself. Your quotation from the schedule of the National Carnation and Picotee Society, shows how the stream is flowing. I should like to see copies of each of the two societies' schedules; they are, doubtless, in circulation amongst the subscribers, and might be obtained from the respective secretaries, but if published in the pages of The Gardening World, they would be seen by all the floral brotherhood, and both gardener and amateur could learn what may be expected to be seen at the Drill Hall in July, and at Stanley Road, Oxford, in August, and thus be induced to attend in great numbers. The Carnations and the Picotees are each and all amenable to culture in the greenhouse or garden, by peer and peasant alike, in almost any soil or climate, and the publication of the schedules would be an advantage at the present time, insomuch that as now the schedules of most societies are being prepared for the coming season, and the love for these grand old florists' flowers is spreading, there would be a chance of seeing a class or classes introduced at each and all of the metropolitan and provincial exhibitions.

Mr. Rowan says I may remember the papers written by the Rev. George Jeans, and published in the *Florist.* No, I am sorry to say that I fear I am one of thousands who have not had the advantage of their study. The year 1849 appears as yesterday to me, time flies so rapidly, but during that time many changes have taken place—the florists' Carnation, Auricula, Polyanthus, Pink, Pansy, and many others had vanished from general culture, and were only to be found in the possession of a few enthusiasts; but now there is a glorious revival of the old as well as a desire for the new, so much so that I think it would be wise to reproduce the writings of such men, "for there were giants in those days," if they could be compiled and issued in pamphlet form for the instruction of the coming generation of gardeners, as well as for the edification of those more advanced in years. I, as one of the latter (very far advanced), would be glad to read, mark, and learn, being ever anxious to advance. I still feel a novice amongst the wondrous beauties of Nature, ever on the look out for the best, new or old, amongst the flowers I love.—*W. Wardill, Luton.*

THE ROSE.*

With so many good works on the Rose as have appeared during the last quarter of a century, it says much for the inherent good qualities of the one published by Mr. Cranston, of Hereford, that a seventh edition should have recently been called for. The first edition was published thirty years ago, and each succeeding edition may be said to have brought the subject matter up to date, and to have recorded from time to time the experience of one of the most successful cultivators and exhibitors of the Rose that we have. Mr. Cranston is above all things a practical man, and in a plain straightforward way he records his successes and failures, and gives such instructions of a cultural character as cannot fail to teach even a tyro how to proceed and what to avoid if he would successfully grow this right royal flower.

The first part of the book, extending to sixty-eight pages, is devoted to cultural directions, in which the various methods of pruning, training, and disbudding are amply explained. The modes of treating various kinds of soils, with a view to the welfare of the Rose, are plainly described; as well as the manures which, under various conditions, give the most satisfactory results. The various methods of propagation are also treated upon; and in discussing the subjects of cross-breeding and hybridisation, the author encourages amateurs, as well as professional Rose growers, to take up the work of raising new varieties in this country, so that the Roses of the future may have stronger constitutions, and thereby be the better able to withstand the rigours of our climate than the continental-bred varieties. The subject of forcing is discussed at some length, and details are also given as to how plants should be treated that are intended for exhibition.

The second part is devoted to selections of the most popular and esteemed varieties, classed under the species from which they have been derived. Not the least remarkable feature of the work is an alphabetical list of about 2,000 varieties of Roses—as complete a list as it is perhaps possible to obtain of the varieties that have been introduced—with the class to which each belongs, the name of the raiser, the date of introduction, and brief particulars relating to habit and colour. The lists of varieties specially suitable for particular latitudes and localities and smoky towns will be specially useful, and no less so to the inexperienced will be the calendar of seasonable operations. A book that can be heartily recommended is *Cultural Directions for the Rose.*

GARDEN GOSSIP.

At the meeting of the Manchester Horticultural Improvement Society, held on Thursday evening, February 21st, Mr. Bruce Findlay, the president, in the chair, Mr. Samuel Barlow, J.P., Stakehill House, Castleton, in an address on "Garden Gossip," said that during his long experience he had always derived great pleasure from associating with men who, although in humble positions, were sympathetic with him in his love for floriculture and horticulture. Many of these men were possessed of an immense amount of mother wit, and he had also found the results of their experience, communicated in their own peculiar fashion, to be of the greatest value to him. It would be only a small return indeed for the many benefits he had personally received from them, to put on record a few of their sayings and doings. He had read and enjoyed a goodly number of the witty sayings which passed current in the olden times, but amongst these men he had heard more genuine humour than was to be found in the jest books of the more educated circles. Alluding to his own love for flowers when a child, he had advised that whenever a child showed a taste for gardening it should be cultivated, for from that pursuit children would derive a great amount of pleasure and profit. Mr. Barlow had a great deal to say about Lancashire people, their peculiarities and quaint sayings. Many of these humble people loved gardening, and to them horticulturists were greatly indebted for much of their knowledge. He related a number of anecdotes to show the keen perception of humour which these people had. He said the subject was an almost inexhaustible one, and he could not possibly do it justice at one meeting. He, however, held out hopes that at an early date he would be able to continue the subject.

The president said Mr. Barlow had pointed out their indebtedness to small and humble growers. He hoped it would not be long before County Councils would bring forward some resolution to assist humble growers in cottage gardens. He thought prizes could fairly be given out of the county fund for the best cultivated gardens, and for the best produce from them. He trusted that Mr. Barlow would see his way as a County Councillor to bring this matter forward, for there was many things more unpractical and unreasonable than what he suggested. Referring to the effect of a love of flowers and such-like things on the humbler classes, he was of opinion that the works of nature were quite as elevating as the works of art, and more refining in their tendency. It was a curious fact that thousands more persons annually visited Kew Gardens than the National Gallery.

Mr. A. Stansfield thought their acquaintance with the old local characters should be renewed. Mr. Barlow had entered a wide field, and he would not have finished his task until he had thoroughly ploughed and cultivated it. Mr. R. Tait, Mr. Leo H. Grindon, Mr. E. G. Hughes, Mr. W. B. Upjohn, and Mr. Rogers also took part in the discussion.

A BLUE PRIMROSE.

I have been having an interesting correspondence with Herr Max Leitchlin, of Baden-Baden, relative to the blue Primrose shown at the last meeting of the Royal Horticultural Society under the name of True Blue. In one of my letters I said that the artificial evolution of the blue Primrose had been the work of years, and had been accomplished only by persistent selection. To that Herr Max Leichtlin replies:—"Yes, it is quite true; such a valuable sport is the work of years. I am labouring at it since twelve years last, but in this country the Primroses do not grow so well as they do in England. I well remember when—now forty years ago—there were only violet, yellow, and white Pansies, and now-a-days we have many shades of pure blues. There can be no question that Primroses must come blue, only they take much longer to raise, and stick with greater tenacity to their typical race, having always a tendency to revert. Here I have great difficulty in saving the seeds, which are attacked by slugs, and when not taken just ripe, ants carry them away. Yet, notwithstanding all difficulties, I have made steps in the direction to blue, and hope that among a batch of seedlings the desired shade may come; but, alas! 'tis only hope. I always take abnormal colours as seed-bearers, and I find this brings me more forward by selection than if I take pure colours to do so." Some years ago it was regarded as practically impossible to get the blue shade into certain flowers; but in spite of all, it has appeared unexpectedly in some—among them the blue variety of Primula sinensis. Advances in this direction have also been made, with more or less degree of attainment, in the case of the show and zonal Pelargoniums, Rose, and Dahlia; but the rate of progress is very slow. Going back to the Primrose, my old friend Mr. Samuel Barlow has raised two blue varieties from some selected seed I sent him a few years ago; one has been named Sapphire and the other Lady Salisbury. Nor must we forget Mr. G. F. Wilson's most satisfactory work in this direction. His Scott-Wilson was a marked advance, and from it he anticipated an instructive progeny. I am not sure if these anticipations have been realised, but the work already done is worthy of all praise.—*R. D.*

* Cultural Directions for the Rose. By John Cranston, King's Acre Nurseries, Hereford. Seventh edition.

A GROUP OF DAFFODILS.

We give an illustration representing some very distinct types of Daffodils, both new and old. In the lower right-hand corner is the smallest pigmy of the Ajax section—namely, Narcissus Pseudo-Narcissus minimus (No. 6), one of the earliest harbingers of spring, as it is now flowering freely everywhere in the southern counties in the open air. The tiny, bright yellow, nodding flowers are borne on footstalks raised only 2 ins. or 3 ins. above the surface of the ground. Above this is Golden Spur, one of the finest varieties of the same species. The perianth segments are bright yellow, while the large wide-mouthed corona is even brighter. It is one of the finest and purest of the yellows, and ought to find a place in every garden collection. Santa Maria (No. 1), at the top of the illustration, is an early Spanish variety of N. Pseudo-Narcissus, introduced last year by Messrs. Barr & Son, Covent Garden. It is of a uniform deep golden yellow, with spreading, more or less twisted segments. The chalice-cupped Daffodil (No. 2) is a hybrid of the Leedsii section, named Duchess of Westminster. It was certificated last year, and is a very fine one of its kind, with broad, somewhat imbricating, spreading, pure white segments, with a deeply cup-shaped corona that expands of a pale yellow and fades to pale lemon.

On the right-hand side is N. cyclamineus (No. 4), now one of the gems of the bulb garden, but which until 1886 had been entirely lost sight of for a period of about 250 years. The segments are closely reflexed in the manner of a Cyclamen, thus suggesting the specific name. The cylindrical corona is of a deeper yellow than the segments, and shallowly toothed at the margin. It is admirably adapted for pot culture from its dwarf habit and the bright colour of the trumpet. Being naturally one of the earliest of Daffodils, it needs but very little encouragement to start into flower when planted, or when potted and placed in a cold frame. In the lower left-hand corner of the illustration is N. triandrus albus (No. 5). Its segments are reflexed in a similar way to those of N. cyclamineus, but the whole flower, including the cup-shaped corona, is white. The species also produces from three to seven flowers on a scape. The white variety under notice is known as Angels' Tears in some gardens.

Besides the above, a large collection of different kinds of Daffodils are flowering with Messrs. Barr & Son, to whom we are indebted for the illustration. Most of the kinds are grown in pots under glass, but can scarcely be said to have been forced. The early ones are also flowering out of doors in the nursery of the firm at Tooting.

Group of Daffodils:—1, N. Ajax Santa Maria. 2, N. Leedsii Duchess of Westminster. 3, N. Ajax Golden Spur. 4, N. Ajax cyclamineus. 5, N. Triandrus albus. 6, N. Ajax minimus.

The Amateurs' Garden.

Erica carnea.

Whether in the northern counties or in the sunny south, one of the harbingers of spring is this dwarf and beautiful Heath, with its myriads of rosy pink, conical flowers. It is a native of Central Europe, and consequently perfectly hardy in any except the coldest and most exposed localities. In planting Heaths it is customary to use a considerable quantity of peat mixed with the soil, or even to remove the natural soil and replace it wholly with peat. Erica carnea, however, may be grown almost or wholly without peat, provided the soil is light or sandy, but naturally moist, even in summer. Better results will, however, be obtained in the dry climate of the London district, if a considerable quantity of peat is incorporated with the soil, because a compost of that nature will prove cooler for the slender fibrous roots of the plant during times of heat and drought. It may be planted with good effect in various ways, but is least interesting when simply dotted in small tufts or patches in the ordinary flower border. In fact, it would be out of place, and should not be used in that way. The finest effects are obtained from a bed of it planted on the grass, or as an edging to walks in the pleasure grounds, or in front of shrubberies, whether paths or grass abut on them. In villa gardens it would also constitute a beautiful edging, if looked after in the matter of moisture and not trodden upon. A good plan in such cases would be to have some form of stone or tile edging, planting the Heath immediately behind it, so that ultimately the artificial edging would be quite hidden. A cool position or a northern aspect on the rockery would also be a suitable place to grow patches of it. The garden shears may be used to trim it into shape after it has done flowering and before fresh growth is made. Sprays of it in any quantity may be used as cut flowers from January to April.

Maule's Quince.

Botanically this may be described under the name of Cydonia Maulei, or Pyrus Maulei, the latter being the accepted name amongst leading authorities. It forms a dwarf and very floriferous shrub, and is more compact in every way and more suitable for small gardens than the better known Pyrus japonica, whose scarlet flowers are very telling in spring. The blooms in this case are of a bright or fiery orange-red, and freely produced in clusters from last year's wood or from spurs. The plant may be trained against low walls, where it will have a very fine effect, both when in flower and again in autumn, when covered with its golden yellow fruits, which it produces in much greater abundance than any of the varieties of Pyrus japonica do. The fruit as to shape and size resembles a small Apple, and when ripe emits a very powerful but not disagreeable perfume. A few fruits are quite sufficient for a room, where they will continue to give off their perfume for many weeks after being gathered from the bush. The fruit is too acid to eat, but may be made into conserve that will prove agreeable to the palates of many.

St. John's Wort.

The large-calyxed St. John's Wort (Hypericum calycinum) is admirably adapted for covering banks, rockwork, or spaces under the drip of trees, where very few subjects give any degree of satisfaction. After the new growth has been made it represents a carpet, with a beautiful dark green appearance, and when the flowers expand a handsome effect is produced, owing to their large size and the mass of stamens which occupy the centre like a huge yellow brush. Wherever planted it should be allowed plenty of room to extend on every side, and its creeping underground stems will soon occupy a considerable area, provided the soil is comparatively loose and friable. In small gardens it may be grown to great advantage in the front of shrubberies, where it will generally attain 1 ft. in height. The present is a good time to set about planting it.

Hardy Plants in Flower.

Independently of those grown in frames and cool greenhouses, there is already a large number of various subjects in flower. Of common and easily-grown kinds, we have the Snowdrops, in great variety; the Winter Aconite, Crocuses, in rich and varied tints too numerous to mention; Lenten Roses, Iris reticulata, Wallflowers, Daisies, Daffodils, Primulas and Polyanthus, Scilla sibirica, S. bifolia, and others. With tolerably mild weather, bulbs of all kinds will soon burst into bloom, making the spring garden one of the most enjoyable of the whole year. Several shrubs—such as Pyrus japonica, Daphne mezereum, Heaths, Viburnum tinus, Lonicera Standishi, and Jasminum nudiflorum—are flowering more or less, according to the locality, and will soon be very gay. All these are but an enumeration of a few of the most common and easily-cultivated subjects within reach of all. They serve, however, to show that with a little care and attention we may keep the outdoor garden gay at comparatively small cost.

Dicentra spectabilis.

With the aid of a greenhouse, those who are fortunate enough to possess Dicentra spectabilis (popularly known as Dutchman's Breeches) may have it in bloom much earlier than its usual flowering period by lifting and potting up pieces from the open ground, and placing them in the warmest part of the plant house. The gracefully arching racemes of drooping or pendent rose-coloured flowers are very handsome, and when placed in a cool airy house may be had in perfection, whatever be the nature of the weather outside. Their fragile stems are liable to be broken out of doors by rough winds.

Gardening Miscellany.

Bear's Foot.

The natural habitats in which Helleborus fœtidus is found in a wild state would indicate that it might, with great advantage, be introduced to semi-wild situations alongside carriage drives, or even as an edging to shady footpaths through the woods surrounding the residences of private estates. It thrives vigorously in partial shade, such as that produced by overhanging trees and moderately dense copsewood. In chalky districts, such as that of the North Downs in Kent, it thrives, flowers, and fruits abundantly. It also succeeds equally well on the west coast of England, in bushy places in the vicinity of the sea; and that it produces fertile seeds is evidenced from the number of seedlings scattered about. The flowers are produced in panicles, but are green, tipped with purple, and therefore not very conspicuous. The beauty of the evergreen foliage, however, constitutes the plant of no mean decorative value; and the flowers appear earlier or later in winter, and continue in good condition till April.

Mr. Ware's Strain of Primroses.

In view of the growing want for these hardy flowers, many growers are endeavouring to meet the demand by cultivating them in large numbers, and by materially improving the strain by cross-breeding, selection, and otherwise. Mr. T. S. Ware, Hale Farm Nursery, Tottenham, has already succeeded in producing a strain containing many beautiful shades of rose, lilac, white, yellow, crimson, magenta, maroon, and other colours. At present there are about 10,000 plants in the open ground. Before the advent of the recent cold and boisterous east or north-east winds, the beds were quite gay. As everyone knows, with a cold east wind blowing, it is almost impossible for flowers of any kind to look perfectly happy when fully exposed. On the return of warmer weather, however, fresh blooms will be thrown up in large numbers.

African Marigolds in Winter.

A good illustration of what could be done with this annual may be seen in the conservatory at The Barons, Twickenham, where a number of plants were lifted in autumn before the advent of frost, and potted up. They continued flowering more or less all the winter, struggling bravely against a great deficiency of light, such as we had but too frequently during the past winter. The flower-heads are not nearly so large as those produced during summer in the open air, but they afford flowers of quite an unusual kind at this dull season. There are many other so-called annuals which, if treated in this way, would practically become perennial. Notwithstanding the name African Marigold, the species in question (Tagetes erecta) is a native of Mexico, as well as the French Marigold (T. patula). The former, however, is best adapted for cultivation in pots, because of its upright habit. The latter would require a great deal of staking to confine it to proper dimensions allowable in a conservatory, and this would detract from its general appearance. The African Marigold, on the other hand, requires no training or tying whatever.

Crocus, Cloth of Silver.

The Crocus grown in gardens under this name is a large variety of C. versicolor, the flowers of which almost rival those of C. vernus in size. They also resemble those of C. biflorus, but are much larger, and have rather an unpleasant, although not strong, odour—at least, during a certain period of their flowering. By this means they may readily be distinguished from those of C. biflorus, as well as by their much greater size; and from C. vernus by being smooth in the throat, whereas the flowers of the latter and common species are furnished with hairs in the throat, just where the limb of the flower narrows into the tube. The variety named Cloth of Silver has white flowers, furnished with a purple band along the middle of each segment externally, and are large, showy, and as hardy as any of the forms of C. vernus. Cloth of Silver is also amenable to pot culture, by which it may be had in flower very early in the year, as is done at The Barons, Twickenham, where hardy spring-flowering bulbs are largely cultivated.

Æsculus rubicunda.

For a long time after the introduction of this tree there was considerable doubt as to whether or not it was a mere garden production, that is, an artificial hybrid. It seemed also to have been introduced both to Britain and the Continent, and to have received different titles from botanists, as well as various garden names. According to *Horticulture Belge*, 1836 (p. 97), it originated on the Continent by the botanist Michaux receiving seeds of what were described as Pavia from North America. This was in 1812, and amongst the seedlings that germinated at the Jardin des Plantes at Paris, one appeared that was quite distinct from the rest. This flowered in 1813, and turned out to be the same as that named Æ. rubicunda in British gardens. There can be very little doubt that this is the manner in which the tree found its way from America to our shores. It is undoubtedly the finest of all the Horse Chestnuts, including the Pavias; and it could not be too largely planted for ornamental purposes.

Narcissus cyclamineus.

When a mass of this is seen flowering together the effect is simply charming. The depth of the yellow colour in the crown is thus seen to advantage. Such a mass may be seen in Mr. T. S. Ware's nursery at the Hale Farm, Tottenham. A hand-light is placed over it in such a way as to shelter it from above, while air is freely admitted from beneath it, by its being supported at one end. This keeps the plant from being drawn, while it is at the same time sheltered from cutting east winds. The bulbs when planted were very small, indicating that when they become stronger, we may expect something even finer.

Primula erosa.

In gardens this is sometimes met with under the name of P. Fortunei. It has the habit and general appearance of P. denticulata, but is so distinct that no one would readily mistake the one for the other. The flowers are lavender-purple, rather small, and borne in large umbellate heads or clusters; but the individual flowers have longer stalks, consequently the heads are much looser than those of P. denticulata, and the whole head is rendered conspicuous by the very mealy calyx, pedicels, and the top of the main stalk. The leaves are obversely lance-shaped, coarsely toothed and ample, forming a close crown or rosette, from which the flower-stalks arise. It is a native of the Himalayas, and flowers both early and very satisfactorily if wintered in a cold pit or frame, where the atmosphere is kept dry and well ventilated. A large batch has been flowering with Mr. T. S. Ware for some time past, in the Hale Farm Nursery, Tottenham.

Cyclamen ibericum.

We frequently find this beautiful hardy species grown under the name of C. vernum, C. Coum vernum, or even other names. It is a native of South-west Europe, and proves amenable to pot culture, or for the decoration of the rockery. C. Coum and C. hederæfolium flower in autumn and the early part of winter, and are succeeded sooner or later by this species, according to the state of the weather. When planted in the open air, a warm sheltered position, if not absolutely essential, is productive of good results. We have even seen it flowering at a very early period on a northern exposure after a mild winter. The leathery orbicular leaves are deep green, more or less variegated or zoned with grey. The ordinary or typical form has rosy

purple flowers, with a deeper colour round the mouth; but there are several distinct varieties now in cultivation, one of which, with deep reddish purple flowers, is very choice. Those having a frame or cold greenhouse would find this Cyclamen a charming little gem for pot culture. It is propagated by seeds.

The Azure-blue Hyacinth.

The earliest of all Hyacinths to flower under natural conditions is Hyacinthus azureus, a little beauty amongst hardy bulbs, now blooming alongside of the Snowdrops and Crocuses. The small campanulate clear azure-blue flowers are collected in dense ovate heads, bearing a close resemblance to a species of Muscari, and the plant is in fact known under the name of Muscari linguatum. For rockwork this is really charming, and should be planted in a somewhat sheltered position to prevent it from being driven about by the rude cold winds of February. It has been flowering for some time in the nursery of Mr. T. S. Ware, Hale Farm, Tottenham. On close inspection the individual flowers are much wider at the mouth than those of Muscari proper, which have globular, oblong, or cylindrical blooms with a more or less contracted mouth. The leaves are broad but somewhat inrolled at the sides like those of Chionodoxa Luciliæ in the young state. It is a native of the mountains of Greece.

Cyclamen Coum and C. Atkinsii.

The first mentioned is one of the parents of the latter, while C. ibericum is the other parent. C. Coum flowers in winter and spring, while C. ibericum is much later. C. Atkinsii is intermediate between the parents as to the time of flowering. C. Coum has light pink or rosy purple flowers, with a much darker purple mouth. Its leaves are almost as round or orbicular as a penny piece, and uniformly deep green above. C. Atkinsii is very variable with regard to the colour of the flowers, having white, rose, purple or crimson corollas always several times intensified round the mouth of the short tube. The foliage is always distinguishable from that of C. Coum, by being marbled with grey on the upper surface. Those in possession of a frame or greenhouse would do well to secure the above Cyclamens or their varieties, as they are extremely pretty and easily managed. Some pans of them have been flowering in a cool pit since December in Mr. T. S. Ware's nursery at the Hale Farm, Tottenham. At present they are extremely floriferous. They are also flowering on the rockery there.

Prunus Pissardii.

A specimen of this in a pot in my cold house is now getting finely into bloom. It makes an excellent cool conservatory plant when grown in this way, and as it is naturally early not much forcing is required. The blossoms, as in the case of Plums, generally comes first, and then follows the pretty and striking red-coloured foliage. The flowers are pure white, with orange-coloured points to the stamens. It is so early in the year, and there is such an absence of sunlight and insects, that I can hardly expect the blossoms to set fruit, and I am not sure if the plants have done so in this country. But it has the twin merits of being highly valuable both as a flowering and a foliage plant, and the foliage retains its colour to the very last. As late as the first week in November some leafy sprays of it were cut in Gunnersbury Park. When planted in the open, this charming Prunus should have a warm sheltered spot, where it can be protected from frost and cold cutting winds. It is so pretty, useful, and has such a high decorative value that it deserves to find a place in every garden, large or small.—*R. D.*

Chionodoxa sardensis.

This species is now getting plentiful in gardens, and is equally suitable for cultivation in pots as in the open. None of the species probably like to be forced; but if potted up with other bulbs in autumn, and stood in a cold frame or one where a gentle heat is maintained, the flowers are produced much earlier than when grown in the open ground fully exposed to all kinds of weather. C. sardensis, moreover, flowers much sooner than C. Luciliæ under natural conditions, and may be seen at present in Mr. Thomas S. Ware's nursery at Tottenham. It is rather dwarfer in habit than its congener mentioned above, and has smaller, deeper blue flowers, with a small white eye. The colour is more intense even than in the well-known Scilla sibirica, whilst good bulbs produce a greater number of flowers on a scape. It was introduced from Smyrna.

The Snowball Tree for Forcing.

The sterile form of the Guelder Rose, namely, Viburnum opulus sterilis, may be kept in the form of small bushes, grown either in pots or planted in the open ground. In the latter case it requires only to be lifted with a good ball of soil, and transferred to a forcing pit or other house where a high temperature is maintained, such as a vinery or warm plant house. So treated it will afford some useful trusses of white flowers for cutting. If the plants are required for conservatory work, it will be necessary to pot them up when removed from the ground, or to grow them in pots for the purpose. When forced, however, the trusses never assume the same compact globular shape which we see in bushes flowered in the usual way, nor do the individual blooms attain the same size; but white flowers at this season of the year are always in demand, both in the market and in private families.

Salpiglossis.

In order to do full justice to these beautiful half-hardy annuals, the seed should be sown as early as possible in spring on a gentle hot-bed, and grown on so as to make good-sized plants by bedding time. They are rather late in blooming as it is, but this period will be considerably hastened by early sowing. They delight in a warm sunny position, and will stand drought better than many other annuals. Last year the summer was rather too wet for them, but they improved considerably in the warm sunny days of September. During the hot dry summer of 1887 they were all in their glory, flowering splendidly. They are very useful as cut flowers, lasting a fairly long time in water. The blooms are rather quaint-looking, as many of the Scrophularia family are; but the colours of most are very rich, some being beautifully veined and marbled. Altogether it is very useful in a collection of border flowers.—*Alfred Gaut.*

Apples from Cuttings.

I have seen in The Gardening World of February 9th an article on Apples from cuttings. Our gardener has been in the habit of taking cuttings in the form of small branches, and inserting them in the ordinary garden soil. Those which are planted in spring bear fruit the following year, and the Apples are a good size and excellent for eating. A little tree planted as a cutting three years before, had more than forty fine good-sized Apples on it last autumn, and almost every cutting the gardener has taken in this way has been most successful. I do not know the name of the Apple, but it is rather flat at the ends, and of a pale yellow colour. The local (Galway) name is "White Flats."—*A Subscriber.* [The variety is doubtless the Burr-Knott—the only one that can be so easily propagated in this way.—Ed.]

Tabernæmontana.

This is one of the most serviceable and highly prized of stove-flowering plants, yielding waxy white flowers in great abundance, the blooms being very fragrant. It is an easily-cultivated plant, and should have all the encouragement possible to grow it rapidly. It delights in a free open loamy soil, and revels in a moist atmosphere, generally requiring a period of rest or quiet during the winter. In the case of large plants they will stand in a greenhouse during the winter season, provided they are not too wet at the roots. It roots very freely from cuttings, and will flower in quite a small state, but it is from large plants that an abundant yield of flowers must be looked for.

Thyrsacanthus rutilans.

This is a showy winter-flowering plant, requiring a rich loamy soil to cause it to grow rapidly. When well grown it will yield a large quantity of its pendulous scarlet racemes of tubular flowers, that are very attractive objects to the eye during the winter months, and a few plants stood about in a large stove would have a very telling effect amongst other things. Though an old plant, it should not be despised for stove decoration during the winter.

Toxicophlæa.

A fine subject for producing quantities of large trusses of white flowers. It roots freely from cuttings, and requires growing on sharp, pinching the growths till about July, after which the shoots should be allowed to grow, the strongest of them invariably terminating with a truss of flowers. I have seen it growing and flowering well trained to trellis-work, on the back wall of a lean-to stove, the roots being allowed to work through the bottom of the pot and ramble in a border that was prepared for other climbing plants. The rich dark green of the leathery foliage fully showed that the plant was at home in this position.—*W. G.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

Now that we are having a spell of cold drying winds, it is necessary to be particularly careful in the matter of ventilation, so as to avoid direct draughts, and ventilating should be principally carried out at the bottom of the house near the hot-water pipes, but taking every advantage of mild warm days to ventilate more thoroughly. These drying winds in the early days of spring generally seem to greatly favour the increase of green-fly and thrips, and it is hardly necessary to say that we must carry on perpetual warfare with them, if we wish the plants to thrive. Many a crippled spike of Odontoglossum owes its deformity to being attacked by yellow thrip at the time when the buds were small, and now that the flower spikes are pushing along rapidly, such enemies must be held in check. These remarks apply with double force to Miltonia vexillaria and Odontoglossum Harryanum, two subjects well worth a little extra trouble to have them in perfection. We find that they grow and thrive together much better since we adopted the plan of dipping them in weak tobacco water once a fortnight all the year round, excepting, of course, the time they are in bloom. One ounce of shag tobacco to a gallon of water is a very safe quantity.

Now that the plants are being cleaned and attended to in the matter of re-potting or re-basketing, it is as well to take note of particular positions which certain plants, or batches of them, have occupied, for it is a well-known fact that by a change of position from the sunny to the shady side, or from the warm to the cold end of the house, plants may be greatly benefited, or otherwise.

The shades have been required occasionally lately on the East Indian house, mainly for Phalænopsids; and it is as well to see that the others are in readiness, for in many places it is necessary to shade a house because of the great variety of subjects it contains, many of which can stand but very little sun. Cattleyas need no shading at present, except to protect such as are in bloom, the extra light being very beneficial to such as C. Warnerii, which is thereby induced to flower more freely, as its growths are just now well advanced. Where Odontoglossums are grown in span-roofed houses running north and south, a little shade during the sunniest part of the day will be necessary; but avoid over-shading, and aim at making firm bronzy bulbs and leaves, which produce stout spikes and flowers firm in texture.

During the past week we have been cleaning through the Cattleyas in the growing house (the Trianæ section having been transferred previously into the flowering house), and thoroughly washing woodwork, glass, shingle, and stages, which all tends to sweeten the house, and make it more congenial to the occupants. C. gigas and its varieties are now pushing, and should be afforded a very light position to ensure sheathing. C. Dowiana aurea is also on the move, and does best at the warmest end of the house; while C. Gaskelliana is not by any means so particular, as it seems to invariably produce sheaths in almost any position.—*W. P.*

Orchids from Priorwood, Melrose.

Some Odontoglossums and Cattleya Trianæ alba have reached us from Alexr. Curle, Esq., Priorwood, Melrose. The Cattleya is an unusually fine form of the variety, judging from the specimen sent. It was pure white, with the exception of a large golden yellow blotch in the throat. Now, C. Trianæ alba is described as having a small rosy purple or pale lilac blotch in front of the yellow blotch on the lip; but in the specimen under notice we failed to detect any blotch of this shade whatever. Amongst the Odontoglossums was a specially fine form of O. crispum, with very broadly ovate sepals flushed with rosy lilac externally, and shining through; the petals were roundly triangular, strongly toothed, and pure white; the lip also lobed and undulated, pure white, with a few brownish purple blotches. There was also a good creamy white O. crispum Andersonianum, with the usual chestnut-brown streaks and blotches. What may be described as a variety of O. Wilckeanum accompanied the others. This Odontoglot is supposed to be a natural hybrid between O. crispum and O. luteo-purpureum, but differs from the typical form in there being very few teeth on the petals. (See Veitch's *Manual of Orchidaceous Plants*, Part I., p. 78, where a figure is given.) O. Wilckeanum is a variable plant at best, and the specimen sent has a greater number of blotches than the figure mentioned. The ground colour is sulphur-

yellow, and the blotches of a deep chestnut-brown on all the segments, including the lip, where the blotch is of great size. Taking all things together, then, the variety is a very fine one, especially as far as the colour is concerned.

The Collection at St. Leonards Hill, Dunfermline.

Year by year Mr. Beveridge's collection steadily improves, and a casual glance round at once convinces the visitor that Mr. Grant, the enthusiastic cultivator, knows what he is about. A note of what are in flower may be of interest to some of your Orchid readers:—Angræcum sesquipedale, Cœlogyne cristata, several fine plants in good varieties; Cypripedium Argus, C. insigne, C. punctatum violaceum, and C. venustum; Dendrobium heterocarpum, D. Kingianum, D. Wardianum, and D. nobile; Lycaste Skinneri, some very dark varieties; Masdevallia triangularis, in a small pot with over seventy flowers; Odontoglossum Alexandræ, O. roseum, O. constrictum, O. pulchellum, O. Pescatorei, some of the latter with between seventy and eighty flowers on a spike; O. Rossii majus, all in hanging baskets; O. triumphans, Sophronitis grandiflora, Oncidium Cavendishianum, O. incurvum, with forty flowers on each spike; and Pilumna fragrans. The following though not yet in flower are promising well:—Oncidium obryzatum has a spike 6 ft. long with twelve branches; O. altissimum, which had 465 flowers on three spikes last year, promises this season to be quite as good. The Cattleyas look well, having grand bulbs and fine dark healthy foliage; they are bound to flower satisfactorily.—*P. D., February 20th*, 1889.

Oncidium sphacelatum.

The flowers of this vigorously-growing species are produced in large panicles late in spring or early in summer according to treatment. It does best grown in a pot with peat and sphagnum, and produces an ample quantity of leaves, of considerable length and of a pleasing light green colour. The flowers individually are above the middle size for an Oncidium, so that a single panicle has a very pleasing effect; but a good-sized plant produces several or even many spikes, which all expand their flowers at the same time. They are of a bright yellow, with transverse bands of deep chestnut-brown across the sepals and petals, and the lip is also marked with the same colour on and around the crest. The specific name means scorched, which evidently refers to the appearance of the bracts, which are large, prominent, and of a brownish straw, with a scorched appearance. A remarkable feature of the plant is the length of time between the first appearance of the flower-spikes and the expansion of the blooms. A large and healthy plant at The Grove, Teddington, has been developing its flower-stems for more than two months past, and will not bloom for many weeks to come.

Odontoglossum Rossii Humeanum.

In this we have one of the most distinct forms of the popular O. Rossii, and which if more plentiful would find its way into many collections. Individual plants show considerable variation, and we have seen a pretty variety in the collection of Messrs. Shuttleworth, Carder & Co. The sepals were heavily blotched with brown on a yellow ground; the petals, on the other hand, exhibited a pale but distinct sulphur-yellow throughout, with the exception of two or three brown blotches at the very base. The white lip was crenate at the margin, with the crest of a bright lemon-yellow. Other specimens flowering in another house had petals of a much darker yellow.

The Gardeners' Calendar.

THE STOVE.

Propagation of Fine-foliaged Plants.—For next summer's work no better time than the present could be selected for rooting a supply of young stuff. Dracænas that have become tall and leggy may be ringed or cut underneath the leafy top, and be mossed round or put between two halves of a pot till they emit roots, when they may be severed and potted up; or the whole top may be cut off and plunged in a brisk bottom heat, in a propagating case, if the cultivator has such at his command. Thus treated they will form roots in a few weeks, without the loss of any except the very oldest leaves. If a large stock is required the old stems may be laid on their sides and covered with coco-nut fibre in a propagating pit. Numerous buds will in the course of time be thrown up, and may be taken off and treated as cuttings. In the case of coloured varieties, such as D. terminalis, the plants obtained in this way are green at first, and require some time to acquire their normal colour. Large cuttings of Crotons rooted with all except the lowermost leaf or two will make nice plants in a short time. Take off well-coloured suckers of Pandanus Veitchii as they become fit, inserting them as cuttings. Likewise propagate P. javanicus variegatus, P. gramineus, variegated Pine Apple, and Aspidistra lurida variegata. The latter must be propagated by division of the crowns. Some of the Palms, such as Rhapis flabelliformis and Areca lutescens may also be propagated by removing partly-rooted suckers. Ficus elastica variegata may be readily increased from eyes, retaining the leaf to each, and securing it to a small stake to keep it steady.

Salvias.—The plants of these that were cut down some time ago and placed in heat will now have made shoots sufficiently long to be inserted as cuttings. A pot or two of these, of each kind, will supply enough for the requirements of most private establishments.

Gesneras, Achimenes, &c.—Batches of Gesneraceous subjects, if the tubers and rhizomes are introduced to heat now, will come into flower in the early part of summer. Achimenes may receive a watering and be allowed to start before being put into pots, pans, or baskets, as the case may be, when they may be sorted and arranged according to their strength.

THE FORCING HOUSES.

Peaches.—The earliest house should not be kept at a higher night temperature than 60°; in fact, if allowed to fall a little lower it will be advantageous rather than otherwise to the young fruit which has now commenced to stone. If growth is hastened at this period, many of the fruits will drop or become imperfect. The weather is now tolerably mild, and a little air both top and bottom may with more safety be left on at night. Work in later houses where the trees are just passing out of flower, will consist in attending to disbudding from time to time, and the syringing of the trees, morning and afternoon. The light being stronger, there will be less risk in obtaining a good set of fruit in those houses where the buds are not yet expanded or just opened. Ventilate freely and keep the atmosphere of the house dry so as to assist in the dispersion of the pollen.

Roses.—Tea Roses, Hybrid Perpetuals, and Noisettes in pots, if introduced to a house with an intermediate temperature, will now start away readily, and if allowed to come on gradually will make useful stuff for the decoration of the conservatory. The flowers prove much more durable than when the plants are subjected to hard forcing earlier in the season when light is deficient. Ventilate freely, syringe on fine days, and keep a watchful eye on aphis and other insect pests. Assist with manure water.

THE KITCHEN GARDEN.

Fruit Trees.—Complete without delay any pruning of Apples and Pears that has from some cause or other been left undone. Planting should also be hastened and completed before the buds become too far advanced. This is more especially applicable to Pears than Apples, particularly in the case of varieties that push their buds early. In northern districts, planting is frequently deferred till well into spring, and it is not infrequently the case that the trees are heeled into the soil to await a convenient period. All this time, however, the trees are losing, and must be later in starting into growth than those planted earlier. Head down those trees intended to be grafted with better kinds. Good healthy trees are to be preferred for the purpose, and only loss of time and waste of space can accrue to the grafting of old and decaying stocks.

Sea Kale, Horse Radish, &c.—Make fresh plantations of these without further delay, as good results cannot be obtained if neglected till the roots are making fresh growth and pushing their crowns.

LAW NOTES.

Important Prosecution for Dyeing Clover Seed. At the Southwark Police Court, on Thursday, February 21st, 1889, before Mr. Sheil, John Matthews, of 53 and 54, New Church Street, Bermondsey, was summoned under the Seeds Adulteration Act for dyeing Clover seed. Mr. J. P. Grain (instructed by Mr. C. Butcher, solicitor for the Nursery and Seed Trade Association, Limited) prosecuted; and Mr. Slater, solicitor, defended. Mr. Grain, in opening the case, said:—This is a summons for dyeing, or causing to be dyed, certain seed on or about the 29th and 30th January last, the seed being Clover seed. The prosecution is taken up by some of the largest seed merchants in Mark Lane, and the reason for its being taken up is that for many years past very great frauds have been going on in reference more particularly to Clover seed, which is a very expensive article, and a seed which very rapidly deteriorates. Clover seed is of great value, and when sown should, as a rule, germinate to the extent of 90 per cent. If it is mixed with old seed there is a very large diminution of the germinating power; therefore, it is not only a question of defrauding the seed merchant (because, of course, if they could dye old Clover seed to give it the appearance of new, they are enabled to undersell the *bonâ fide* merchants dealing in that article), but it is also defrauding the farmers who purchase from the merchant, because when they have sown their seed, instead of coming up in the proper way, it does not come up at all. The process which has been adopted for a long time has been to buy up old worn-out Clover seed, and submit it to a certain process of dyeing, which will be explained to you in the evidence. This having gone on for some time, the large merchants in the trade made up their minds to put a stop to it, and we availed ourselves of an informer in the matter—that is to say a person who had been connected with the defendant in sending old seeds to him to be dyed for the purpose of selling it as new seed. The course adopted was this—Messrs. Hurst & Son, who are very large seed merchants, and others in connection with them, purchased three sacks of old Clover seed from a firm, and it was consigned through the Great Western Railway Company to a person of the name of Titchmarsh, who is the informer; and in order that the matter should not become known to the defendant it was sent first of all to Plymouth, where Titchmarsh had been carrying on some business. From Plymouth it was sent back again to Paddington to the order of Titchmarsh, and the old Clover seed was sampled at Paddington by a clerk of Messrs. Hurst & Son in the presence of the officials of the Great Western Railway Company. These samples will be produced. Thence from the Great Western Railway Company the seed was sent by the Great Western Railway Company's carts to Mr. Matthews, the defendant, at his place of business, which is at 53 and 54, New Church Street, Bermondsey. Prior to that, Titchmarsh had written to the foreman of the defendant, named Foster (who has been subpœnaed), a letter, and an answer was received by Titchmarsh in these terms:—

"Mr. Titchmarsh, January 7th, 1889. Dear Sir,—I was very much surprised to hear from you. They put it about you had gone to America with old Robinson. I have sent you four samples of R. C. and W. C. (Red Clover and White Clover). We shall be happy to do anything for your firm. I have not told Mr. Matthews I received a letter from you. I have not got anything to offer. I hope you will try and send me £2 or £3 off the old account. It would come in bandy just now. The trade is getting busy; prices are very firm. It will be a good season. Wishing you a happy new year, I remain, yours truly, C. Foster, 28, New Cross Road, Hatcham, London, S.E."

Mr. Sheil: What is Mr. Matthews?

Mr. Grain: Beyond the trade he carries on, I don't know; he has some premises, and I believe his business is to carry on the dyeing of seeds. The seed arrived back from Plymouth on 29th January, and Titchmarsh, on the 28th, went to the premises of Mr. Matthews, and saw Foster and some other person of the name of Matthews—a relative of the defendant—and it was arranged that the seed which was coming from the Great Western Railway was to be dyed, and to be given the appearance of new Clover seed. That will be detailed by Titchmarsh. This was done between the 29th and 30th January, and then Titchmarsh went and inspected the seed at Mr. Matthews' premises, and thought it was not of a sufficiently bright colour, and he then agreed to pay an extra price per cwt. for the process to be gone through again, in order that it might be made to look like the real new Clover seed. That was done, and it was arranged that the seed, when done, should be sent by Matthews back again to the Great Western Railway Company. It was so sent back in its dyed state, and the officials from the Great Western Railway Company are here to prove they received it. When they received it a gentleman was there representing the prosecution, and a skilled witness, who will be called—Professor Dyer, a public analyst—who took samples at the Great Western Railway, had them sealed up, and left them in the possession of the Great Western Railway Company, and also took some himself. He will tell you undoubtedly that this seed has been subjected to a process of colouring, and describe to you how it is done, and that it is, in fact, fraudulent seed, which is really the charge made against the defendant. The invoice for the dyeing of the seed, with the additional price for giving it a brighter colour, was sent, and before me is the invoice of Mr. Matthews, who describes himself as hop and seed warehouseman, 53 and 54, New Church Street, Bermondsey, and charges Mr. Titchmarsh £1 6*s*. for cleaning the seed, and carrying it back to the Great Western Railway. A receipt was given, which will be produced. There is no dispute about the fact of our having employed one who himself has been guilty before now of selling the seed again. We purposely employed him, but without his evidence we can satisfy you that the defendant has brought himself within the provisions of this Act.

Evidence was then called to prove the various facts detailed by Mr. Grain.

The defence was that Mr. Matthews himself had nothing to do with it.

Mr. Sheil: If it was done on Mr. Matthews' premises I shall hold him liable.

Mr. Slater: Mr. Matthews was not aware of it; in fact, he was ill in bed at the time, and did not know of it till after the account was paid.

Mr. Sheil: The Act would be a dead letter if such a point as that could be taken.

Mr. Slater continued to argue the point, but

Mr. Sheil said there was no defence, and he should inflict the full penalty, £5.

Mr. Grain asked the learned magistrate to mark his sense of the case, by ordering the defendent to pay something towards the cost of the prosecution.

Mr. Sheil: I will give £10 10*s.* for costs. It is a most useful Act, and the fraud is a most deliberate and mischievous one.

Obituary.

We regret to record the death on the 14th ult., of Mr. Edward Tidswell, late of Wood Street, E C., aged fifty-six years. Mr. Tidswell was for many years a warm supporter of the Gardeners' Royal Benevolent Institution, and on the death of Mr. Wrench was unanimously elected to the office of treasurer, which he resigned some two or three years ago.

QUESTIONS AND ANSWERS.

Books.—*E. N. A.: The Art of Budding and Grafting*, by Charles Baltet. Macmillan & Co., 3*s.*

Chrysanthemums.—*L. H.:* A barrowful is a very elastic term, and should not be taken to mean any particular standard measure, but if you put it at two bushels, and work to that in proportions, you will not be far out. You ought to get from four to six fair blooms of the sorts named from 8-in. pots, but we should be doubtful about good ones. Roseum superbum as a Japanese is the nearest in colour to Dr. Sharpe, and is a good free-blooming sort.

Names of Herbs.—*Mc. J.:* To give the whole of the names of plants that have been used at one time or other as herbs, would make the list a very long one, but the following includes all the more common kinds, namely, Sage (Salvia officinalis), Mint (Mentha piperita), Thyme (Thymus vulgaris), Basil (Ocymum Basilicum), Marjoram (Origanum Marjorana), Savory (Satureja hortensis), Chervil (Anthriscus cerefolium), Chives (Allium Schœnoprasum), Clary (Salvea Sclarea), Coriander (Coriandrum sativum), Dill (Anethum graveolens), Fennel (Fœniculum vulgare), Garlic (Allium sativum), Tarragon (Artemisia Dracunculus). Tansy (Tanasetum vulgare), Sorrel (Rumex scutatus), Parsley (Petroselinum sativum), and a few others of less importance.

Names of Plants.—*J. Dawson:* 1, Angræcum eburneum var. virens; 2, Adiantum concinnum latum; 3, Sisyrhynchium grandiflorum; 4, Gymnogramma calomelanos var. chrysophylla. *H. R.:* 1, Davallia hirta cristata; 2, Blechnum brasiliense; 3, not recognised; 4, Orchis mascula, flowers in April and May, colour purple. The Ferns are very bad specimens, with no fruit on either of them.

Night-soil.—*Omega:* Ordinary garden soil, road scrapings, the clearing of ditches, anything, in fact, that will absorb ammonia. A little lime mixed with the heap will do good, especially if your land requires it.

Onontoglossums.—*G. R. T.:* Besides those stated to be already in your collection, the following are good, useful, and distinct kinds—namely, Odontoglossum Pescatorei, O. Insleayi, O. luteo-purpureum, O. odoratum, O. Oërstedii, O. blandum, O. vexillarium, O. Roezlii, O. pulchellum majus, O. Edwardi, O. ramosissimum, O. coronarium. The last-mentioned is rather difficult to grow successfully, because it requires special treatment; and instead of the last three you might grow some of the many supposed natural hybrids, such as O. mulus, O. Wilckeanum, O. eugenes, O. elegans, O. Andersonianum, O. Ruckerianum, and others which are as easily grown as O. crispum (O. Alexandræ).

Propagating Plants.—*P. P.:* If you receive the plants in pots, put them into the warm greenhouse for a few days, then fresh pot them, put them in heat, and as soon as they make new growth, commence propagating. If they are shaken out of their pots, of course you must pot them at once.

Strawberries.—*Omega:* Plant them as soon as you find they are beginning to make fresh growth.

Communications Received.—W. D.—J. P.—A. G.—J. T.—R. O.—W. B. H.—J. L. & S.—A. O.—B. L.

LONDON SEED TRADE.

February 25th.

Messrs. Hurst & Son, 152, Houndsditch, report a moderate inquiry for Agricultural Seeds. Trefoil realises higher prices. Red, White, and Alsyke steady. Rye Grasses meet a steady call at rates current last week. Rape Seed dearer. Bird Seeds unchanged.

COVENT GARDEN MARKET.

February 27th.

No alteration in Fruit and Vegetables from last week.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.
Anemone, French, per doz. bnchs.	2 0	6 0
Arum Lilies, 12 blms..	3 0	6 0
Azaleas ....12 sprays	0 8	1 0
Bouvardias, per bun.	0 9	1 0
Camellias, 12 blooms	2 0	4 0
Carnations, 12 blooms	2 0	3 0
Chrysanthemums, 12 blooms	1 0	2 0
— 12 bunches	2 0	6 0
Cornflower, 12 bunch.		
Cyclamen..12 blooms	0 4	1 0
Eucharis ..per dozen	4 0	6 0
Gardenias, 12 blooms.	12 0	30 0
Heliotropes, 12 sprays	0 6	1 0
Lapageria, 12 blooms	2 0	4 0
Lilium longiflorum, 12 blooms	5 0	9 0
Lily of the Valley, 12 sprays	0 6	1 0
MaidenhairFern, 12bns	6 0	9 0
Marguerites, 12 bun.	3 0	6 0
Mignonette, 12 bun.	2 0	4 0
Mimosa, French, per basket	4 0	6 0
Pelargoniums, 12spys.	1 0	1 6
— scarlet ..12 sprays	6 0	9 0
Paper White Narciss, 12 sprays	0 9	1 0
— — — French, doz. bunches	2 0	5 0
Primroses..doz.buns.	0 9	1 6
Primula, double, bun.	0 9	1 0
Ranunculus, French, per doz. bnchs.	2 0	4 0
Roman Hyacinths, 12 sprays	1 0	1 6
— — French, 12 bun.	1 0	3 0
Roses, Tea, per dozen	1 0	3 0
— Red .....per doz.	6 0	12 0
— Red, French, dozen	2 0	3 0
— Saffrano ..per doz.	2 0	4 0
— Safrano, French per doz.	1 0	3 0
Tuberoses, per dozen.	2 0	3 0
Tulips ....12 blooms	0 8	1 6
Violets ..12 bunches	1 0	1 6
— Parme. French, bun.	3 0	4 0
— Czar, French ,,	1 6	2 0
— Dark ,, ,,	1 0	1 6
— dark French, bun.	1 3	2 6
Wallflowers, 12 bnchs,	4 0	8 0
White Lilac, French, per bun.	5 0	6 0

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.
Aralia Sieboldi ..doz.	6 0	18 0
Arum Lilies..per doz.	9 0	18 0
Azalea.....per doz.	24 0	42 0
Cineraria ..per dozen	9 0	12 0
Cyclamen ..per doz,	9 0	18 0
Cyperus, ..per dozen	4 0	12 0
Dracæna term., doz.	30 0	60 0
— viridis, per dozen	12 0	24 0
Evergreens, in var., per dozen	6 0	24 0
Ferns, in var., per doz.	4 0	18 0
Ficus elastica ..each	1 6	7 0
Foliage Plants, various .....each	2 0	10 0
Genista ....per dozen	9 0	18 0
Hyacinths ..per doz.	6 0	9 0
Lilies of the Valley, per doz.	12 0	24 0
Marguerites per doz.	6 0	12 0
Palms in variety, each	2 6	21 0
Pelargoniums, scarlet, per dozen	6 0	9 0
Primula sinensis, doz.	4 0	6 0
Roman Hyacinths, per doz.	9 0	12 0
Solanums....per doz.	6 0	12 0
Tulips ..... per doz.	8 0	10 0

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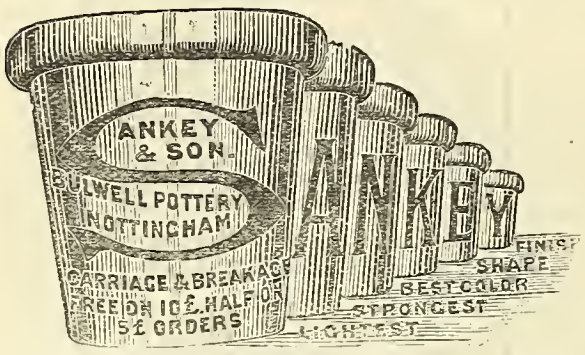

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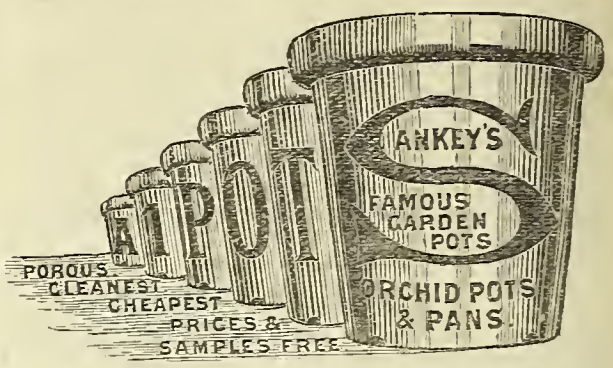

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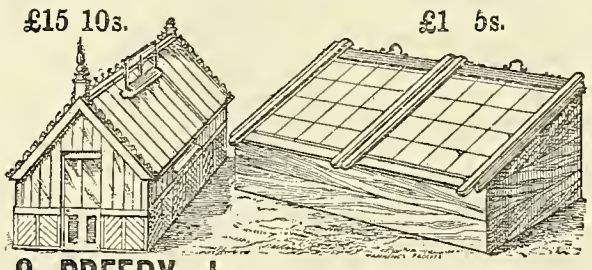

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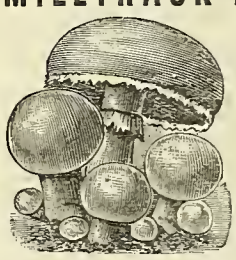

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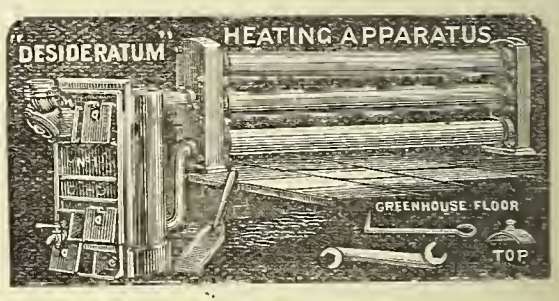

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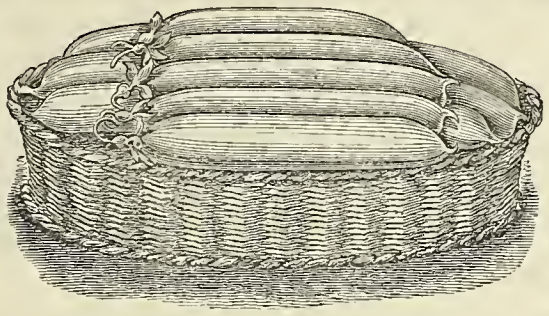

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Next Week's Engagements.

Monday, March 11th.—Annual Meeting of the Nursery and Seed Trade Association at 5.30 p.m. Sale of Lilium auratum Bulbs at Protheroe & Morris's Rooms.

Tuesday, March 12th.—Royal Horticultural Society: Meeting of Fruit and Floral Committees at 11 a.m. Sale of Major Lendy's collection of Orchids at Protheroe & Morris's Rooms. (2 days).

Thursday, March 14th.—Sample Sale at Protheroe & Morris's Rooms.

Friday, March 15th.—Sale of Orchids at Protheroe & Morris's Rooms.

For Index to Contents & Advertisements, see p. 441.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, MARCH 9, 1889.

CURRENT TOPICS.

The Rev. F. D. Horner and his Pet Flower.—The champion grower of show Auriculas looks forward with hope to a great future for his pet flower. Mr. Horner has a better right, perhaps, than any other grower of this delightful florists' flower to be judicial, even as he has the right to be optimistic. We have no grower who excels Mr. Horner; we have few, if any, who are his equals. When this genial Yorkshire parson comes south with his gems, as doubtless he will again in a few weeks, the connoisseurs will cluster round his plants, and inhale, as it were, their perfect forms and excellence of cultivation as though breathing the rich odour of Roses and Violets.

Why it should be, that from so cold and cheerless a region as North Yorkshire, always come the very best of all the show Auriculas, which bedeck the tables of the Southern Section of the National Auricula Society, would be a mystery were it not for the fact that Mr. Horner is a florist by birth. He inherits a name immortal in florists' lore, and probably has in his life already far transcended in the production of Auriculas all that his illustrious father accomplished. To Mr. Horner there is no room, in relation to Auriculas, for the wooden doctrine of finality. His motto is "Excelsior," and in evidence of his progress

he calls up his more recent seedlings to tell their own story. But, sustained by strong enthusiasm, Mr. Horner has high aspirations. His estimate of flowers is lofty; there must be no notched petals, no rough or narrow paste, no uneven or pale tube, whilst the grounds must be dense and rich. Pips, too, in his estimation, should be bold, well displayed, and rather thinned than crowded.

But chief of all do we admire Mr. Horner's assurance that the Auricula, in spite of the age of many choice varieties, is yet a progressive flower and has a brilliant future. We wait impatiently to see again those Heroines, Magpies, Greyhounds, Monarchs, and some others that have come to life in the wilds of North Yorkshire.

Gold-laced Polyanthuses.—Can any raiser or grower of these fine old florists' flowers do for them what the Rev. F. D. Horner has done for the Auricula? Somehow this section of the Polyanthus seems to have come almost to a dead stop in development. Year after year Cheshire Favourite, Exile, George the Fourth, Lancer, and a few others fill prize collections; and we look in vain for new faces worthy of a place with such constellations. Have all the resources of form, of marking, of size, and of beauty been used up in these gold-laced flowers, that all the forces of nature, allied to the efforts of many raisers and growers, are unable to excel Cheshire Favourite or Lancer?

It is a sad fact that gold-laced Polyanthuses evince above all other flowers a strong tendency to revert to their original state. Whilst so many other flowers are developing new charms, growing as it were into the higher life of perfect excellence, the poor Gold-laced Polyanthus finds in the few sorts we have named its line of demarcation, beyond which it cannot pass. It is true the canons of the florist are stern, and admit of no deviation. The lines laid down must be adhered to; the elements of a perfect flower must be respected and retained. But can we not get these in alliance with greater size, with variations of ground-colour, with more robust habits, and not least, some hope for retaining these gems through the instrumentality of seed?

So far we never find in seedlings a flower larger than the best of the old sorts, which has any claims to merit, and almost invariably gold-lacing allied to excellence of form and colour is associated with very small pips. A Horner is sadly needed to resuscitate the Gold-laced Polyanthus. Our friend Mr. S. Barlow has tried very hard to be its saviour, but so far with no great luck. We very cordially wish him more success in the future.

Well Conducted.—In the report of the Council of the Cambridge Botanic Gardens for the past year, just published, there appears, as a sort of postscript, the statement that 1,600 visitors entered the gardens on Whit Monday last, and no misconduct of any kind was observed. Cambridge is doubtless a very conservative place, and the dons, whether theological or scientific, are no doubt accustomed to regard the masses pretty much as ignorant barbarians. If such be not the case, it is hard to understand the reference to the absence of misconduct on the part of some 1,600 visitors to the Botanic Gardens last Whit Monday. The matter is referred to as if it were a sort of wonder; just as though these said visitors were pigs who had for once properly conducted themselves, and had done no mischief. We have seen more than 20,000 persons in Kew Gardens on Whit Monday, and found no harm done, and tens of thousands elsewhere have visited some of our most beautiful private gardens and parks, and no harm has been done. Let us hope that distrust of the people, even in botanic gardens, will no more be evidenced by a postscript in reports of the kind referred to.

The Royal Horticultural Society.—The first March Meeting of the committees of this society takes place on Tuesday next. Last month the association of the General Fellows Meeting with the Committee Meeting led to anticipations of a large attendance. The anticipations were hardly realised, especially later in the day, when the Drill Hall was almost deserted. The meeting on Tuesday next will have no additional attraction for the Fellows, and we shall note with curiosity the amount of interest shown in the ordinary gathering. The determination on the part of the Council to remain at the Drill Hall for a second year needs a lot of justification, and so far that justification has been lacking. Perhaps when the afternoon lectures are inaugurated more interest may be shown by the general public, as well as by the Fellows, in the meetings. If such be the case, we shall have to see a vastly increased attendance to what was found during the year which has passed.

Richmond Park Again.—It was but the other day the nation had to arise and save Richmond Park, with its noble trees and grand expanses of verdure, from the grasp of the vandalistic pot-hunter. But for a powerful protest the glades and woods of that grand demesne might have already been resonant with the crack of the volunteer's rifle, and fouled by the vulgarities of a Wimbledon shooting-match. Now, again, the minds of the local dwellers are stirred because some royal axe is laid to the roots of grand old trees. At least it is said that the Oaks thus being so ruthlessly felled are grand old trees; and if they are, they can as ill be spared or their places as indifferently filled, as can some grand old men. The plea for this slaughter of Quercus robur is that an avenue of young Chestnut trees is to be planted. Avenues at the best are formal intrusions into sylvan scenery, and we hope the Richmond protesters will, in saving the grand old Oaks, also save the Park from the wretched cockneyism of having a Chestnut avenue.

Mr. Henry Page is Feted.—But the other week we reported the return, after a sharp contest, of Mr. Henry Page, the well-known market florist and Cyclamen grower of Teddington, as a member of the Middlesex County Council. That our esteemed counsellor is a prophet in his own locality has been fully evidenced by the fact that his neighbours—to the number of some 250 persons—invited him last week to a grand spread at the Teddington Town Hall, and made much of him. The oratory was of the usual post-prandial order, and we did not note that Mr. Page expresssd any particular intention to do anything special on the County Council for the horticultural profession, or even for the particular section which he represents. But the audience was a mixed one, and Teddington has mixed interests, therefore we feel no doubt but that, should opportunity offer, Mr. Page will be as ready to fight for horticultural interests as for any other.

The Market Question.—The London County Council has appointed a committee from its body to inquire into the very important question of the market accommodation of the metropolis. That is taking up the line for which we have contended, as it is obvious that with the enormous population found in its governmental area, the feeding of the people cheaply and easily is a problem well worthy of elucidation. London has so few municipal markets, that it stands out in this respect in marked contrast to other towns, where municipal government, being actual and real, and in touch with the requirements of the people, has brought into existence the needful market accommodation of every description. In no particular branch of the food supply is there greater need for abundant market accommodation than in connection with vegetables and fruits of every description.

The Chiswick Manure Trials.—We might write a dirge over the failure of the proposed artificial manure trials at Chiswick, with their preposterous £10 entrance fees, but wish to spare the feelings of the ingenious person who proposed them, and whose enthusiastic aspirations have thus come so disastrously to grief. The Council of the Royal Horticultural Society will hardly show much deference to the opinions of Utopian advisers henceforth. Then there is this pleasant consolation found in the failure in question, that a valuable area of soil will be much better applied in the interests of horticulture in almost any other way than in growing Turnips and Cabbages, fed with all sorts of artificial compounds. Any gardener can do that much for himself if he desires, and with so much better results to himself because of the tests applied to his own garden soil, that it seems absurd to imagine a trial of the kind named could be of any practical service to horticulture.

Gardening Engagement.—Mr. C. Terry, for the past seven years foreman to Mr. Elphinstone, Shipley Hall Gardens, near Derby, has been engaged to succeed Mr. Joshua Atkins as gardener to Lord Egerton, Tatton Park, Knutsford.

Blenheim Palace Gardens.—We understand that the Duke of Marlborough has given permission for the gardens at Blenheim to be opened to the public on the two days in May next when the annual exhibition of the Oxfordshire Agricultural Society will be held at Woodstock. A charge will be made for admission, in aid of the Gardeners' Orphan Fund.

Royal Caledonian Horticultural Society.—We are requested to state that the exhibitions of this society for the current year will be held on the following dates:—April 3rd and 4th; July 10th and 11th; and September 11th and 12th.

The Gardeners' Royal Benevolent Institution.—We are pleased to hear that under the will of the late John Rylands, Esq., of Longford Hall, Stretford, Manchester, this deserving Institution comes in for a legacy of £500. The recent announcement as to the manner in which the Jubilee of the Institution is to be celebrated having brought numerous inquiries on the subject, we are requested to say that the collecting cards will be issued next week. For so good a cause we hope the strenuous efforts of Mr. Cutler will be well backed up by our gardening friends.

National Chrysanthemum Society: Election of a President.—At the adjourned meeting, held at Anderton's Hotel on the 28th ult., over which Mr. E. C. Jukes presided, Lord Brooke, M.P., Easton Lodge, Dunmow, Essex, was unanimously elected president of the society. The following noblemen and gentlemen were at the same time elected vice-presidents:—The Right Hon. Lord Lytton, Knebworth, Herts; Lord Ebury, Moor Park, Rickmansworth; Sir Edwin Saunders, Wimbledon, S.W.; Sir Guyer Hunter, M.P., Dr. Hogg, J. Wormald, Esq., E. Saunderson, Esq., Leopold de Rothschild, Esq., and Sir Lewis Pelly, M.P.

The Nursery and Seed Trade Association, Limited.—The annual general meeting of the members of this association will be held at the offices, 25, Old Jewry, E.C., on Monday next, at 5.30 p.m. precisely, when the report of the committee will be submitted for adoption, and the officers and committee will be elected for the current year. The meeting will, at its close, be made special, for the purpose of considering a motion by Mr. Harrison (Leicester) to omit the word "January" in the sixth line of paragraph 6 of the Articles of Association, and substitute therefor the word "April," the object being to alter the date of the annual meeting to a time more convenient to members. The annual dinner will be held at the Guildhall Tavern on the same day at 7 o'clock.

The Edmonton Concert for the Gardeners' Orphan Fund, which was held on the 28th ult., was, we are pleased to hear, a great success. It is doubtful if the Edmonton Town Hall ever looked prettier than it did on this occasion, for it was most handsomely decorated

with flowering and fine-foliaged plants by the market growers, of which the neighbourhood contains some of the most noted in the metropolitan area. The Hall was crowded, the entertainment first-class in every respect, and the organisation of Mr. H. B. May and his friends, everything that could be desired. We shall, no doubt, soon hear that the fund has considerably benefited by Mr. May's good-natured act.

Large-rooted Parsley Improved.—The subject of this note has been known on the Continent at least for a great many years. It is merely a variety of the common Parsley, with a large fleshy tapering root resembling that of the Altringham Carrot of fair average size. Seeds may be sown in the ordinary way in deep, rich, well-cultivated soil such as that from which a good crop of Carrots, Parsnips, or Beet would be expected. It has the same foliage and the same qualities as ordinary Parsley, and Mr. F. Burvenich, sen., says of it in the *Bulletin d'Arboriculture, de Floriculture, &c.*, that the leaves may be utilised during the course of summer without any sensible detriment to the proper development of the fleshy root which comes in valuable for use in winter. At that period, when there is a dearth of fresh Parsley, the fleshy roots may be lifted and planted in a bed of a forcing pit, in the same manner as other roots are treated. Successive cuttings of the leaves may be obtained in this way, and prove invaluable to gardeners in this country who have a difficulty in obtaining a supply of this useful vegetable. Amateurs may also grow it as easily as the common kinds.

PAPAVER ORIENTALE. (SEE P. 437.)

THE ROSE GARDEN.

TEA ROSES ON THEIR OWN ROOTS.—III.

HITHERTO I have considered the propagation of the Tea Rose by cuttings, and their ultimato success as established plants in pots, fit either for further use as pot plants or for planting out, as the case may be. Before we go farther it will perhaps be as well to consider the effects of mildew on the plants, its cause, prevention, and cure. That mildew attacks the Rose in all its stages of growth, both in spring, summer, and autumn, is a fact only too patent to the cultivator with a quantity under his charge. Its causes are not far to seek, but its absolute cure has baffled the best growers, and a good method of prevention would beat all the best nostrums yet put before the public for its destruction.

That prevention would be better than cure in this case is certain, because the foliage would be free to perform its functions, whereas when mildew attacks the young growth, this function is sadly impaired. Mildew is at once visible on the general appearance of the plant, both in wood and leaf, and disfigurement of the foliage takes place that cannot be easily eradicated—that is, not until other growth has been made.

The appearance of mildew is attributable to but very few causes, and one of them is the variable changes of the atmosphere in the course of a week—a sudden chill from what has previously been a high temparature, with cold winds prevailing, combined with bad ventilation. This is a frequent cause. Another and certain cause is drought at the roots, which has the effect of making the plant become less vigorous than what it should be, opening out a means to the attack of parasitical or insect life. Mildew rarely attacks the Rose until one or the other of the above causes have arisen to lay the plants open to the invasion of the enemy. It is seldom that it appears until we begin to get some power from the sun, which causes ventilation to have to be put on the houses, thereby drying the plants up quicker than they otherwise would do if no air were put on. Therefore it behoves us to consider if this cause cannot to some extent be mitigated. If the plants are in a nice growing condition during March and April—a time when sudden outbursts of sun and cold wind predominate—it is necessary for a man to have all his wits about him to watch the weather and attend to the ventilation of glass structures in a proper and careful manner. It is a stupid idea for a person to throw the doors of greenhouses wide open, because a sudden outburst of sun takes place during these months. Nothing worse could possibly be done, as the plants at once get a sudden cooling that is tantamount to us mortals catching a bad cold.

The door at all times in the spring of the year should be kept shut, giving ventilation by side shutters at the bottom of the house and over the hot-water pipes, with a slight easement on the top ventilators. If strong winds prevail, so that this ventilation causes a cold current through the house, my advice is, keep your ventilators shut and stop your valves, so that the fire heat may be properly checked, trusting to the sun to give enough warmth for a few hours, being careful to turn the heat on again in time to prevent the house coming anything near what one may term clammy.

The cause of mildew appearing from drought is to be avoided by careful watering with water at an equable temperature suitable to the house, and with proper care in the manner of ventilating the structure in which the Roses are grown.

As a general rule Roses like heat, and appear to advantage when growing in a good moist heat and in a good light house, where the floors can be freely damped; and where you may see the edges of the leaves hanging with dew-drops in the early morning, then you may conclude your Roses are doing well, and there mildew does not appear until the ventilation is brought into use, to give, in many cases, a sudden check to the temperature of the house. I am therefore of opinion that where the heat can be slackened, it is preferable to giving so much air during the early spring months of the year. But even in the best regulated families accidents will occur and mildew will get on the plants, for in many places this matter of ventilation, &c., has to be trusted to young men in charge, and sometimes their minds are not quite so attentive to their duties as they might be, and the mildew is in and all over the place before anyone is aware of its presence.

Plenty of remedies are advertised to destroy mildew, and probably some kill it better than others, but whatever remedy kills it, the disfigurement of the foliage remains until new growth has again been made, as previously stated. If, therefore, prevention is the best remedy, it is worth while trying to avoid the evil than having to kill or cure after you have got it. If by attention to ventilation and watering the evil can be avoided, it must be of more importance and more benefit to the well-being of the plants to keep mildew from them; at any rate, during the time they are making a quantity of young growth.—*W. G.*

ON WATERING PLANTS.*

THERE is, perhaps, no other operation in the whole art of gardening which is so important to master as the principles of watering. In order to try and make this matter clear, I will first mention a few of the more important functions which water performs, or brings about in the plant. First of all, let us remember that the essential living principle of plants (the protoplasm) cannot exist without water, even when in its most dormant condition, such as in seeds, bulbs, &c. Neither can it grow, nor in fact move, and show signs of life. Indeed, water is an inseparable constituent of living things; and most important to remember that plants take up all their food in either a liquid or gaseous state, the former by the roots, the other, as before-mentioned, by the leaves and other aërial parts of the plant. Moreover, there is a certain relationship between their amount of absorption—that is, a plant may have a plentiful supply of the gaseous constituent, but without the liquid. This of itself is of little avail to the plant without water to carry and distribute throughout its system the newly-formed products; indeed, for the time being they become part and parcel of the plant itself. But what is most important is that, with the exception of carbon, the other elements which are required by plants are all introduced through the agency of water by the roots. All other things being equal, the amount of any given element taken up by the plant bears individually a direct relationship to the amount of water absorbed.

It will easily be seen that this is the case, when we remember that in the vapour or water which leaves the plant in the process of transpiration or evaporation, it is practically pure water—that is to say, the various salts which may have entered the plant with it in solution have been left behind, and become part of the plant; or what is for all practical purposes the same thing, they may have been stored up in some compound form as a reserve material. Indeed, as before mentioned, exposure to light, to encourage transpiration, was said to be favourable to the ripening of the wood. It therefore follows that without a sufficient supply of water they will necessarily be imperfectly ripened, as without the proper proportion of all the elements which go to make up the perfect plant, it is impossible for true maturation to take place. Instances of this may often be seen in fruit trees grown under glass, and which have not had sufficient water allowed them. In the case of Peaches, the flower buds, instead of developing into strong healthy flower, fall off, or drop, as it is called. Sometimes this occurs to such an extent that the crop is a failure, but it may be only partial, if the process has not been carried to an extreme. If this case should happen to a Grape Vine, then young growths appear without bunches, or they may be small and weakly, and so on. In other plants, say in a Pineapple, the best fruits are produced without shading, and for the simple reason that, as they then pass more water through their systems, there are more ash constituents and nitrogen taken up by the plants. I might just mention that this process of maturation is really the point upon which the success or failure of fruit-growing depends, and this leads to the conclusion that fruit-growing outdoors (with a few exceptions) must in a fitful climate like ours be something near to a game of chance or speculation. Could we but bring the clearer skies of Australia, or of the Continent, or America, to illuminate our lands, which are equally as well adapted for fruit-growing as any, then something like regularity in success might be anticipated. It amounts to nothing more than that the various forces of which we have been speaking, are more active in other countries during the growing period than with us, and hence it is that we are dependent on foreign lands for supplies of fruit. As a further proof that it is so, when we are visited by a winter approaching in severity to theirs, we suffer much more than the countries mentioned, the maturation process not having been so complete.

As this is what takes place in large-fruiting plants, it is reasonable to infer that the same holds good of smaller subjects grown in pots. But in the case of pots, a new factor is brought to bear upon the matter. The roots

* Extracted from a paper read by Mr. Frank Ross, Pendell Court Gardens, at a recent meeting of the Chiswick Gardeners' Mutual Improvement Association.

are now enclosed and surrounded with desiccating and drying influences, to counteract which requires mnch more attention than with trees planted out, inasmuch as, owing to the smaller mass of soil employed, there is more difficulty in maintaining a uniform degree of moisture. We have hitherto spoken of water as being taken up by the roots, which is approximately true; but it does not enter the plant as if it were poured in at the ends of so many open tubes, it is only by a system of percolation or capillary attraction that it gains access. Indeed, if the roots of land plants are surrounded by any great thickness of water they ultimately perish—that is what happens when a plant becomes what we call water-logged. And it is this condition of things which perplexes beginners. They may be told that this plant is too wet, and that the next one is too dry. The beginner, to try and get over this difficulty, gives only a little at a time, and often, which usually results in either of two conditions—the plant becomes unhealthy by reason of the roots being in a medium at saturation point, or (and this is the more common) the roots at the bottom of the pots die for want of water.

This little-at-a-time is wrong, for more reasons than one. In the case of too much water, the soil does not get aërated. The consequence is, not only is fresh air prevented from entering and performing its functions, but the want of it induces the formation of deleterious organic acids, iu the presence of which plants do not thrive. With too little the plant has not enough to perform the ordinary functions of life and permit of growth. Therefore, obviously the best course to pursue is never to let the plant get over-dry, or the reverse. A little practice will soon teach the proper degree of dryness. The good old-fashioned plan of rapping the pot and judging by the sound is the simplest and oue of the safest means of ascertaining the condition of the roots. Having satisfied oneself that water is required, then give sufficient to permeate the whole mass until it rnns out at the bottom of the pot. But make sure that the whole mass is equally moist throughout. This procedure, while supplying the necessary amonnt of moisture, also aërates and sweetens the soil, inasmuch as the pores of the soil are first filled with water, which, as it runs off, draws in fresh air to fill the vacancy thus created. This is of immense advantage to the plant, as the water now left will be iu such a finely-divided, filmy state, that the roots are able to lay hold of it rapidly. In this moist condition of the soil, all the beneficial changes which are brought about by contact with fresh air, such as oxidising, disintegrating, and rendering soluble part of the food reserves contained in the soil, are in a most active state. Therefore we cannot come to any other conclusion than that in watering plants in pots the proper course is not to give water until it is required, but when it is done to do it thoroughly, and give no more until the plant shows signs of becoming dry again.

In growing plants in pots, it is of importance to keep the surrounding air as moist as is consistent with ventilation, where the medium in which they are growing is dry. Much may be done to ameliorate this by standing them on a moist surface, or plunging where practicable; but where the pots required are large, then wood is better than pottery-ware. It may seem odd to say that in by far the greater majority of plants which have come under my notice, that have been injnred by wrong conditions of watering, are those that have not had enough. If the drainage is good, it is surprising what a large amount will be required by a batch of plants in vigorous health. I have also seen batches of plants, which had got into bad condition, brought back to health and vigour, when nothing else was done than paying more attention to maintaining a constant and more uniform supply of water—the plants not even being moved. It will therefore be seen that to be an adept in watering plants is no mean qualification for a gardener. Unfortunately, there is no golden rule which can be applied equally to the multitudinous and exceedingly varied plants with which the gardener has to deal; but, speaking generally, plants of a soft texture reqnire more water than those which have hard wiry leaves and are of a woody character. Not infrequently something may be learned of the plant's requirements by external characters. For example, those with thick fleshy leaves or stems—such as Aloes, Cactuses, Euphorbias, and Mesembryanthemums—owing to the great quantity of reserve moistnre in themselves, do not readily suffer from drought. On the contrary, periods of drought are beneficial to them, although when in active growth they are thirsty. Similar to these are bulbs of all kinds, to which a superabnndance of water, when active growth has ceased, wonld do more harm than good, and in many instances the drier they are the better. Plants that have hairy leaves, or those that have special depositions of matter—such as Gesneraceæ in the first, and Bromeliads in the last—have generally a thin coating of white furfuraceous matter on the leaves, and are impatient of excess of water. Then there is a class of plants, pecnliar to Australia and New Zealand, whose leaves are replaced by flattened branchlets. Many of these are difficult to manage, as they are impatient of either excess at the root or in the air. In all cases, the great point is to water before the plants show signs of distress. Thus it is mnch better to anticipate events than to be late. Plants nnder glass are liable to suffer sooner than wonld the same planted outside, where it is rare to find the soil absolutely dry to any great depth; besides, in many cases, they would draw moisture from a lower depth. But this, with plants in pots, would be an impossibility. In extraordinary emergencies it is necessary to surround the pot with a moist atmosphere, as well as to give water at the root.

THE ASSESSMENT OF NURSERIES TO THE POOR'S RATE.

We take the following important statements on this subject from the report of the committee of the Nursery and Seed Trade Association, to be presented at the annual meeting on Monday next:—

"The question as to the assessment of nurseries to the poor's rate has again received the attention of the committee. The opinion of an eminent connsel has been taken on the subject, and the following were the questions submitted to him, and his answers thereto.

Q. Should the assessment be made on the amount of the rent reserved by the lease, as representing the "annual value"?

A. No; the annual rent is only evidence in the case as to the proper "annual value," which is that named in the 6 and 7 William IV., cap. 96; sec. 1., and no other.

Q. Does the lessor's right (under the Agricultural Holdings' Acts, 1875 and 1883) of purchase, in priority to others, of greenhouses erected by the lessee affect the question as to the aunual value?

A. No.

Q. Should the "annual value" be taken as applicable to the lessee only; if so, by what means should the "annual valuc" be ascertained?

A. The proper test is, what would be the rent which the hypothetical tenant mentioned in the Act of William IV., would give for the premises such as they are, and nsed as they are. The deductions to be made are also named in the Act.

Q. Are greenhouses to be considered as implements of trade, or as trade fixtures?

A. In my opinion they are clearly trade fixtures (*See Penton* v. *Robart, Woodfalls' landlord and tenant, chap.* 16; *sec.* 8; *and refer also to* 14 *and* 15, *Vic. cap.* 25; *sec.* 3).

Q. What is the proper amount at which the assessment should be made?

A. The question of amount is a pure question of fact, and must be fixed in accordance with the Act of William IV. It is quite clear that chattels and trade fixtures cannot be rated as such (*See* 3 *and* 4 *Vic., c.*, 89, *and Chidley* v. *West Ham Local Board*), but it is quite another question whether they should not be taken into account as enhancing the value of premises or tenements. In my opinion the greenhouses must be taken into account for the purpose of arriving at the rateable value of these nursery gardens, aud taken into account as enhancing the value of the hereditaments in question. And the question will be (subject to the statutory declarations to be made), what might the premises with these greenhouses upon them be reasonably expected to let at from year to year, free of all usual tenants' rates and taxes. This point is completely concluded by authority (*See Tyne Boiler Works* v. *Tynemouth Union; Laing* v. *Bishopwearmouth Local Board; Regina* v. *Lee; Regina* v. *Quest; Regina* v. *Haslam and Regina* v. *Wells*). The fact that the land is partially consumed in the process of gardening, and selling makes no difference (*See Regina* v. *Westbrook*). And the fact that such consumption has to be replaced, is important only as bearing on the question of deductions. As the £50 (the rent of the nursery in question) is paid for the grouuds, without the greenhouses it is obviously not the rateable value.

With regard, however, to the local rates, the matter stands on a different basis. By the Public Health Act, 1875, "the occupier of any lands used as market gardens or nnrsery grounds, shall be assessed in respect of the same in the proportion of oue-fourth part only of the net annual value thereof."

It has been decided by the Court of Appeal, that land with greenhouses upon it used for the purpose of growing fruit, vegetables, &c., for the market, constitutes a market garden or nursery ground within the meaning of the Act. Notwithstanding this decision, however, it is still the practice of several local authorities to assess nurserymen on the fnll net annual valne. Your committee recommend the members who are thus assessed to commnnicate with the secretary, in order that steps may be taken to reduce the assessments. To illustrate the matter, assnming the assessment to the poor to be £50, and the local rate 6*d.* in the £, the nnrsery grounds shonld be assessed at one-fourth of the assessment to the poor (£50), *i.e.*, £12 10*s.* 0*d.*, and the rate levied at 6*d.* in the £ on that amount."

CHRYSANTHEMUM NOTES.

It was with mnch pleasure that I read the notes on the prominent Chrysanthemums of 1888, by your correspondent "P.," which appeared in The Gardening World of February 23rd. I can endorse much that "P." said respecting some of the varieties mentioned; but, generally speaking, I do not consider that he has attached snfficient importance to some of the valuable incurved varieties—Miss M. A. Haggas, to wit. This is a valuable incurved variety, obtained as a sport from Mrs. Heale, from which it differs in the flowers being of a clear yellow colour. It was certificated by the N. C. S. last season, and was regarded with much favour by the large body of experts present as one of the greatest acquisitions of the season to its class. H. Shoesmith, I nnderstand, originated as a sport from Mr. Bunn, and certainly it was last season awarded a First Class Certificate by the Floral Committee of the N. C. S. as Bronze Mr. Bunn. It has flowers similar in size and form to Mr. Bunn, bnt the colonr is a rich orange-shaded fawn. [It is a sport from Golden Beverley.—Ed.]

The new varieties exhibited at the Hull Chrysanthemnm Show included a fine bronze sport from Mr. Bunn, shown by Mr. Smith, Paull, near Hull. This was provisionally named Bronze Mr. Bunn, and awarded a First Class Certificate. It is similar in colour to H. Shoesmith, but of a more golden hne. Perle Precieuse (Délaux, 1887), is a perfect incurved variety with high centre; colour bright purple, shaded rose, with very broad petals; this, in my opinion, is a very valuable variety, and a fine addition to its class. Alfred Lyne: unless this variety differs very much from its parent, Novelty, it will never make an exhibition variety. In passing, I think a word might be said in reference to the slow progress made in raising new incurved varieties from seed; the subject is often talked about, but no one seems to be enterprising enongh to make the attempt. There is yet ample room for a greater diversity of colour on the lines of more brilliancy and more decided shades of crimson, pink, and deep rich purple, with the size aud form of the Queen family.

There are some valuable varieties in the other sections which call for special mention, inasmuch as that they came well to the front last season, viz., Viel d'Or, old gold colour, a grand flower, after the style of Golden Dragon, but a little narrower in the petal, a mnch fuller flower. Magicienne (Japanese), an immense show flower of a perfectly novel colour, fawn, shaded bronze and yellow; it well merits the Certificate obtained for it by Mr. R. Owen last season. Charles Sharman (syn. Pres. Spalding) must be mentioned as a great improvement upon the variety Sultan and others of the same type; the flowers are large and of a purplish-rose colour. Madame Baco is another variety likely to be more generally grown for the exhibition table this coming season; its colour is a very pleasant light piuk, of fine build and size. Mons. Bernard not only retains its foliage well, but also its flowers; one great merit the blooms possess, namely, good keeping qualities, for I have good reason to know that one plant was exhibited at five different exhibitions last season, after which it did not seem mnch the worse. I venture to say that this will hold its own, both as a cut flower for exhibitiou and as a plant for grouping with any other variety in cnltivation. Mons. Bergman (Délaux) is a bright golden yellow, after the style of Mr. Garnar, but richer and much deeper in colour. Madame Louise Leroy, oue of this season's novelties, is an excellent addition to the white varieties, the flowers being large, full, very neat, and remarkable for their purity. This I consider one of the best continental novelties of last season.

Stanstead White combines all the good qualities necessary to make it a favourite, and I shall be surprised if it does not occupy a much higher position as an exhibition variety next season. In a contemporary, a few weeks ago, Mr. Molyneux remarked that Stanstead White was spoken of very highly by some persons, but that he could never see much in it to admire. I had the pleasure of seeing it exhibited at

some of the leading shows last season, and at the Kent County Chrysanthemum Show. Mr. F. Moore, Blendon Hall Gardens, Bexley, Kent, exhibited a bloom which was adjudged the premier Japanese flower in the show. It was specially admired and highly spoken of at that exhibition, and when my friend Mr. Molyneux sees such a magnificent bloom, I venture to say he will alter his opinion.—*Observer.*

A CENTURY OF PROGRESS IN FLORICULTURE.

At the recent annual meeting of the Ealing Microscopical and Natural History Society, the president, the Rev. George Henslow, delivered a lecture, of which the above was the title. Alluding first to the Pelargonium, Mr. Henslow observed that its home was the Cape of Good Hope. Of species which played an important part in modern floriculture, the first to be imported were Zonale in 1710, and Inquinans in 1714, the latter being cultivated for its variegated foliage. The Ivy-leaved Pelargonium came over in 1701, and of this a print was shown, the first drawing of the flower having been made in 1787. Other species were imported sparingly during the early part of the eighteenth century. These were all small, and the gardeners proceeded to hybridise. They would take two forms and cross them, and the result invariably was an improvement. At the beginning of this century one came over which laid the foundation of all our large-flowered and fancy Pelargoniums, and this was called the Pelargonium grandiflorum. The gardeners now took the P. grandiflorum and some smaller ones, and crossed them with numerous hybrids, and subsequent crosses had been raised since, but those first formed early in the century were insignificant, and probably now lost to the cultivator. As to the form of the flower, the original shape was mostly very irregular, the posterior petals being often much the larger, while the stamens were declinate, the sub-genus (Horea) having lost the anterior petal. This was almost an invariable rule, and he offered a theory to account for it. He had given it once in that room, and it appeared in his book on the Structure of Flowers. When the insects went to flowers they must rest upon them, and as a rule they alighted on the front petals. If the flower stood out horizontally, they came to the front, and rested on the lower petals, and whenever they did that —it did not matter what the flower was—the petal was invariably enlarged so that it formed an excellent landing place for the insect; but supposing there was no petal underneath, and they stood on the stamens, their weight was no longer on the front petals, and only the posterior petals behind the nectary were stimulated to extra growth. In other words, when the insects alighted on the petals in front they were always larger, and when on the stamens, and not on the petals, they were always smaller. This theory also accounted for mimetic resemblances in flowers, in that similar insects visiting different flowers the latter responded to them, and so gave rise to forms having a strong external resemblance to one another, but with no real affinity. The lecturer came next to

The Fuchsia.

The first introduction of the flower was not, he said, exactly known. The Fuchsia they saw in their gardens one might see in Cornwall forming hedges, and even trees; it had a long pendulous flower, and was known as Fuchsia coccinea. But lately it had been found that this was not entitled to the name at all. It was regarded as having been introduced in 1788. All the Fuchsias came from America, with one or two exceptions from New Zealand. Sir Joseph Hooker found this was not the true Fuchsia coccinea, which came over about the same time, if not before, and he figured it in the *Botanical Magazine* some years ago. The Fuchsia coccinea was really the Fuchsia Magellanica, and came from the south of Chili, and was hardy in the warmer parts of great Britain. The president showed specimens of it on a sheet of paper, which he said had belonged to the Professor of Botany at Cambridge preceding his father. Several other varieties came over at the beginning of this century. The Fuchsia Magellanica, however, from the Straits of Magellan, was exactly now as it was then, not having, it seemed, altered at all. He mentioned as an instance of curious crossing, the Fuchsia fulgens, which came over from Brazil in 1837, and which was crossed with F. globosa, and by this means had been raised one of the best hybrids of those days—Fuchsia Standishii, this being between two such extremely different species as F. fulgens and F. globosa.

The Calceolaria

Was next dealt with, it being observed that this genus, like the Fuchsia, had its home in South America, and came over at the beginning of this century, and it was curious that Calceolarias were also found in New Zealand as well as Fuchsias. Having shown how four species were introduced in 1822 with yellow flowers, and a purple followed in 1827, the lecturer went on to say that in 1831 Calceolaria crenatiflora was introduced, having a yellow corolla spotted with crimson, and a deeply-crenated "slipper." This species, as well as the Calceolaria integrifolia, and its varieties, angustifolia and viscosissima, imported in 1831, laid the foundation of the subsequent innumerable forms. The results of the crossing of these species were that either yellow or purple became the ground colour, the other forming a large spot upon it, or else they combined, producing scarlet, &c. The additional aid afforded by the Calceolaria crenatiflora furnished the variously-spotted forms now in cultivation. The shape of the corolla first aimed at was circular, but of late years this had passed into a more ovoid type, while the size had increased enormously, so that by calculating the cubic capacity of one of Messrs. Carter's Japanese and Victoria Calceolarias, and comparing it, he found that it contained about twelve times the volume of the slipper of the original species. As to

Petunias,

The three species which contributed to the formation of our present garden varieties were Petunia violacea (purple), 1831; P. nyctaginiflora (white), 1823; and P. bicolor, all coming from Brazil. The last species was the origin of hybrids of a tender nature, and originated the dark-mouthed and streaked kinds, having been crossed with the Petunia nyctaginiflora. The remarkable fact was pointed out that for many years no double specimens could be raised, but in one year they appeared in France, Germany, and England at once.

The Dahlia

Next occupied attention, it being remarked that this was the centenary of the flower, which was found growing wild by Humboldt, at an elevation of from 4,800 to 5,600 ft., in sandy meadows in Mexico. It had long been grown in Mexican gardens, and was first introduced to Madrid in 1789. It was taken to France in 1800, and was brought to England by the Marchioness of Bute, in 1789. But it was lost, and Lady Holland re-introduced it in 1804, from Paris. All the varieties had arisen since 1802 in France, and since 1804 in England. The first indication of doubling appeared to have been in a semi-double variety produced in Madrid, in 1790. A great number of sorts was introduced into England, after the war, from France, subsequent to 1814. It was first figured in the *Botanical Magazine* in 1814, both single and double. At that time only five varieties were known, viz., red, purple, lilac, pale, and yellowish. In 1879 Mr. Cannell, of Swanley, introduced a new form which he called "Cactus" Dahlias, and the Cactus Dahlia of to-day was but little different from the first kind of doubling known. The dwarf kinds were raised in Germany previous to 1850, but not introduced into England till about 1860. In speaking of

Chrysanthemums,

The lecturer said according to Hooker we had three species in Great Britain — the Chrysanthemum segetum, the Corn Marigold; Chrysanthemum leucanthemum, the Ox-eye Daisy; and Chrysanthemum parthenium, Feather-few; while Bentham would include species of Matricaria. The two species furnishing the ordinary Chrysanthemums were the Chrysanthemum indicum of Linnæus, and Chrysanthemum sinense of Sabine. These had been cultivated for ages in China and Japan, but the first notice of their European culture appeared to have been by Breyn, of Dantzic, in 1688. A plant of Chrysanthemum indicum, with small and single yellow flowers, was grown in the Chelsea garden in 1764, but lost. Blanchard, in 1789, grew a white, purple, and violet-coloured kind at Marseilles; from him Mr. Colville, of Chelsea, procured the purple sort, and grew it for the first time in England, in 1795. In 1846, Mr. Fortune introduced the two small-flowering kinds, called the Chusan Daisy and Chinese minimum, which probably originated from Chrysanthemum indicum, and were now the source of all the Pompons. In 1860, no less than 750 varieties were known. In that year Mr. Fortune introduced the long-pointed petalled Japanese forms. He procured several varieties, and left them at Shanghai while he went to Pekin; but on his return, he found they had perished, with the exception of two or three. These he sent over to Mr. Salter, of Hammersmith, who cultivated them and got them to grow, and from seeds raised the same quaint forms which Mr. Fortune had lost. The curious Japanese forms one saw now were the results of the species that came over in 1861, and the size had much increased. We had probably not got to the limit of the Chrysanthemum yet.

The Hyacinth

Was last touched upon, it being shown that a wild form of this flower grew in this country in 1580, and was figured in 1597 by Gerarde, and it was remarkably like the wild form of the present day. It was a native of the Levant, and abundant about Aleppo and Bagdad, growing also near Nice and Toulon. Singles only were cultivated at first, and it was not till the beginning of the last century that doubles were raised. In 1842, Dr. Lindley observed that a yellow Hyacinth was an impossibility, but a few years later there were plenty of yellow Hyacinths. Where the first yellow one came from he did not know, but it broke through the old theory, and we might upon the same principle some day perhaps have a blue Dahlia, and a blue Rose even! although these had resisted all efforts at present.

NOTES FROM SCOTLAND.

Fyvie Horticultural Association. — The annual spring show in connection with this society was held in the Town Hall, Fyvie, Aberdeenshire, on Tuesday and Wednesday, 26th and 27th February, and was attended with great success. Although it is only four years since these spring shows were revived, they have annually been growing in point of interest and importance. There was a very pretty show of early flowers. To have seen the tables set apart for the lovely and delicate blooms, gave the onlooker the impression that grim winter had fled, and that the pleasant days of spring had come. The Hyacinths were specially rich and fine. Mr. James Beattie, Gordonstown, showed some beauties, as also Mr. A. Milne, of Fyvie Station. Mr. Beattie was likewise very successful with Tulips, Narcissus, Hepatica, Ferns, and Cinerarias. Mr. Robert Lawrence, Mains of Fyvie, was first for Hellebores, Primroses, Hepaticas, Crocus, and Snowdrops. Mr. A. Smith, Beach Cottage, Rothienorman, had similar honours for Lily of the Valley, &c. Some excellent Leeks were shown, the first prize going to a grand lot from the Manse Gardens. Mr. Beattie, Gordonstown, was next in order. Onions were good, Messrs. A. Milne, Fyvie; James Allan, Templand; and Dr. Milne, The Manse, being the most successful exhibitors. Potatos were a fair display, Mr. A. Smith, Rothienorman, and Mr. George Milne, Millbrex, taking chief honours. The first prize for the best basket of vegetables went to Mr. A. Milne, Fyvie Station; Dr. Milne, The Manse, being second. Mr. Milne exhibited a sample of the Cetewayo Potato, kidney shaped, rather deep in the eyes, and black-fleshed. The show was well patronised during the two days it remained open. The whole of the arrangements were carried out in first-class style by the courteous and energetic secretary, Mr. Adam Mackie.

Clematis indivisa at Melville Castle.—In the conservatory at Melville Castle, Midlothian, some magnificent examples may now be seen of Clematis indivisa and C. i. lobata, which stand unrivalled as greenhouse climbers flowering at this season. During the past fortnight the roof has been literally a canopy of white blossoms, many of the flowering shoots being from 10 ft. to 15 ft. long. Both in flower and foliage the species and variety are very distinct, and it is difficult to say which is the most admired. The individual flowers of C. indivisa are certainly very large and pure, but, on the other hand, C. i. lobata has a greater profusion of blooms, and seen in a mass are probably more telling. In any case there can only be one opinion as to the merits of both plants for early spring flowering.—*P. D.*

Goodyera discolor.—Comparatively few of the Goodyeras are to be met with under cultivation, and those few are generally grown for the beauty of their foliage. That under notice is a gem amongst its kind, and may be considered both as a foliage and flowering plant. The ovate-elliptic leaves are produced in rosettes arising from prostrate or creeping fleshy rhizomes, by the division of which the plant may be propagated. They are of a dark velvety green, with from one to three more or less interrupted white lines running along them. From the centre of the rosette arises the flower stalk to a height of about 6 ins. or 10 ins., bearing at the top a short raceme of pure white flowers, with the exception of a yellow blotch on the labellum. The latter organ is curiously twisted and slightly bifid at the apex, differing in these respects from the other species of Goodyera. A fine batch of it may be seen in the nursery of Messrs. Hugh Low & Co., Clapton.

FLORICULTURE.

The Florists' Laced Pink.

Our friend Mr. Thurstan is naturally a little disappointed that no tangible results have been seen as yet from the notes that have appeared in your excellent periodical in favour of Laced Pinks. Could not something be done towards reviving the interest in these lovely flowers by the readers of The Gardening World, say by raising a subscription, so that prizes could be offered for competition at a Manchester or London show? The matter really wants taking up by those of our friends who have a little money to spare, and others who have leisure time, which they may be willing to bestow on the cause. I should be pleased to give a small subscription, in order to show how my sympathy goes. Are there not a few Barlows, Horners, and Thurstans in the background, who could be brought to the front? I do not agree with Mr. Thurstan's suggestion to reduce the value of the prizes for Auriculas or Tulips; that, to my mind, would be robbing "Peter to pay Paul," a process not calculated to encourage floriculture. I may add that I am not, nor am I likely to become an exhibitor at any show, as business takes me away from home fully three-parts of the year.—*W. P., Birmingham.*

Potting Carnations.

The frost lasting into the early days of March, and likely to continue, is delaying the work of getting Carnations into their blooming-pots. March may be said to be the month for this work, and in the case of a nursery establishment, where the work falls in in a regular sequence, it can be performed at the proper time, and without difficulty; but in the case of the amateur, who has to do a great deal of the work of his garden at odd times, mainly at intervals snatched from his business, sharp frost in March may seriously delay important work. Mr. Joseph Lakin once told me he began in February, and continued the work as opportunity offered. Depend upon it, early potting is better than late, and as friend Lakin once said, it is better to have the pots full of roots than of soil only; but as Mr. Dodwell points out in his useful book, "some discretion is necessary in potting the different varieties, many requiring plenty of room, and others suffer from over-potting." The general rule he therefore lays down is that the cultivator needs to be guided by the habit of the variety—as, for instance, the plants that are of a robust habit of growth require plenty of root-room, while those of spare growth require less. This is a simple rule, readily understood. Mr. Dodwell lays great stress on *firm potting.* He then sets forth its advantages. In the first place, it saves from the great injury of extreme saturation by heavy rain, and its correlative evil—drought; and further, as soil *well firmed* is not subject to the excessive fluctuations of heat and cold which follow that of a loose texture, and as experience and theory alike teach that successful cultivation depends upon the nearest realisation of an equable temperature, gradually increasing according to the necessities of the plant, and the avoidance of sudden changes from heat to cold, and drought to moisture, firm potting goes far to produce for us these conditions, and therefore I prescribe it." I am quite sure our floricultural G. O. M. is right.—*R. D.*

The Incidence of the Winter.

Just when gardeners were hopeful they had surmounted the chief difficulties of the winter, a spell of keen frosty weather has again set in, and March opens like a lion, and to all appearance provocative of harm to vegetation. In the south of England many things have passed through, and may yet pass through the rigours of the winter with comparative safety; but in the midland counties, and further north, where the climate is moister and colder, it is distressing to see how such things as Violas, Pansies, Sweet Williams, &c., have suffered. The fact is, that owing to the late moist season, with its mild October, the plants never got hardened up to the usual level of their winter endurance, and now that the frost is so persistent, scarcely relaxing its grasp for days together, things are seen to be suffering severely. A hundred thousand sighs are going up from gardeners for settled mild weather. If Mother Nature would only be peaceable, and give us some settled mild weather, then there would be joyous looking forward in the hope and expectation. Late sowing is made a necessity, for the soil is cold, wet, and comparatively unworkable, and seeds germinate badly. The growth of Pea, Onion, and other seeds saved in 1888, are found to be very bad indeed, and gardeners must not blame seedsmen for failures. They, we are quite sure, have done their best in the face of one of the most trying seasons of the past quarter of a century, and fast upon the heels of poor growths comes great scarcity. During the past month the wholesale prices of Scarlet and Painted Lady Runner Beans, and some leading sorts of dwarf French Beans have nearly doubled, and they are not at all likely to come down again at present. Do not be in a hurry to sow. Have the ground in the best possible condition when you do so, and aid nature all you can, being patient and forbearing. This is the best advice I can give to gardeners at the present juncture.—*R. D.*

THE RUBBISH HEAP.

In all gardens, whether large or small, there is always a considerable amount of rubbish to be dealt with in some way or other, but the following remarks will be more applicable to places of some extent than to those of smaller dimensions, where there will often be obstacles in the way to prevent the carrying out of the suggestions I am about to make, on account of the nearness to other dwellings, the inhabitants of which would object to the practice described. That which comes under the general designation of rubbish in gardens consists of the rakings and clippings from shrubberies, decayed vegetable stalks, couch, the trimmings from hedges, old potting soil, and dead plants, the refuse from wood sheds and stack bottoms, and often a miscellaneous mass of other material which can hardly be specified. One only too common practice is to cart everything of this kind into some out-of-the-way place to lay and rot until circumstances may arise which necessitate its removal, when it will often be found a happy hunting ground for Nettles, Couch, Docks, and other noisome weeds, and of little or no use unless well stirred up with a plentiful addition of lime, soot, or salt. A mixture of these with matter of this kind forms an excellent dressing for meadow land where the multitude of annual weed seeds it generally contains do little or no harm. At the best, however, this is a wasteful and injudicious use to make of materials, which, if properly handled, can be converted into a really valuable manure, rich in carbon and phosphates, and the unsightly accumulation of rubbish is reduced to a minimum.

Our own practice is generally to have a fire going, to which everything which can by any possibility be burnt, is taken, and sometimes during the past wet season very unpromising materials were burnt in this way. We sometimes find a little difficulty with men in getting them to start and keep a fire of this kind going properly; a good flaring one, which will quickly burn up any light material, seems more to their taste. To keep a fire going continuously for three months is not half so interesting, and the chances are that unless well looked after, it will go out within a week from the want of proper attention. Our *modus operandi*, when starting a fire, is to get, if possible, a few logs or stumps of trees and a few thick pieces of wood, and pile them up in a cone, surrounding them with the best of the shrub or other prunings, and casing the whole over with shorter material. After setting fire to it, and finding it likely to burn well, commencing at the bottom, we build a wall with the heavier material—such as weeds, couch, &c.—all round and over it, about 1 ft. thick, and as it burns through, more stuff is put on to keep the heat in.

In this manner the mass of material gradually smoulders away, the product being mostly a black mould, with some burnt red earth. We carted near upon twenty loads from one heap in the autumn, most of which had a strong sooty smell, and I may say that the slower the combustion, the better the product. We use it largely when sowing Onions, Carrots, and Spinach, filling in the drills with it after sowing the seeds, and find it a preventative to the attacks of insects, a good manure, and of real service in keeping crops clean from weeds, because there are no seeds of the latter in it, and it forms a mark till after the crop is up, indicating where the drills are, and rendering the operation of hoeing between the rows much easier and more expeditious.

Very often, too, we use it in our mixtures for the potting bench, believing that there is no soft-wooded section of plants which is not benefited by a judicious use of it. It acts both as a manure, and mechanically in keeping the soil open. Another use for it is as a dressing combined with lime and soot for Vine borders, and if used for earth closets, the combination is one of the most potent of home-made fertilisers which can be produced.—*W. B. G.*

PROTECTION OF WALL FRUIT TREES FROM SPRING FROSTS.

The season is now at hand when it is necessary to keep a watchful eye upon fruit trees on walls, and to devise some means of protection from spring frosts. There are different methods adopted, but in this case, as often in a great many other things, the simplest is the most economical and best. I remember when I was a young man, under a very able gardener, who was careful and very particular about his fruit trees, as, indeed, he was in everything, I saw a plan adopted which I have never seen practised elsewhere, although it may possibly be adopted in some gardens. He placed some long poles, which reached from the ground to the top of the wall in a slanting position, and securely fastened them there to prevent the wind from moving them, after which he tied some straw bands horizontally from pole to pole, and at distances of about 6 ins. or 8 ins. apart, from the top of the wall to about 4 ft. from the bottom, so as to shelter the whole surface of the trees. He allowed it to remain until all danger from frost was past.

This plan is a very successful one, and during the whole time I was acquainted with him he was always successful with his wall-fruit crops. It has these advantages, that while it protects the trees from frost, it will allow the sun's rays to penetrate to all parts of the trees, and admit of sufficient light and air to keep the blossoms sturdy and vigorous. Another plan is to tie branches of Spruce Fir thinly over all parts of the trees. When this is adopted, it is necessary to tie them very securely, as a strong wind might otherwise blow them off, or cause them to rub against and perhaps break off the spurs or blossoms from the trees. This is a very good and a most ample protection, and will resist many degrees of frost. As the season advances, the fir branches wither, and their leaves will keep dropping off until they become quite bare, thus gradually exposing and hardening off the trees, until at length when the leaves on the fruit trees on the walls become sufficient protection, they can be safely taken off. In most country places, plenty of fir branches can be obtained with very little labour, and nothing better can be had for the purpose of fruit tree protection from spring frosts

There are several mechanical appliances adopted for this purpose, according to the taste or fancy of the operator, and tiffany, canvas, Frigi Domo, and such-like are commonly employed. These are very good in their way, and the only possible objection to them is that they entail a vast amount of labour in putting up, opening, or closing at a season of the year when gardeners are very busy and have plenty of other work to do; whereas in the other methods I have mentioned they are simply put up and taken down once for all, these two operations being all that is necessary each spring.—*Alfred Gaut.*

PAPAVER ORIENTALE, BLUSH QUEEN.

Great strides are now being made in the production of beautiful garden forms of the Oriental Poppy. The species itself is an old inhabitant of our gardens, having been introduced from America in 1714. As evidence of its popularity we find it widely scattered in gardens throughout the country; it owes its popularity to various causes, such as its perennial character, and the fact that, though it ripens seeds freely in this country, it never becomes weedy by the scattering of seeds about the garden, or rather because the latter do not readily germinate when left to themselves. It also forms a bold, vigorous bush, sending up flower stems to the height of 2 ft. or 3 ft., bearing enormous flowers of a brilliant scarlet, with a black blotch at the base of each petal. Varieties are now in cultivation without the black blotch, as well as others showing a considerable variety of tints and shading; but the variety named Blush Queen is one of the most distinct, and must ultimately find its way into most collections of hardy plants. In every respect it agrees with the type, except that we lose the brilliant but glaring scarlet of the flowers, which are here of a pleasing blush tint with a deep purple blotch at the base of each petal. The flowers are therefore much more agreeable to the eye than those of the type; the foliage is bold and deeply cut, and the finest effects are obtained by planting in masses. To Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, the credit is due for raising this, as well as other new varieties of the Oriental Poppy, and to him we are indebted for the opportunity of figuring it. On p. 433 we give an illustration of the ordinary type, P. orientalis,

to show the difference in the flowers and the absence of bracts from the species.

HARDY WALL PLANTS.

In my opinion no collection of outdoor wall plants is complete without at least one plant each of Chimonanthus fragrans, Garrya elliptica and Jasminum nudiflorum. Although possessed of other qualities, the central point of merit is the time of flowering—viz, January and February—a period of the year when outdoor flowers are by no means plentiful. The first mentioned, as the specific name implies, is sweetly scented, and cannot fail to win the encomiums of anyone who happens to be in its presence for the first time. The flowers are of a greenish yellow colour, and are produced on wood of the previous year's growth. Immediately after flowering is the best time to prune it. Cut back to a short spur all shoots not required for extension purposes; but with young plants and others that have not covered their allotted space all leaders may be left intact, nailing or tying them to wider trellising, as the case may be, leaving a space of about 6 ins. between each shoot. During the summer months allow the young growths uninterrupted freedom, simply training the leaders as occasion may require. So treated, the young wood gets thoroughly ripened, and produces flowers in abundance at the proper time.

Garrya elliptica may certainly be said to be a singular-looking shrub when in flower during the months of January and February. The flowers are produced in the form of long drooping catkins of a silvery green colour, from 6 ins. to 9 ins. long, and which in themselves form a pleasing contrast to the dark green ovate-shaped foliage. It is an evergreen subject, and delights in a calcareous soil. It should be grown on a south or west wall, and in pruning or training treat similarly to Chimonanthus.

Jasminum nudiflorum is too well known to need any lengthy comment. It was introduced from China about 1844, and for some time afterwards was treated in many localities as a cool greenhouse plant. Its hardy character, however, is now well known, and it is not too much to say that it is equally at home on a north wall as on a more favoured aspect, producing its beautiful yellow flowers in abundance. After flowering thin out the old shoots where they are overcrowded, and cut back others to a short spur. Beyond nailing or tying during the summer, nothing further will require to be done.

It is a mistake to cut back in the autumn shoots of the current year's growths to half their length, for such treatment simply amounts to destroying half the flowers.—*H. J.*

Papaver orientale, Blush Queen.

HIGHBURY, near BIRMINGHAM.

Highbury, the residence of the Right Hon. Joseph Chamberlain, M.P., has a reputation for its collection of Orchids, which not only comprise the very best species and varieties in cultivation, but they are in glorious health, and it is a pleasure to look through the extensive collection here. The large Cattleya house is crowded with plants in admirable health, a large quantity of Mossiæ varieties, Gaskelliana, imperialis, Sanderiana, Trianæ, gigas, Mendelii, Percivaliana, exoniensis, and others, and Lælias also. Many of these, in fact the greater part, are showing for flower. In the same house are a fine lot of Aërides Fieldingii, Vanda cœrulea, V. suavis, V. tricolor, &c. Dendrobium Jamesianum is in fine trim, with growths from 2 ft. to 2 ft. 6 ins. long, and showing flower. A plant of D. infundibuliforme has forty blooms now open. Specimen Cattleyas and Lælias abound, and L. elegans prasiata has sturdy growths 18 ins. long. There is a plant of Cattleya Bowringiana in a basket with good growths, and one leading growth had on it last autumn sixteen flowers. Lælia purpurata alba had six good heads showing for bloom. A large specimen in a basket of Cœlogyne Massangeana has seven new leads coming away. Epidendrum bicornutum has good leads and showing flower spikes. The only drawback amongst this large collection of Orchids is the Phælenopsids, and these are certainly not in good healthy growth; but these form the exception only. Cypripediums of course are largely represented here, and there is a batch of C. niveum of more than ordinary interest, as there are plants of C. niveum Godefroyæ amongst them, also the first plant of C. niveum which secured a First Class Certificate in England, imported by Mr. Christopher James, forwarded by Mr. P. Polson, and first exhibited by Mr. T. Barrington.

The flowering Orchid-house is 32 ft. long by 10 ft., with the Orchids arranged amongst Ferns, &c. Over sixty plants were in bloom at the end of February, and consisted of Cattleya Trianæ (especially a variety with rich rosy purple lip 4 ins. long, and sepals 7 ins. across), C. Harrisoniæ, a fine specimen of C. Warscewiczii, Phaius grandiflorus, Angræcum eburneum, Odontoglossum Alexandræ, O. Rossii, O. Cervantesii, Oncidium Cavendishianum, O. luridum, several Dendrobium Wardianum, D. nobile, D. n. atropurpureum (very rich in colour), Saccolabium illustre, the lovely little Angræcum citratum, Lycaste Skinneri, and Saccolabiums and Aërides.

Some six or seven years ago Cattleyas especially suffered here from the Cattleya weevil, and Mr. Cooper only succeeded in exterminating this pest about two years since, and this was only done by constantly cutting away any affected young growths which showed even in a slight degree any work of the weevil. In one of the houses, which may be described as the hospital, are a number of newly imported plants, and a quantity of the Cattleyas which have been saved from the borer plague. The plants look well, however, and will go ahead. An intermediate house is devoted to a quantity of Odontoglossum vexillarium, Oncidium sarcodes, and others.

The Odontoglossum house is about 70 ft. long, and contains between 3,000 and 4,000 plants, chiefly Alexandræ, Bluntii, Andersonianum, Uro-Skinneri, Edwardii, polyxanthum, pulchellum, coronarium, Ruckeri, hebraica, Rossii majus, Pescatorei, &c., Ada aurantiaca, and Oncidium macranthum. At one end is a case of Todæas and Trichomanes in good health. Two large span-roofed houses have recently been erected for Roses, planted out and in pots. Plants of American Beauty were in flower; a very early, and evidently a capital forcing variety, and fragrant. Mr. Cooper regards The Bride as a valuable variety, of Niphetos style, and a more erect grower. The Camellia house has on the side stages a fine collection of Imantophyllums, consisting of miniata splendens, robustum, Distinction, giganteum, Mdle. Van Houtte, cruentum, Marie Van Houtte, Marie Reimers, Mdlle. de Schryved, Lindenii, Mrs. Laing, and others. The Primula house is very gay with well-grown plants of leading kinds, including a new variety "Miss Chamberlain," a seedling from The Queen, and a fern-leaved variety with large flowers of a delicate blush-pink, margined with white.

The conservatory is a feature here, and is now very gay indeed. A centre group of Palms, with a grand Chamærops Fortunei, 18 ft. high and well finished, is very striking; the group close by has a magnificent Musa ensete, 20 ft. high, with stem 7 ft. high, and 9 ft. in diameter in the head, with Dasylirions, variegated Yuccas, &c., surrounding it. Two windows from the drawing-room look into the conservatory, and at them were groups of splendid Amaryllis, including Tennysoni, one of Messrs. J. Veitch & Sons' superb new varieties, of the finest form, substance and size; Tyndermus, another very fine variety and one of Mr. Cooper's seedlings; and Polonius, very rich in colour and fine in form. These two groups were carpeted with Lily of the Valley, Hyacinths, and Isolepis. Mollis Azaleas are very fine here, and several plants of Mr. Carmichael's hybrid Azaleas are very pretty indeed. The usual forced bulbs, Lilacs, winter-blooming Begonias, Azaleas, Acacias, &c., made up a fine display of bloom. One plant especially deserves notice, a very fine specimen of Imantophyllum miniatum, with ten large heads of flower, and by its side a small plant of I. perfecta, highly coloured, and an unquestionable beat on I. miniatum.

The fernery adjoins the conservatory, a handsome one, and in it, growing from the stone-work, is the original plant of Anthurium Chamberlainii, with foliage 3 ft. 6 ins. long, and 2 ft. 9 ins. wide at the lobes, and now in flower, of a rich rosy maroon colour, with the spathe 9 ins. long, and the spadix 7 ins. long. As before stated, there is a fine collection of Anthuriums here, amongst them one recently crossed betwixt Leodeenia and Chamberlainii, and producing seed. There is a fine lot of Eucharis, notably Amazonica, Sanderiana, Mastersii, and candida; amongst these is a seedling, the result of a cross between E. Sanderiana and E. candida, raised and flowered here, and which proves to be the true E. Mastersii. Taking things all round, Mr. Cooper deserves every praise for having the plants in such a good healthy condition.—*X.*

The Amateurs' Garden.

A correspondent from Wandsworth Common makes complaint about the discrepancies occurring in catalogues and seed lists concerning the application of the terms annual, biennial, and perennial, hardy, half-hardy, and several other terms which frequently conflict with one another, putting the amateur to sea about what these terms should actually meau. Of course, different seedsmen and catalogue-makers have different experiences; while catalogues of seeds are not always strictly explanatory of the terms used. We, however, give the undermentioued replies to his numcrous queries.

Annual, Biennial, and Perennial.

The simplest definition of an annual is a plant that flowers the same year as its seeds are sown, and dies after producing seeds. A biennial flowers the second year and then dies. A perennial may live an indefinite period, provided it does not meet with an accident. Notwithstanding all this, it is difficult to determine sometimes to which of these classes a plant may belong, as its term of life often depends upon the conditions to which it is subjected. For instance, if the common Catchfly (Silene pendula) is sown in July or August it will live through the winter, and be described as a biennial; whereas if sown in spring it would flower, fruit and die the same year—say in the autumn following. Some biennials may behave in the samc way, especially if they have been sown early in heat and afterwards planted out. Taking natural conditions as the test, the question will be less difficult to decide. There are, however, many annuals, including weeds, that germinate with the autumu rains, grow during the winter, and flower next spring or early in summer, thus extending over part of two seasons. Such are, however, strictly annuals, and for the sake of distinction are sometimes designated winter annuals. In this way we can almost get two crops a year of Limnanthes Douglasii, a beautiful garden annual. Taking Tropæolum majus and T. minus (the garden Nasturtiums) as another case, they will be found described in books as annuals simply, because they always get killed in this country with the first severe frost. In their native country, or if lifted and placed in a greenhouse in this country, they become true perennials. From this it will be understood that considerable latitude (too much in fact) is allowed when speaking of annuals.

Hardy and Half-Hardy.

Hardiness in plants is only a thing of degree. What would kill some plants outright would not hurt others at all. When a plant is described as hardy, the latitude should always be given, that is, what country or district the writer is speaking of should always be mentioned. Mimulus moschatus (common Musk) is a hardy perennial, as it is largely grown in the open air, without any protection whatever, at least 200 miles north of the Tweed. The same may be said of Mimulus cupreus, except that it is less common. All other statements quoted from the different catalogues are erroneous. It is true that the rhizomes, or underground stems, of Mimulus cupreus are morc liable to die than those of M. moschatus, but our experiencc of it, as grown in a northern county, in the coldest part of the garden, and entirely without protection, is that it is hardy. The nature of the soil, together with a dry climate, no doubt leads some to consider it tender. Dianthus chinensis is strictly speaking a perennial, but is rather tender, or short-lived, in our country, so that it is usually treated as a half-hardy annual with good results. We have also grown and flowered it fairly well in its second year in the south, but after that it is liable to die off in quantity, leaving bare patches. By sowing in April in the open border anyone may succeed fairly well with it. Helichrysum bracteatum flowers best when raised in heat, but it can also be raised in the open air. This is no doubt the reason why it has been spoken of as being hardy and half-hardy. Linum grandiflorum rubrum and Sweet Scabious are hardy annuals. Lobelia speciosa compacta is a perennial, but requires the protection of a greenhouse. Marvel of Peru (Mirabilis jalapa) is as much a perennial as the Dahlia, and its tuberous roots require the same protection in winter.

Half-hardy Annuals.

Many of the half-hardy annuals may be sown in the open air and flowered successfully without the aid of glass structures. They will, however, bc much later in coming into flower, as they must be sown later when entirely grown out of doors. The following, which are generally described as half-hardy annuals, will grow and flower entirely out of doors, namely, Ten-weeks' Stocks, China Asters, French and African Marigolds, Tropæolum major, T. minor, and T. aduncum. The latter is the Canary Creeper. Add to this list, Helichrysum, Rhodanthe, and Acroclinium roseum, as everlastings; also Amaranthus caudatus (Love-lies-Bleeding), Phlox Drummondi, Salpiglossis sinuata, Schizanthus retusus, S. pinnatus, and in a warm position the common Balsam (Impatiens balsamina) may also be grown. Sow them about the end of April or the beginning of May, according to the weather and its prospects.

Hardy biennials and perennials may be sown now in the open garden with every hope of success. They may be sown in spring with the other kinds, or later on, say in July, in the southern part of this country. In neither case will they flower the first season.

Auriculas and Polyanthus in Pots.

Fresh growth has commenced with these subjects grown in frames, whether artificial heat is used or not. They may be assisted to make strong growth and flower well by top-dressing them with somc fresh and good staple material, containing a fair quantity of some artificial stimulant. Carefully avoid giving anything either too rank or too much of it. With the aid of nice mellow loam alone, taken from an old pasture and allowed to lie for a year, good results may be obtained. Remove about an inch of the old material from the surface, using a blunt-pointed piece of wood or a strong label to do it. Avoid injuring any of the young roots which may now be pushing from the collar of the plant. The work must be done carefully, even at the expense of some loss of time.

THE HIGHGATE NURSERIES.

Spring flowers are even yet by no means abundant, and although considerable quantities are forced, it is yet too early for the main batches of such things as Hyacinths, Tulips and Narcissi. Several of the houses of Messrs. Wm. Cutbush & Son, Highgate, are, however, quite gay with an assortment of various winter and spring subjects, both soft and hard-wooded.

Greenhouses.

The visitor enters the nursery through conservatories, one of which is devoted to Palms, Dracænas and others of that class, while that on the left hand is devoted to greenhouse-flowering plants or ornamental-leaved subjects. Herc were small freely-flowered specimens of Azalea mollis in different shades of colour, and forced Rhododendrons. One variety of the latter, named R. conspicua, had very pleasing rose flowers, with purple spots on the upper segments. A large quantity of Aralia Sieboldii variegata in all sizes was very distinctly and well coloured. Lower down the steep hill is a low span-roofed house, the atmosphere of which was simply laden with the fragrance of Boronia megastigma in full flower, and Daphne odora (indica), of which there were many small well-flowered pieces. At one end was a large batch of Otaheite Oranges in fruit. We have on a former occasion seen this house filled with Peruettyas exhibiting a great diversity of colouring in the berries. The plants we notcd, however, in several situations both in and out of doors, are as richly berried, if not more so than last year, notwithstanding the unfavourable nature of last summer. They are perfectly hardy, and the wonder is that they are not cultivated in the shrubberies of every private establishment as well as in the greenhouses during winter.

Close by is another house filled with Azaleas, Snowball (Viburnum opulus sterilis), large quantities of Dielytra spectabilis in a very floriferous conditiou, Ardisia crenulata in full berry, and seedlings of the useful Araucaria excelsa. The most popular Lilacs here are the Persian and varieties of the common one, including Charles X. and the beautiful white variety, Syringa vulgaris albo virginalis. Amongst the Azaleas was the pure white and popular Deutsche Perle in full flower or set with masses of buds, also Sankuntula, a pure white, free-flowering double kind, and the early semi-double white, Narcissiflora. Of Hyacinths there were large quantities in various stages of development. There were some beautiful samples of the German Lily of the Valley just bursting into full bloom, and which were deliciously scented. We also noticed specimens of Hydrangea paniculata grandiflora grown as standards with a clear stem of 3 ft. or 4 ft. Wheu in flower they will no doubt be handsomc, grown in this fashion, and well adapted for dotting about in conservatories.

Fine-foliaged Plants.

The largest specimens of Palms are grown in a house facing the highway, and on the immediate right of the entrance. All the more common kinds are grown here, and amongst others a fine piece of Areca Baneri. The large specimens of Cordyline indivisa, used in various ways for house-decorating purposes, are objects of considerable beauty, and well furnished with foliage. Close by are some standard specimens of Laurus nobilis, with about 6 ft. of clear stem. In other houses are large quantities of Cocos Weddelliana, Kentia Belmoreana from 1 ft. to 2 ft. in height, and K. Canterburyana, of which we noted a specimen from 3 ft. to 4 ft. in height. A. lutescens, one of the most useful Palms for decorative purposes, is grown in large numbers from seeds. They are about eighteen months old, and from 12 ins. to 18 ins. in height. The Cocos mentioned above, together with Areca Baueri and Latania borbonica, are grown in a new, low, span-roofed house, and appear very happy. They are very little morc than twelve months old, and the seedlings are bushy and from 6 ins. to 8 ins. in height.

In the same new house a great variety of Crotons of a useful size are grown, together with Asparagus plumosus and A. p. nanus. A useful plant is Myrsiphyllum asparagoides, grown here under the name of Medeola. According to the *Genera Plantarum*, it is now called Asparagus, while our American cousins call it Smilax. A useful stove shrub, that might be more frequently cultivated, is Justicia, or as it should be called, Shaueria calycotricha, with calyx and corolla yellow. Gynura aurantiaca is notable in the young state for the beautiful violet covering of hairs to the leaves, and which are very pretty when the plant is on a level with the eye when looked at. Some fine specimens of Tillandsia hieroglyphica and T. tesselata may be noted about the house. Very distinct amongst Dracænas is D. cannæfolia, with ascending long-stalked leaves, the blade of which is broad, resembling that of a Canna; both blade and petiole are of a deep glaucous colour. The plant would be very useful for a stove or warm conservatory, and is altogether different from other kiuds. Of D. Lindeni there were some beautiful little plants.

Ferns.

A considerable number of varieties are grown in different houses, but one span-roofed structure was almost entirely devoted to some of the more useful kinds, such as Pteris tremula, P. serrulata cristata, Lomaria Gibba, Osmunda regalis palustris, Onychium japonicum, and Davallias, including the beautiful D. Tyermanni. Pretty Ferns are Cheilanthus tomentosa and C. hirta Ellisii. The beautiful Gymnogramma schizophylla is suspended from the roof, where it is seen to best advantage. Amongst Adiantums were A. Farleyense, A. rhodophyllum, so beautiful when the fronds are young, and all the more common species which it is needless here to meution.

On the roof of one house we noted some Dendrobiums in flower, and it may here be stated that the Messrs. Cutbush are about to form a collection of cool Orchids, which will be a new feature in the nursery.

Trees and Shrubs.

The nursery grounds at Highgate are not very exteusive, yet a considerable quantity of Conifers are grown, as well as Aucubas, Laurels, and Cherry Laurel. Ivies are also a strong feature here, a collection of many of the choicer kinds being grown. A large quantity of many of the broad-leaved or Irish Ivy is grown in 24-sized pots, and trained to stakes to the height of 4 ft. or 6 ft. The beautiful broad white-edged Hedera Helix madeirensis is largely grown in pots, and kept in a cold frame. It is admirably adapted for decorative purposes. There are also standard Mulberries with straight stems and good heads. The Weeping Beeches and Birches are beautiful and interesting. On the side walls is a collection of all the leading varieties of Peaches, standard, half-standard, and dwarf-trained. They are grafted on the Mussel stock, and made good wood last year.

Gardening Miscellany.

Yellow Polyanthuses.

A boxful of trusses, the produce of seedlings of Polyanthus, has reached us from Mr. J. T. Gilbert, Anemone Nurseries, Dyke Bourne, Lincolnshire. They were deliciously fragrant, and judging from the number of flowers on a truss, the seedliugs must bc very vigorous. The prevailing colour was yellow in varying degrees of intensity, while some were very pale, and almost creamy white, with a very conspicuous orange-yellow five to six-lobed eye. One truss or umbel had nine expanded flowers, five of which were of a bright yellow, while the

other four were of quite a distinct shade, and pale canary-yellow, almost white. On the whole they were notable for their size, one truss bearing flowers close upon 2 ins. in diameter.

Miconia Hookeriana.

THE species of Miconia, as well as Tococa and other members of the same family notable for the dimensions and beauty of their foliage, attain their finest proportions in the young state, when they are, of course, more vigorous. The species of Miconia number some 300, of which only a few have been introduced, and are best known in gardens under the name of Cyanophyllum. The leaves are elliptic, rugose or wrinkled, and opposite. They are five-nerved, the three central ones being most prominent, and silvery white. The stem, together with the inflorescence, with the exception of the corolla, are densely felted with fine rusty-coloured hairs. The flowers are produced in terminal panicled cymes, and are white, but by no means conspicuous, so that for horticultural purposes the foliage alone determines the value of the plant. The form here described is mentioned in Nicholson's *Dictionary of Gardening*, under the name of M. H. trifasciata, and the appellation is given on account of the three silvery white nerves. The typical form is said to have the midrib only of this colour. That with three out of the five nerves of a silvery white is, however, the most common, and perhaps the only form cultivated.

Narcissi in Water.

THE experiment may not be precisely new, but it may be interesting to those who grow plants for window decoration, to know that various species of Narcissus may be grown in glasses with equal facility as a Hyacinth. The trumpet Daffodils, including the largest kinds, both yellow and white, are most suitable, first, because the bulbs are large, and fit or occupy the mouth of the glasses best; and secondly, because large flowers are more conspicuous and better reward the trouble of growing them. Produced under these conditions they attain their normal size, and the colours are pure, clean, and very attractive. They should not, in the proper sense of the term, be forced, but merely urged on gently by a genial temperature. When in flower they should also be kept cool, in order that the blooms may endure longer. Several kinds have been flowered in this way in the nursery of Mr. T. S. Ware, Hale Farm, Tottenham.

Thrinax radiata.

NONE of the fan Palms are more graceful in outline than are some of the species of Thrinax, particularly T. radiata, variously known in gardens under the names of T. elegans and T. gracilis. It is a native of Trinidad, from whence it was introduced in 1838. The chief elements of beauty reside in the fineness of the leaves, their regularly radiating, almost wheel-like shape, and the length of the segments, which are so slender that they droop elegantly all round the body of the leaf. The smooth and refined appearance of the leaf is due, in a great measure, to the slender character of the principal ribs; while the whole is supported on a slender, smooth, not spiny, petiole. It is also a dwarf, slow-growing Palm, and the oldest specimen in cultivation does not attain any great height. For instance, the stem of T. excelsa, as measured below the leaves, may be from 6 ft. to 10 ft., whereas that of T. radiata would not exceed 2 ft. or 3 ft; even then a plant takes many years to attain this height. Bearing this in mind, it may be grown in private establishments for many years before it gets too big to be readily accommodated in the conservatory or stove, while in the young state it is exceedingly graceful.

Clivia (Imantophyllum) miniata robustum.

THE time is now rapidly approaching when the Clivias will be in full season. Some of them have been flowering for many weeks past, according to the temperature in which they have been grown. The main batch in the nursery of Mr. B. S. Williams, Upper Holloway, are rapidly pushing up their spikes, and appearances promise a good harvest of flowers. The variety above mentioned is in full bloom in the large conservatory, and has, as its name implies, very robust spikes bearing large umbels of rich orange-scarlet flowers, giving place to pale yellow and white in the throat and tube. The segments are very broad compared with those of the type, or even with some of the darker-coloured and named varieties that first appeared amongst seedlings. The whole plant is very robust, with long, leathery, thong-shaped, deep green leaves. In the same house is a large plant of C. m. splendens in flower—one of the earliest, and still a good named variety. It is characterised by the richness of the colouring of the flowers, and this may be described as of a brilliant scarlet, but possessing a tendency, of course, towards orange, which is so prevalent in the flower of this noble species. Although they may be flowered in the greenhouse, the Clivias do best when kept in an intermediate or even stove temperature while throwing up their flower-spikes, as the blooms are larger and the colours brighter.

Prunus Pissardii Out of Doors.

A CORK correspondent writes:—This lovely shrub, referred to by "R. D." in your last issue, has been in flower at Mr. Hartland's grounds, Temple Hill, Cork, since the middle of January. It is now very beautiful, and one mass of bloom, a splendid subject for a photograph. What a difference in the climate, and what a garden of flowers should the southern portion of Ireland be capable of producing! White Daffodils we noticed in full bloom out-of-doors in the middle of February. A bed of Narcissus Poeticus is now a complete mass of bloom, also out-of-doors (March 1st, 1889.)

Thunbergia Harrisii.

I WAS much pleased to see this admirable climber noticed in your last issue, for I often think it is a matter for regret that it and some other splendid stove climbers are so seldom met with under circumstances favourable to their full development, not many caring to devote the space to them which is required to see them at their best. The names of several occur to me which I think worthy of more extended cultivation than they at present meet with. For instance, Beaumontia grandiflora, one of the finest stove plants, with large white trumpet-shaped flowers, is very seldom seen. Thunbergia (Hexacentris) mysorensis is a superb flower. Ipomæa Horsfalliæ is better known and more widely cultivated, and I think that after Stephanotis and Allamandas, this should come next when planting climbers for the roofs of the stove. It is not so rampant a grower as the next one I shall name, viz., Ipomæa Learii, which I flowered fairly well in a warm greenhouse some years back, but it is well worthy of the best position which can be afforded.—*W. B. G.*

THE ORIGIN OF THE FLUKE POTATO.

YOU have all heard about the Fluke Potato, and I will tell you how it came to be raised. There was a florist living at Birch, named John Turner. He and a friend were walking through a field where there were some Potatos of the Lapstone Kidney kind. They were cropping very heavily. So he said, "These Potatos are cropping very heavily," and he got a stem on which there was only one large crop, and he pulled it, and sowed it. The result was that among the kinds raised from that one crop was the Fluke. It was not named the "fluke" in the sense of the word as applied in the game of billiards, but because of its flatness and its resemblance to plaice, commonly called "flukes." But, however, this was a very small incident, and a very little matter perhaps; but it did an immense amount of good, as we all know, especially to the farmers in Thornham, Hopwood, Pilsworth, and neighbourhood. It was planted about the year 1851 to 1853 exclusively, and the sale of it and the price were something enormous. They used to get £1 a load for them, which was four times the price of the previous year with other kinds, and it gave a great lift to farmers in our immediate neighbourhood, and also did great good to the country.

Many people, as I think I have heard our friend Mr. Tait say, made large sums of money by the circumstance, and it shows how a little thought may be the means of doing a benefit to a number of people and adding to the national wealth. When this poor fellow got old in life, the late Oswald Dickin, of Middleton, started a benefit subscription; I was on the committee, we collected £120 or so, and bought him an annuity of 10*s.* a week; but he only lived about three months after it was bought. In those days to which I refer, farmers were rejoicing in the prices and ready reckonings. There were no odd coppers; twelve loads were £12, and on market days they used to get a glass or two extra. On one occasion there was one of them named Fitton, and another, I think, named Tetlow, who were racing home in their milk carts; Fitton got too near the edge of the road, and catching a stone, was toppled over the hedge and down an embankment. There were three or four carts in company, and it was expected to pick the poor fellow up killed or seriously injured, but they found him lying at the bottom fairly comfortable and uninjured, and when they had shook him up a bit he said, "Lads, these flukes at a pound a load'll either kill or lawm some of us afore we've done wi' em."—*From a paper on "Garden Gossip," by Mr. Samuel Barlow.*

ORCHID NOTES AND GLEANINGS.

FREAK OF CYPRIPEDIUM ARGUS.

WE noticed a singular curiosity the other day in the nursery of Messrs. Hugh Low & Co., Clapton. Amongst other kinds there is always a large number or quantity of this Orchid in the nursery, and a wonderful amount of variation also presents itself amongst the flowers with regard to the number, size, and depth of colouring of the blotches. Amongst the rest a monstrous form presented itself, in which the standard was reduced to a narrow white stripe with four longitudinal deep green veins running through it. On each side of this the petals had become completely united by their edges, thus transferring the blotches to the standard. The specific name was suggested by these blotches, Argus being a deity of Greek mythology surnamed Panoptis, or the All-seeing, because he was reputed to have a hundred eyes. The lateral sepals, normally united, were split down some considerable way, and the staminode was divided longitudinally into two, giving the whole flower a singular appearance.

ANGRÆCUM CITRATUM.

A CHARMING appearance is now presented in the Angræcum house of Messrs. Hugh Low & Co., Clapton, by a bank of A. citratum, occupying nearly the whole of one side of the house. There are from 2,000 to 2,500 spikes of bloom, of which about one-third was fully expanded at the time of our visit. The flowers are pale lemon, with a lilac-tinted patch on the lip just beneath the column. The curiously bent spur offers another curious illustration of the effects of insect agency in moulding the form of the flowers. It is first directed backwards, then perpendicularly, and lastly directed forward again, so that it forms two knees and almost three sides of a square. Individually the flowers are not large, but they are closely arranged in two ranks upon the same level, and the spikes are arching, giving the whole a very graceful appearance. There is a wonderful variation, however, with regard to the size of the flowers on different plants, some having blooms twice the size of others. The plants are all grown in baskets, and are very suitable for suspending near the glass.

CYPRIPEDIUM SCHLIMII AT HOME.

As an indication of the nature of the situation which this Slipperwort occupies in its native home, it may be stated that Mr. Shuttleworth, while out collecting, had sometimes to wade knee-deep in water to get at it. This does not necessarily imply that the plant is submerged to that depth all the year round, but we infer from it that the soil is wet, spongy, and liable to be inundated during certain periods of the year. It also grows at an elevation of 4,000 ft. on the Cordillera of New Granada, so that under cultivation it requires to be kept tolerably cool and moist all the year round. The white variety, C. S. album, is flowering at present with Messrs. Shuttleworth, Carder & Co., at 191, Park Road, Clapham. The flowers are white, with the exception of a rosy purple ring surrounding the mouth of the pouch, and a yellow staminode. These organs of the flower are the last to part with the colour they possess, and no variety of C. Schlimii has yet been found with pure white flowers.

ODONTOGLOSSUM CERVANTESII DECORUM.

AT Wray Park, Reigate, the residence of J. Simpson, Esq., a really splendid variety of Odontoglossum Cervantesii decorum is now in full bloom. It carries three very fine flower spikes, one with seven fully expanded flowers, one with three, and another with two blooms. The individual flowers are of extraordinary size, many of them measuring 3¼ ins. across. The sepals, petals, and lip are very broad, making a complete circle; the lip is beautifully decorated with numerous spots.—*J. McNab.*

CATTLEYAS FROM ARDDARROCH.

SOME fine samples of Cattleya blooms, varieties of C. Trianæ, have been sent us by Mr. R. C. Fraser, gardener to R. B. White, Esq., Arddarroch, Garelochead, Dumbarton. There was a spike of C. T. alba bearing two flowers. Both sepals and petals were white, the latter being the purest, and the difference distinctly discernible. The lip had the usual yellow blotch, with a faint tint of blush in it, which, however, may not always be constant. Amongst the number was a splendid form of T. delicata, of grand dimensions. The sepals and petals were of a pale blush-purple, the latter measuring individually 4 ins. in length. The lip was rather darker in colour, with a large pale yellow

blotch, broken up longitudinally by white lines; the limb was of unusual size for C. Trianæ, and measured 3½ ins. in length. All the other flowers were darker, the lip of some being of a rich crimson-purple, with a well-defined golden yellow blotch in the throat. One of them, a very good kind, had the petals and the tube of the lip splashed with a darker purple; and in another instance there was a trace of the purple blotch on the upper part of the petals, for which Backhouse's variety is notable. Judging from those sent the collection at Arddarroch must be a fine one, and not subject to a smoky atmosphere.

CATTLEYA TRIANÆ "GONE WRONG."

A FLOWER of this Cattleya, which we received the other day from Messrs. Fred. Horsman & Co., of Colchester, exhibited a more singular appearance than we are wont to see amongst Orchids, sportive as they are. It looked as if it had gone through the hands of a milliner, and the parts of the flower had been tucked up to form a bouquet according to the taste of the dresser. The maldevelopment of one petal seemed to be the cause of the monstrosity. Instead of being free, it had become adnate to the back of the column, but a little on one side of it, causing the latter organ to become twisted on one side. A second petal, or an outgrowth from the first, was also adnate to the back of the latter, so that there were four free edges, and these were undulated, crumpled, or folded, producing the rosette or tassel-like appearance lying on the lip as above mentioned. It may be described as a freak or sport making a near approach to a double flower. The lip was adnate by its claw to the column, and was slightly compressed or malformed where the tube should have been, while the rest was flattened out forming a background to the crumpled petals. The rest was normal.

SACCOLABIUM GIGANTEUM ILLUSTRE.

DURING the winter months, the long peudulous racemes of this species constitute it a welcome and ornamental occupant of the Orchid house. The typical form comes from Burmah, while the variety under notice is a native of Cochin-China. A large quantity of it may now be seen in the nursery of Messrs. Hugh Low & Co., at Clapton. The sepals and petals are white, variously spotted with purple, while the spreading labellum is of a rich purple. Considerable variation may be noted amongst the plants in bloom, but the leading and distinguishing characteristics of the variety are that the flowers are larger, with brighter colours, and the leaves longer and broader. The vigour and firmness of the latter remind one of the foliage of Angræcum sesquipedale. One of the most valuable qualities of this species is the powerful aroma of the blooms that pervades the house in which the plants are flowering.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

RETARDING GREENHOUSE PLANTS.—Hard-wooded subjects flower very abundantly in spring, so that later on there is a dearth of them when wanted to keep up a continuous supply in the conservatory. As the sun gains strength, the temperature is liable to excite the growth of the subjects they contain, independently of artificial heat. It is therefore necessary to put batches in a house with a north aspect, if there is such at command. It is far better to do this than to shade such things as Boronias, Pimelias, Eriostemon, Chorozemas, Polygalas, Heaths, Epacris, Tremandras, and such-like, all of which, in their native country, are fully exposed to the sun in a dry atmosphere, and must inevitably be injured by close shading. Care mnst be exercised in ventilating too freely during the prevalence of east winds, to which we are much subjected, as a rule, during March.

BEGONIAS.—Old tubers which have been started in the stove, re-potted, and again established, should be placed in a light position on the side benches near the glass, or on shelves, if they can be accommodated there, in order to prevent drawing. As they commence to get strong, remove them to a cooler and more freely-ventilated structure, where they will come on gradually and be more robust and short-jointed.

BEDDING PLANTS.—All must be in full working order now in the bedding-out department. Pelargoniums that have been wintered in vineries, Peach houses, or other structures utilised for this purpose, must be potted off without further delay. Return to the same position for a few days, or even a week, and then remove to cooler quarters. Before potting off make sure that the soil in the pots and boxes has been well watered the previous day, so that the roots and stems may imbibe a good supply of moisture, for they will then be in a better position to take to the fresh soil without flagging. Later on when there is less danger of frost, Pelargoniums may have their roots wrapped up in moss, with a small quantity of soil, tied up with a piece of matting, and planted out in cold frames. By bedding-out time they will have rooted through the moss, and lift with good balls, so that they may be transferred to the beds without having been in pots at all. Pot up cuttings of Lobelias, Verbenas, Ageratums, Iresines, Coleus, Heliotropes, and other bedding stuff as they become rooted.

THE FORCING HOUSES.

PEACH HOUSES.—The weather has uot been satisfactory for some time past, owing to the prevalence of rough, piercing, easterly winds. Use, therefore, all the more caution while such continues, preventing if possible cold draughts from striking on the trees, especially those in bloom. In the presence of sunshine no artificial heat will be required during the day in this case, but ventilation must be given gradually as the day goes on, so as to avoid bringing down the temperature. Close earlier to harvest sun-heat. Attend to distributing the pollen during the earlier part of the day, so as to ensure a good set. Early houses will still require attention in the matter of disbudding and tying in of the shoots. See that the borders are not in want of water, and if wanted give a good soaking. The trees will be better able to carry a good crop of fruit.

MELONS.—It is better to maintain a temperature of 70° for young plants, with a comparatively dry atmosphere, during cold east winds than to sustain a higher one, necessitating at the same time a greater amount of moisture. Owing to the impossibility of giving free ventilation under such unfavourable conditions, a higher temperature would be productive of slender, debilitated growths, from which good results can hardly be expected. Lost time can be partly made up on the return of better weather by raising the temperature.

CUCUMBERS.—The directions for the treatment of young Cucumbers at this period are precisely similar to those concerning Melons. On bright days give ventilation when the temperature rises to 80°; but in cold, windy, and dull weather, a lower figure will be quite sufficient.

THE KITCHEN GARDEN.

ASPARAGUS.—Where fresh plantations of Asparagus are necessary, the ground should be trenched and otherwise got in readiness for planting when the milder days of April induce fresh growth. The soil may be trenched to a depth of 2 ft., and that beneath well loosened up, provided it is of a close and adhesive nature. A depth of 3 ft. would be better if the soil is good to that depth. Incorporate a considerable quantity of manure with it as the work proceeds, and if seaweed can be obtained it will prove very beneficial, on account of its manurial properties, as well as the saline matter it contains.

SEED SOWING.—An early sowing of Parsley may be made at the first opportunity, provided the soil is in good working order. An early sowing of Snow's Superb Winter White Broccoli should also be made, as well as Early London Cauliflower and Brussels Sprouts. Owing to the earliness of the season, and the fickle nature of our climate, the sowings should be made on a warm sheltered border, fully exposed to the mid-day sun, but sheltered from north and east winds. At many places it will be found necessary to protect the seed beds from the depredations of birds.

Obituary.

WE regret to record the sudden death, on the 26th ult., of Mr. JOHN CHARLTON, nurseryman, Tunbridge Wells, aged sixty-six years. Mr. Charlton, who with his sons had carried on the business for about twenty years, was the founder of the Tunbridge Wells Chrysanthemum Society, and was for some time a member of the committee of the local horticultural society. He was greatly respected by his gardening acquaintances, and died suddenly at his residence in The Pantiles, while taking off his boots after returning from the nursery.

THE death is also announced of the Rev. W. ALLPORT LEIGHTON, B.A., F.L.S., author of "The Lichen Flora of the British Islands." The reverend gentleman, who was also well known for his antiquarian and archeological researches, died at Lucifelde, Shrewsbury, on the 25th ult., aged eighty-three years.

QUESTIONS AND ANSWERS.

NAMES OF PLANTS.—*Strathearn:* 1, Pinus sylvestris aurea; 2, Tsuga species (variegata); 3, Pinus monticola; 4, Abies Nordmanniana; 5, Pinus montana var.; 6, Picea Engelmanni; 7, Abies grandis; 8, Tsuga Hookeriana; 9, Sequoia sempervirens; 10, Tsuga canadensis; 11, Abies species; 12, Picea species; 13, Tsnga Pattoniana; 14, Cupressus Nutkænsis; 15, Cassandra calyculata; 16, Rhododendron ferrugineum; 17, Colluna vulgaris alba; 18, Cryptomeria japonica; 19, Staphylea colchica; 20, specimen too bad; 21, Polystichum angnlare proliferum sub-var; 22, specimen lost; 23, Pteris serrulata cristata; 24, not recognised; 25, Asplenium lucidnm; 26, Marattia species, bnt no fruit. All of the specimens were in the same condition as to fruit, and some of the labels were displaced. When you send agaiu, pray remember that we cannot undertake to name more than six specimens at once, and that it is unreasonable to expect anyone to waste their time over scraps. *J. Malster:* 1, Deutzia gracilis; 2, Plumbago capensis; 3, Some Abutilon (not recognisable); 4, Nerium Oleander; 5, Mesembryanthemum cordifolium variegatum. *R. C.:* Cœlogyne cristata, Chatsworth variety.

ODONTOGLOSSUM ROSSII MAJUS. — *R. Twiss:* An immense amouut of variety always occurs in imported batches of this popular Odontoglot. We, therefore, cannot say that your specimen is unique; but it is at the same time a most meritorious variety. Specially noticeable is the large size of the pure white lip, and its beautifully undulated margin. The sepals are also wholly covered with brownish purple blotches on a white ground; and the petals are similarly blotched at the base. The absence of green and brown, both so commonly suffnsed through the ground colour of the common forms is also further evidence of its high quality. The other flower sent is very pretty, but small. It is quite worthy of being grown as a variety from the pink ground-colour pervading all parts of the flower.

PASSION FLOWER.—*Omega:* The common Passion Flower (Passiflora cœrulea) is quite hardy in the south of England, and you can therefore plant it outside your conservatory, and take in the stem, training it over the roof as you like. You can relay the turf after planting. In taking out a hole for the reception of compost, see that the subsoil is sufficiently porous for the superfluous moisture to pass freely away, otherwise loosen it well up, or drain if actually necessary. Place some rubbly material in the bottom unless the soil is of a sandy nature. Any good garden soil will grow this plant, and you may ameliorate it with some well-rotted cow dung. Ordinarily, however, manure will not be required, as it causes a great luxuriance of growth at the expense of its free-flowering nature. The soil should be shallow rather than deep for the same reason. If the natural soil is bad, use a compost of turfy loam, with a little peat, and a quantity of sand to keep it open.

SCALE ON CAMELLIA. — *Camellia:* You must wash the plant with Gishurst Compound, or soft-soap and warm water with a small quantity of paraffin added; or syringe it with the preparation of paraffin now sold in the trade under the name of Lemon Oil.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY. *Jas. Wilson:* Write to Mr. W. Collins, 5, Martinhoe Terrace, Martindale Road, Balham, S.W.

MEDICINAL PLANTS.—*Omega:* Thomas Christy, Esq., Malvern House, Sydenham, S.E.

COMMUNICATIONS RECEIVED.—E. S. D.—W. B. G.—H. W. P.—R. O.—J. C. & Co.—W. P.—E. L.—G. F. (many thanks)—J. C.—H. F.—F. C. G.—R. C. F.—W. E.—W. G.—H, & Co.

TRADE CATALOGUES RECEIVED.

JAMES CARTER & Co., 237 & 238, High Holborn, W.C.—Tested Grass and Farm Seeds.

CHARLES FRAZER, Palace Plain, Norwich. — Illustrated Catalogue of Greenhouses, Frames, &c.

HENRY A. DREER, 714, Chestnut Street, Philadelphia, U.S.A.—Vegetable and Flower Seeds.

JOHN FORBES, Hawick, N.B.—Florists' Flowers, Stove and Greenhouse Plants, &c.

ED. PYNAERT-VAN GEERT, Ghent, Belgium.—New and Rare Plants.

D. LANDRETH & SONS, Philadelphia, U.S.A.—Specialties in Vegetable and Flower Seeds.

THOS. S. WARE, Hale Farm Nurseries, Tottenham.—Herbaceous and Alpine Plants, Hardy Florists' Flowers, Chrysanthemums, &c.

JAMES DICKSON & SONS, 32, South Hanover St., Edinburgh.—Farm Seeds.

DICKSONS, LIMITED, Chester.—Select Farm Seeds.

TOOGOOD & FINLAYSON, Southampton.—Agricultural Seeds.

DICKSONS & Co., 1, Waterloo Place, Edinburgh.—Farm Seeds.

JOHN LAING & SONS, Forest Hill, S.E. — New and Choice Chrysanthemums.

LONDON SEED TRADE.

March 4th.

Messrs. HURST & SON, 152, Houndsditch, report a good inquiry for Clover and Grass Seeds. English Red Clover aud Cow-grass is again dearer, and Trefoil realises extreme prices. Foreign Red Clover, White and Alsike unchanged. Rye Grasses steady.

COVENT GARDEN MARKET.

March 6th.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.
Anemone, French, per doz. bnchs.	2 0	6 0
Arum Lilies, 12 blms..	3 0	6 0
Azaleas ....12 sprays	0 8	1 0
Bouvardias, per bun.	0 9	1 0
Camellias, white, doz.	2 0	4 0
— coloured..... ,,	0 9	2 0
Carnations, 12 blooms	2 0	3 0
Chrysanthemums, Cornflower, 12 bunch.		
Cyclamen..12 blooms	0 4	1 0
Eucharis ..per dozen	4 0	6 0
Gardenias, 12 blooms.	12 0	30 0
Heliotropes, 12 sprays	0 6	1 0
Lapageria, 12 blooms	2 0	4 0
Lilium longiflorum, 12 blooms	5 0	9 0
Lily of the Valley, 12 sprays	0 6	1 0
MaidenhairFern, 12bns	6 0	9 0
Marguerites, 12 bun.	3 0	6 0
Mignonette, 12 bun.	2 0	4 0
Mimosa, French, per basket	4 0	6 0
Pelargoniums, 12spys.	1 0	1 6
— scarlet ..12 sprays	0 6	0 9
Paper White Narciss, 12 sprays	0 9	1 0
— — — French, doz. bunches	2 0	5 0
Primroses..doz.buns.	0 9	1 6
Primula, double, bun.	0 9	1 0
Ranunculus, French, per doz. bnchs.	2 0	4 0
Roman Hyacinths, 12 sprays	1 0	1 6
— — French, 12 bun.	1 0	3 0
Roses, Tea, per dozen	1 0	3 0
— Red .....per doz.	6 0	12 0
— Red, French, dozeu	2 0	3 0
— Saffrano ..per doz.	2 0	4 0
— Safrauo, French per doz.	1 0	3 0
Tuberoses, per dozen.	2 0	3 0
Tulips ....12 blooms	0 8	1 6
Violets ..12 bunches	1 0	1 6
— Parme. French, bun.	3 0	4 0
— Czar, French ,,	1 6	2 0
— Dark ,, ,,	1 0	1 6
Wallflowers, 12 bnchs,	4 0	8 0
White Lilac, French, per bun.	5 0	6 0

No alteratiou in Plants in Pots from last week.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Cobs .. per 100 lbs.			Pine-apples, Eng., lb.	1 0	1 6
Grapes .....per lb.	1 6	4 6	Strawberries.. per lb.	12 0	14 0

Canadian and Nova Scotia Apples, per barrel, 7s. to 17s.

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus....per 100	14 0		Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0		Lettuces ..per dozen	1 6	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages.... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes ..per dozen	1 6	
			Small salading, punnet	0 4	
Celery....per bundle	3 0		Spinach, per strike ..	2 0	
Cucumbers ....each	1 0	2 0	Tomatos ....per lb.	1 3	2 6
Endive, French, doz.	2 6	3 6	Turnips ....per bun.	0 6	

Potatos.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys. 80s. to 100s. per ton; Champions, 70s. per ton.

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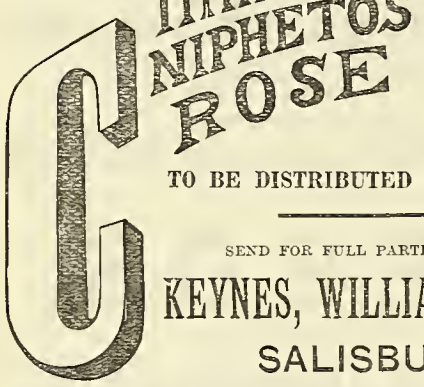

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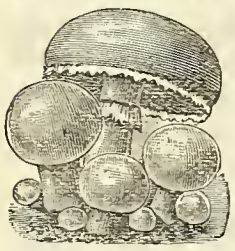

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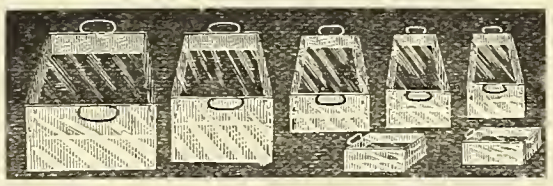

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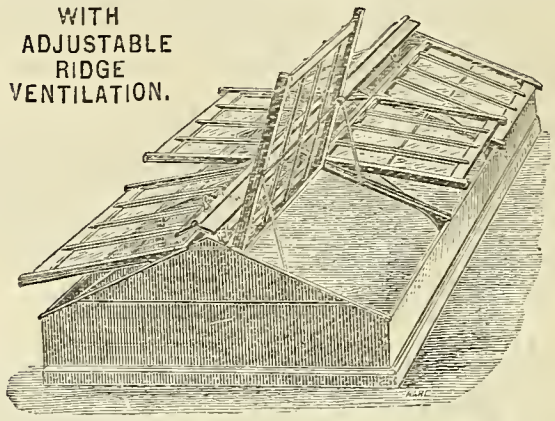

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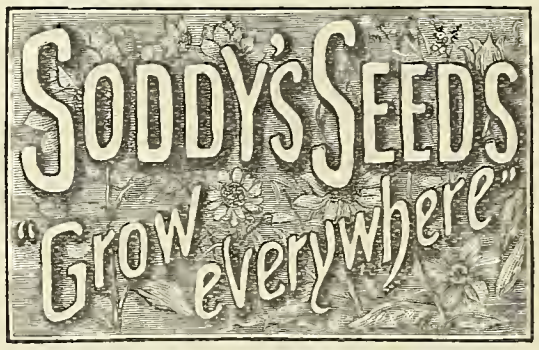

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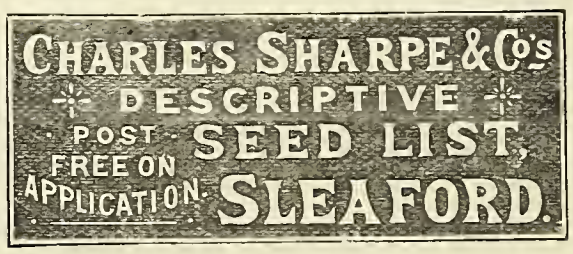

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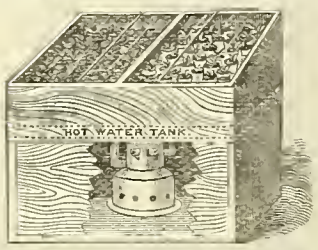

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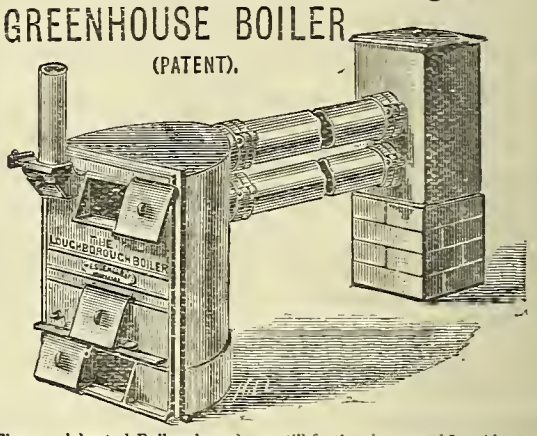

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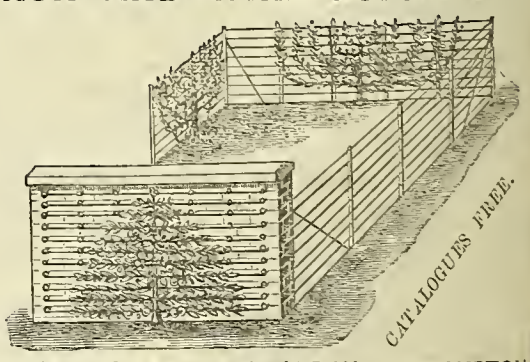

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FOR THE

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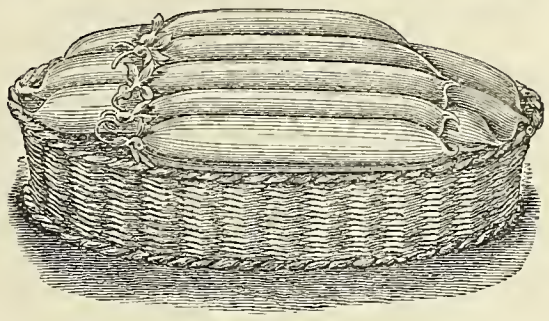

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Next Week's Engagements.

MONDAY, March 18th. — National Chrysanthemum Society: Meeting of the General Committee at 7 p.m. Lily Sale at Protheroe & Morris's Rooms.

TUESDAY, March 19th.—Flower Show in the Town Hall, Manchester.

WEDNESDAY, March 20th.—Royal Botanic Society: First Spring Show. Preston and Fulwood Horticultural Society's Spring Show (2 days). Bath Bulb Show (2 days). Sale of Lilium auratum, &c., at Protheroe & Morris's Rooms.

THURSDAY, March 21st.—Richmond (Surrey) Horticultural Society's Spring Show.

FRIDAY, March 22nd.—Sale of Orchids at Protheroe & Morris's Rooms.

SATURDAY, March 23rd.—Crystal Palace Flower Show.

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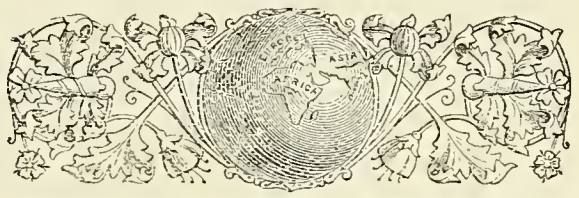

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MARCH 16, 1889.

CURRENT TOPICS.

A BRILLIANT PROPOSAL.—To the crowd of young men who continue to press into the ranks of the gardeners of the country, some conception as to the nature of the prizes open to them later on in life can hardly fail to be interesting. Here is one which opens to any intelligent man a prospect of white slavery, from which he may well recoil. A lady in the home counties writes to an eminent nurseryman to this effect:—"Can you recommend me a good gardener? I should be much obliged if you could do so. I want a man for my garden. *Three acres, fruit, vegetables, flowers, hot-house, a boy to help. Wages £1. A single man preferred.* I prefer *honesty to ability or experience, but honesty in gardeners is rare.*" The italics are the writer's own.

Here is a new turn for the thoughts of young men: "honesty is the medium, 'blow' knowledge of gardening." The man who has the ancient axiom, "honesty is the best policy," writ large on his forehead is the man for this female applicant. Whilst we are surprised that her magnificent wage of £1 per

week has not hitherto kept her gardeners honest, we are further astonished at her moderation. To look after three acres of garden, with a hot-house, is for a man a mere trifle. Others would have added to look after two cows, a pony and trap, drive out occasionally, wait at table, and must have a good voice to sing in the church choir on Sundays. Young gardeners should cultivate their voices, should learn the flunkey's art—but of course not to pocket the plate—to milk cows, and drive elegantly, but above all things to acquire the virtue of honesty, and if the virtue is learned but slowly, then learn how to act it.

After all, what a mean, miserable prospect does this lady's offer hold out to any respectable man! Still further, who, having any regard for his reputation, would rush into the employ of a woman who, with the impulse of David of old, declares that all gardeners are rogues. If gardeners have no better prospects open to them than are presented in the above communication, it is high time they turned their attention into other directions.

Crowding In.—After all, it must be admitted that the future prospects of gardeners generally is a pitiful subject for joking. Some of our friends, as may be seen in our columns from time to time, hold strongly to the belief that gardeners need higher education and training. That may be so, but we feel assured, all the same, that until some limit can be put upon the number of young men now crowding into the profession, there is little hope for any appreciable improvement, either in the status or wages of gardeners.

We print the document above referred to, mainly to show young men what sort of openings for them gardening offers; but we would urgently ask, all the same, whether even such prospects as presented, bad as they are, must not become worse rather than better as time rolls on. Somehow, every youth thinks when he enters a garden, that he at least will secure some place worth having. Those places are becoming fewer every day; whilst the ranks of candidates for the few are increasing. But there may be in the market-garden trade much more that is hopeful than private gardening presents. The ordinary advertisements for hands show, from week to week, far more young men required in the market direction than in any other. Market work is hard, and has about it little that is taking. It bears no comparison to the sweeter associations of private gardening, but it seems to be the one section of gardening which is paying.

Young men should get a knowledge of it in any case; there is very little room in it, we fear, for a display of intellectual culture or of scientific knowledge, but there is still the dominant fact—market-growing pays. Parents anxious as to their sons' future career, should think twice before they thrust them into gardens. If there are no better openings in view for our growing youths than gardening offers, then have they fallen upon evil times indeed.

Double Hardy Primroses.—To how remote a period in history can double Primroses be traced? So far as our research has been successful, we have found them referred to by D. Rembert Dodoens, in his *Herball* of 1578, as "Double kinds planted in gardens"; whilst in 1759 Phillip Miller, of the Chelsea Botanic Garden, mentions several varieties of the Primrose having double flowers. The chief point which needs elucidation, however, is as to the origin of the double forms. Are they real sports of nature's own producing, or are they the outcome of the florists' art in intercrossing and selecting, or are they but the natural products of garden cultivation?

There have been instances recorded of double Primroses being found in a wild state, but these are very few, are not very reliable, and so far little or no evidence has been afforded that these sports have been perpetuated. The general impression is that we owe the chief portion, if not all, of our double Primroses to the Flemish and German florists. The best and most recent introductions, Arthur Dumortier and Croussei, are undoubtedly continental forms. On the other hand, we have been growing single hardy Primroses in this country for many years, and during the past twenty years very fine strains in great numbers, and yet, so far, doubles seem never to have responded to such cultivation.

That we should have had some double Primroses with us for generations, and yet even now cannot count more than a dozen distinct forms, shows that doubling in the Primrose is hardly a natural tendency, as it seems to be with many other flowers. There are variations of hardiness in those few we have, as, whilst the white and lilac, and next the Early Sulphur, do pretty well generally, several others seem to be kept in existence only by great care. However, heat and drought appear to be worse enemies to these plants than is severe cold, because all the kinds do well in the north.

Spring Flower Shows. — Are our Fyvie friends endowed with some specially sarcastic faculty, that they should hold a floral exhibition at the end of February, and call it a spring show? If the Fyvie spring begins so early, certainly the north of Scotland is favoured far before our southern districts are. To follow up the pleasant illusion we shall hear of Scotch summer shows in May, and autumn shows in August. Our near neighbours at Richmond — that royal suburb of London, famed far and wide for its beautiful scenery—is to hold a spring show next Thursday and Friday, and even that date is thought to be exceedingly early. Certainly we shall see a spring show, so-called, with hardly a plant in bloom lifted from the open air. Not that early plants have not bloomed, but the unfortunate flowers have suffered so much from rain, frosts, winds, snow, and all the delightful meteorological concomitants which go to make up that genial season called spring.

However, the Lancashire people of Preston are not less audacious in their estimate of spring, for they hold their annual early show on Wednesday and Thursday next; and to come closer home again, the Crystal Palace follows suit on the 23rd. Of course, all these shows must be made up chiefly if not exclusively of forced plants. It may be that, in relation to weather and seasons, glass-houses have made us practically independent, and with their aid we can produce flowers as we need them, just as the old wizard could call spirits from the vasty deep. All the same, we should like to see a spring show, which offers a real representation of hardy garden flowers as they are in the garden, and not as they are supposed to be. If we could only secure spring weather with the spring shows, our appreciation of them would be all the greater. None the less we trust all our friends will reap rich rewards from their enterprises.

Fruit Prospects. — We hear from some diverse sources that the appearance of the hardy fruit trees and bushes is of a much more hopeful nature than earlier anticipations warranted. The buds or fruit spurs swell slowly, but where that swelling has taken place, there is now ample evidence that if fruit is lacking this season, it will not be for want of bloom. Perhaps we may add also, that it will not be for want of check. There will be no precocious blooming of anything outdoors this year; indeed, at the present rate of progress, there should be nothing early, but all rather late. The mild open weather of January has not been sustained since; indeed, the later weather has been of the most deterring kind, and hardly a fruit tree or bush but seems almost as left at the end of January, except that the bloom buds have become plumper. All our prospects of a fruit crop now centre upon the securing of a truly genial spring-like April month.

Brussels Sprouts. — The winter has shown once more to all who grow green stuffs for market, the value of the Brussels Sprouts for profitable cropping. Whilst profitable, it is very hardy and early, carrying its productiveness over a long season; in fact, for fully five months. Now what winter green vegetable have we from which such delicious material can be obtained, or such as meets a readier sale? The sprouts, gathered with some neatness and firmly packed into baskets, are carried here and there with ease, facility, and without inflicting upon them injury so commonly seen in the larger forms of green stuff sent to market. Beginning to crop quite early in the autumn, breadths of the stumps may be cleared off at the beginning of March in ample time for spring cropping. It is difficult to get plants out too early to secure strong stems and fine sprouts in the autumn; and it is wise to make a couple of plantings at a month's interval, to ensure a supply of sprouts late in the winter also.

Ireland as a Bulb Country. — That excellent grower of Narcissi, Mr. Baylor Hartland, seems to hold that Ireland could grow excellent bulbs. In that opinion we share. Ireland seems to possess in her climate some delightful characteristics, whilst her soil is exceptionally fertile in the best districts, and is well watered. It may be but a question of enterprise and capital, but very much has to be done in destroying the prejudice against the Emerald Isle, which even yet too largely exists. Some Irishmen—although hardly worthy of the name—have done their best to vilify their native country in the estimation of Englishmen, by striving to exhibit her people as of the worst. Happily nothing can be wider from the truth, and we are sure that were capital embarked in bulb-culture in Ireland it would be eagerly welcomed. Of course, our connection with Holland is now a close one, but it seems difficult to understand why some of that trade esteem should not be exhibited nearer home.

The Floods.—Those whose lot has been cast in watery localities have recently had some sad experiences in particular districts, the sudden access of water arising from the thawing of large masses of snow and the unusual downpour of rain having produced floods of an unprecedented character. Gardens suddenly placed under water, and, as it were, converted into the bed of flowing rivers are bad cases indeed, and must present, after the floods have abated, very distressing aspects. Our hearty sympathies are with all those who have so suffered. It is not easy to advise that gardens should be made on higher land, for the alluvial soils of our valleys comprise that which is most fertile, and if thus subjected to occasional floodings, yet have in their productiveness some compensations. Happily misfortunes of the kind referred to are rare, and come only in limited areas. The chief misfortune to gardening generally, just now, is found in wet, cold soil, with absence of sunshine.

Proposed Horticultural Show at Wolverhampton.—At a public meeting convened last week by the Mayor of Wolverhampton, it was decided to hold a horticultural exhibition, on the lines of those held at Shrewsbury, York, and Southampton, in the Public Park in that town about the second week in July, with the object of devoting any profits that may accrue to increasing the attractions of the Park.

Gardening Engagements.—Mr. Snow, gardener to the late John Bruce, Esq., South Park, Wadhurst, Sussex, as gardener to — Murietta, Esq., Wadhurst Park. Mr. Nisbet, for twenty-eight years gardener at Aswarby Park, Sleaford, as gardener to the Duke of Westminster, Cliveden, Bucks, in succession to Mr. Ellam.

The Grape Hyacinth in the Greenhouse.—The old-fashioned Muscari botryoides is well known in many gardens, where it becomes almost a weed, owing to the freedom with which it produces seeds, which germinate readily and come up all over the garden, even in the box edgings. It also proves very suitable for pot culture, and when urged gently onwards comes in very handy at this season of the year for greenhouse decoration. By assorting the bulbs and using the best, they flower very equally and finely, the blue spikes imparting a cheerful contrast to the other occupants of the house.

Mr. Charles Frazer, horticultural builder, Palace Plain, Norwich, died on the 28th ult. The business is being carried on by his executors.

Gardeners' Orphan Fund.—On the evening of the 8th inst., an influential meeting of the market growers was held at the Hummums Hotel, Covent Garden, to consider the question of holding another Floral Fête in the Wholesale Flower Market, during the ensuing season, in aid of this Fund. Mr. George Deal, chairman of the Executive Committee, presided, and having briefly stated the objects of the meeting, Mr. Messer moved the following resolution :—"That this meeting, consisting mainly of stand-holders in the Wholesale Flower Market, Covent Garden, cordially endorses the proposal to hold a second Floral Fête in aid of the Gardeners' Orphan Fund, and having heard with pleasure that His Grace the Duke of Bedford has kindly granted the free use of the market for this purpose, hereby pledges itself to render the best assistance in its power to successfully carry out the same, and to co-operate in general with the Executive Committee of the Fund." The resolution was seconded by Mr. Hawkins, Twickenham, and carried unanimously. In order to carry the above resolution into effect, Mr. Asbee moved, Mr. Stroud seconded, and it was also unanimously resolved that ten gentlemen be appointed as a committee to represent the stand-holders, for the purpose of co-operating with the officials of the Fund. A show of hands having been taken, the following gentlemen were declared duly elected as members of the committee :—Messrs. Messer, Lewington, Hawkins, H. B. May, E. Rochford, T. A. Dickson, G. May, Baker, Cataneo, and Poulton. The sense of the meeting was taken as to the most convenient day for holding the fête, and the general opinion appeared to be in favour of Wednesday, the 8th of May.

Cordyline indivisa.—The commonest form of this plant in gardens, and apparently the hardiest one, has green leaves that are far less ornamental than the true C. indivisa, the leaves of which are lance-shaped, glaucous on both sides, but especially beneath, with all the principal veins of an orange-red, giving the whole leaf a beautifully striped appearance. It is a native of New Zealand, and requires to be kept in a cool temperature and not over-watered.

The Late Rev. W. A. Leighton.—The Reverend William Allport Leighton, whose recent death at the ripe old age of eighty-three years we briefly announced in our last, was born at Shrewsbury in 1805, and when quite young was enthusiastically devoted to antiquarian pursuits. Whilst at Mr. Case's school his friend and schoolfellow, Charles Darwin, instilled into his mind the germ of botanical research, which was fostered by an ardent love of flowers, and greatly developed during his residence at Cambridge by his friend, the Rev. J. T. Henslow, Regius Professor of Botany in that University. Mr. Leighton published in 1836 *A Guide Through Shrewsbury*, which ran through four editions, and is now out of print and very scarce. He also contributed numerous archæological papers to the *Gentleman's Magazine* and other antiquarian periodicals, besides many botanical articles in magazines of natural history and Transactions of learned societies. His *Angiocarpous Lichens elucidated by their Sporidi* was published by the Ray Society in 1851, his *Flora of Shropshire* in 1841, and his *Lichen Flora of Great Britain, Ireland, and the Channel Islands* in 1872. He collected during many years a very valuable herbarium, which he afterwards presented to the Kew Herbarium. He was the first secretary of the Shropshire and North Wales Natural History and Antiquarian Society, which he was instrumental in establishing in 1835, and continued to take much interest in it till it became amalgamated with the Shropshire Archæological Society, the *Transactions* of which he edited for several years. He was a Fellow of the Linnæan Society of London, Fellow of the Botanical Society of Edinburgh, Honorary Member of the Cryptogamic Society of Scotland, Honorary Corresponding Member of the Natural History Society of Cherbourg, &c., &c.

CHRYSANTHEMUM NOTES.

Golden Beverley and its Sports.

I have read the remarks of your correspondents "P." and "Observer," upon the bronze sport H. Shoesmith, and as I happened to be one of the first to obtain Mr. Bunn after it was distributed I venture to encroach upon your valuable space with a few lines for the purpose of correcting "Observer's" remarks. The variety named Mr. Bunn is a sport from Golden Beverley, obtained about 1877-8. It originated with Mr. Bunn, who was connected with the Lambeth Amateur Chrysanthemum Society, and who left England for America, but who before going gave this sport to Mr. Wm. Halstead, a member of the same society, and out of compliment to his old friend Mr. Halstead named the sport Mr. Bunn, and distributed it amongst his friends. Since then, Mr. Halstead has migrated to the great city of New York, and it was the fact of receiving an interesting letter from him this morning, full of Chrysanthemum news, that led me to send you this note.

In 1885 Mr. Harry Ellis, also a member of the Lambeth Amateur Chrysanthemum Society, discovered that one of his plants of Golden Beverley had thrown bronze flowers. He grew twenty plants the following year, and eighteen of them retained the bronze colour, the remaining two reverting to Golden Beverley. Mr. Ellis placed the sport in the hands of Messrs. Davis & Jones, who named it H. Shoesmith.

As far back as November, 1886, in the *Gardeners' Magazine*, mention was made of this bronze sport, which had been obtained from the same parent plant as Mr. Bunn. "Observer" states: "H. Shoesmith, I understand, originated as a sport from Mr. Bunn, and certainly it was last season awarded a First Class Certificate by the Floral Committee of the N. C. S. as Bronze Mr. Bunn." This is incorrect, for I have a distinct recollection of seeing at the Aquarium, on the 21st November, 1888, two plants of this sport, which were presented to the Floral Committee of the N. C. S. for their award. Each plant had upon it three blooms, and stood about 5 ft. high, growing in 24-sized pots. One plant had a label upon it, bearing the inscription H. Shoesmith, so that under these circumstances it was impossible for the plants to have been certificated as Bronze Mr. Bunn, although the committee may have been informed, like many other people, that it is a sport from Mr. Bunn, and not from Golden Beverley, as is actually the case.—*Fair Play.*

POTATO, EARLY PURITAN.

Of the many bewildering varieties of new Potatos that are every year introduced to notice and distributed for cultivation, and which have claimed for them, by the raiser or introducer, all the good qualities it is possible for a Potato to possess, it is gratifying to find one variety of recent introduction, at least, that justifies much that was said in its favour, and upholds its certificate of character as possessing sterling qualities. A Potato like the variety under notice, which proves to be more than fairly good in most points in districts far apart and on various soils, in a season, too, like that of 1888—which was, perhaps, the worst Potato season experienced for many years—may be said to possess really sterling qualities.

Like most of the American kinds when first introduced, Early Puritan is a prodigious cropper; but is unlike most of the other varieties from that country, in that we shall not have to grow it three or four years before it parts with its waxy nature and becomes fit for table, as it is almost equal in cooking qualities to our best established table kinds to begin with. Perhaps the worst soil on which to grow Potatos in wet and cold seasons, is a strong loam with a subsoil of cold clay of several feet in depth. Of such is the character of the soil we have to contend with, and in wet seasons our crops of Potatos suffer more or less accordingly, but I never remember them to have been so bad as last season. The Potato blight was very rife in some of the varieties which we grew, and the quality of what were not diseased has been execrable.

Out of twelve varieties grown, the one that stood the weather the best, and came out almost scatheless from the disease, was the new variety in question, and in cooking quality it is the best I have seen and tasted this season. Unfortunately, we had only a small supply of it, it being the first season of growing it, and on trial. From 7 lbs. of seed tubers, cut into as many sets as possible, we lifted 288 lbs. of fine shapely tubers, and most of them of cookable size and excellent quality. Out of the lot were found only seven diseased tubers, while in a breadth of Beauty of Hebron, growing by the side of them, there was fully one-half of the crop diseased.

The very small percentage of diseased tubers of Puritan would indicate that it has disease-resisting powers of great extent, which should recommend it to growers generally. Still, I do not believe that any Potato can withstand the blighting effects of the disease for any length of time, and Early Puritan may, after a few years' trial of it, fall an easy prey to the scourge as all other reputed disease-resisting kinds have done. Notwithstanding, I believe it to be a very good Potato, and those who have not tried it I feel sure would not be disappointed by giving it a trial this coming season. In growth, colour, and shape of haulm, also in form and size of tubers, Early Puritan is almost the counterpart of Beauty of Hebron; the colour of its tubers, however, are white, and might not inaptly be called White Beauty of Hebron. It is also slightly earlier than that variety, which is a further advantage in its favour.

It proves to be an excellent keeper. I had some taken out of the store to-day, and cooked for dinner. The tubers were very sound and firm, and after being cooked and nicely dried, they were veritable balls of flour. On account of the snowy whiteness of its tubers, Early Puritan will, no doubt, in time replace Beauty of Hebron, the tubers of which are more or less every wet season tinged through with a pink colour, rendering them unpresentable for table.—*J. Kipling, Knebworth.*

THE ROSE GARDEN.

TEA ROSES ON THEIR OWN ROOTS.—IV.

Planting Out Under Glass.

When it is intended to devote a house entirely to the cultivation of the Rose, whatever its aspect may be, the remarks in my last on ventilation as applied to mildew should be considered. The ventilators require to be so placed that the direct force of any current of cold air should not strike upon the young and tender growth, but should be so arranged that the air can be warmed by passing first over the pipes, and permeating the whole house gradually before going out at the top. One of the greatest evils that can possibly happen to any house, whether Rose or any other kind, is to allow the house to get hot with both sun and fire heat, and then open the ventilators wide all at once. It is much better to put a little on early in the morning, or as soon as the weather will permit, and allow the heat to rise gradually, with a niche of air on, than adopt the plan of suddenly opening out the whole at one time.

In a house devoted to Roses they generally thrive better by themselves than they do when mixed with other plants; and in planting out, some idea should be in view before commencing, or the house may soon become a wilderness of brash and bramble. In preparing borders they should be well drained, mixing well with the soil rough rubble, such as generally comes from old buildings; this keeps the borders open, allowing the roots to run freely, and admits of good soakings of water being given without making the soil pasty.

Plants intended for the roof should be but few, and those a choice selection. These may be planted at intervals, and will in time cover the whole roof if allowed to do so. In the meantime other bush kinds may be planted in the borders between the climbers, or some may be grown in pots, according to the idea of the cultivator.

The system of planting out is a good one when the plants cannot have that attention, &c., that plants in pots require, because a few hours occasionally spent in soaking the borders and in regulating shoots, is all they need, except the usual routine of syringing, ventilation, &c. It is good in other respects, as it will yield by far the greatest number of flowers, especially from the climbers on the roof; but the flowers, as a rule, are all in at once, or, to speak plainly, the main crop of flowers may all be cleared away in a few weeks, leaving not much but occasional flowers to follow all

through the summer and autumn months, with wood-making into the bargain. Where a good amount of roof space is covered in this way, without you have a good outlet for your flowers, you may make your mind up to see some hundreds of blooms spoil in a very few days. The bush kinds that have been planted out between, if they have not been overgrown by the climbers, will not flower so freely, but will yield a more regular supply.

Red-spider is a terrible scourge amongst permanent planted-out Roses, and as soon as the real summer weather comes, do not fail to apply the syringe freely, and keep the house as cool as possible. The plants so treated will naturally lose their leaves at the proper season, and may be started into growth again at any time of the year, according to when the flowers are wanted.

PLANTS IN POTS.

Good plants that have been grown on from young ones in pots, and well looked after, will yield a more regular supply of bloom than those planted out; but they want a great deal more time spent upon them in the shape of attention. Get some really good plants in large pots, and keep them in a healthy condition, and by bringing in a few dozen at a time the Rose season may be prolonged for an indefinite period. During the summer and autumn they may be plunged outside in a good open position, where they will not need much attention, only that of watering occasionally.

Where a continuous supply is required, I should prefer large plants in pots, in sufficient numbers, to those planted out, for the reason that you may then employ the house for other purposes during the autumn and winter seasons, whereas if the plants are permanently planted, the house cannot be of much other use.—*W. G.*

THE MUNCHAUSENS OF GARDENING.

AMONG the many I have met with there were certain people who might be called the Munchausens of gardening. Whatever they had was bigger than anything anybody else had, and more extraordinary and greater than anything else in existence. In the country there was one of them called Chadderton, who used to live between Ashton and Daisy Nook. In cutting the canal they entered on a large stand of water there, which is called Crime, and his garden was on Crime Brow. He was a thorough and earnest gardener, but slightly prone to exaggeration in some things. Someone said to him one day, "Chadderton, how are thi fayberries looking?" "Hey, dear," he said, "tha' should just see 'em; they are hanging under the trees like watchmen's lanterns, and aw have to make holes under 'em for 'em to hang in." Another time he said that he was going home from Ashton "one Sunday neet, and when I geet on't canal bank, I heard it crack and crack, and I thowt whatever is it, is thur going to be a bit of a earthquake?" and he said, "I bethought me all at once that it wur my Onions growing; I had gi'en them a bit of pushing stuff, and there had been three or four hours of nice warm rain, and it wur."

Gooseberry growers know that there is a great difference in the weighing properties of ripe and unripe fruit. So a sympathising friend was looking over Chadderton's fruit in a season something like the last one we have had, with very little sun and plenty of shade and rough weather. So the friend said to him, "Well, John, you'll never get those ripe in time for the show." "No," he replied, "I think not." "No, there's bin no sun," said his friend. "Sun!" said John, "No, I cud a made as good a sun out of a brass button top wi' a bit of sond papper as there's bin this year." At that time flat brass buttons were very commonly worn. Old George Horrocks, of Blackley, rather beat him in Munchausenism. He was really a first-rate gardener, and a good grower of anything he took in hand. He was gardener for Mr. Ashton, the builder, at one time, and he said he would give anybody about Blackley 1 lb. in growing a Tripoli Onion, and to some he would give 2 lbs. Well, he grew them to between 4 lbs. and 5 lbs. weight at one time, and he used to tell some wonderful stories, but there was always a good vein of humour in them.

He raised a Gooseberry called Gretna Green, which was a very handsome one. He boasted so much about this sort, that I expect he had been meddling with it and trying to swell it, but, however, at the time when it should have put in the most work, it suddenly sulked, and would scarcely grow at all. So he used to stand and apostrophise the tree: "Oh," he would say, "thar't sulking, arta? Just thee wait till end o't' season, and I'll pay thi off then." However, it did sulk, and disappointed him very much; so at the end of the season he dug the tree up and punched it up and down the garden, and across, and then over a hedge, and then he went and punched it up about the field, and then punched it back again. "Now then," he said, "thou wants wakkening up, and I think that'll wakken thi up." Well, he planted it again, and whatever may have been the reason it did not sulk the year after. He won first prizes all over the place with it, and he used to tell the story very gravely, and say, "If ever tha has a tree that sulks like that thee punce it about. It'll cure it if owt will." He had a great many stories to tell with which I could fill the space of a lecture, but I think his finest was in describing a great crop of Onions he had got, and which he had to take to Bowlee Show, Middleton. And he said to me, "It were between four and five mile, thou knows, and I wondered however I were to get 'em there. I got a navvy barrow," he said, "and I tried to put three in, but I couldno' wheel 'em at all. First one and then another kept tumbling out, and then I found I could only take one at onst. So I had to start that road. Well, show was on't Saturday, and I had to begin taking the things on Thursday morning. I could only go twice a day," he said, "and I managed to get six there." You may depend upon it that I never questioned the truth of that story.—*From a paper on Garden Gossip by Mr. S. Barlow.*

THE FERNERY.

ON PLANTING THE SMALLER BRITISH FERNS.

There can be no question that a large amount of interest attaches to the cultivation of the smaller British Ferns, all of which are exceedingly pretty. They are at the same time quite hardy, with the exception perhaps of the Maidenhair (Adiantum Capillus-Veneris) and Asplenium Ceterach, better known perhaps as Ceterach officinarum, which would hardly succeed in the open air in cold northern districts. Besides their beauty there is an additional incentive for planting them in the great variety they afford, and the use that may be made of them for planting in small pockets, seams, and crevices of the most perpendicularly built rockwork.

One thing that must be remembered is never to plant them in warm and sunny positions, where the small quantity of soil between the crevices of the stones must get dust dry in a very short time. Care should be exercised in building that these crevices communicate with larger quantities of soil down between and below them. The joints should also dip inwards and downwards so as to receive and take in the water applied to them, either by the garden hose, the engine, or even the watering-pot. Many collectors, no doubt, remember finding such things as Scolopendrium vulgare, Asplenium Trichomanes, A. Adiantum-nigrum and others, growing in crevices of the stones and beneath overhanging boulders where no rain could ever reach them. In artificial rockwork, the difficulty of getting those places to retain sufficient moisture to ensure the growth of the subjects planted, should forbid the imitation of nature in that respect. In those particular cases the rocks are kept continually moist by the oozing out from between the seams, or by the trickling down from above, of water from some hidden source. On a large scale an imitation of this may by the exercise of considerable skill be attempted.

If no continual supply of water in this way can be obtained, both the building and planting will have to be conducted in such a way that the rockery will receive the full benefit of rain and what other water may be applied to it artificially. The next thing to be considered is, that however narrow the clefts may be in which Ferns are planted, their roots should have access to soil deep enough to secure a sufficiency of moisture at all times, but particularly while making growth in summer. A quantity of peat will be found advantageous for all of the smaller kinds. Rock-loving Ferns such as Asplenium Trichomanes, A. fontanum, A. germanicum, A. septentrionale, A. Adiantum-nigrum, and A. viride, will be benefited by an admixture of broken sandstone, either red or white, provided it is of a porous as well as gritty nature. All of these should be planted in little pockets on the shady northern exposure of rockwork, but they must neither be overhung by nor subjected to the drip of the trees, and must at all times be fully exposed to light. In southern districts Asplenium Ceterach may be grown under these conditions. Give A. viride a free supply of water in summer. Lime rubbish may be mixed in the soil in which Polypodium Robertianum (P. calcareum) is planted; no other British Fern, however, should be so treated. The beautiful Mountain Parsley Fern (Cryptogamma crispa) does best when fully exposed to light and air; it never thrives satisfactorily for any length of time in the confined atmosphere of houses. Never allow it to be overshadowed by taller-growing kinds. The Common Polypody may be planted extensively in all sorts of places, such as in crevices and on the tops of old walls where they are likely to obtain a sufficiency of moisture to maintain a foothold.

HARDY HERBACEOUS PLANTS.

LETTERS FROM A LADY TO A FRIEND CONCERNING THE BEST FLOWERS TO GROW FOR CUTTING.—I.

"My Dear Mary,

"You have so often admired the flowers in our home that at your earnest request, now I have the time, I send you the following notes and hints, as it will soon be the season for putting in new plants in your garden, with a view to use next season. You may have remarked the sparing use I made of greenhouse and forced flowers, so knowing that you have no glass, all the information I now send, concerns only such things as you can grow in the garden without much trouble. Also I do not write about florists' flowers, like Roses, Carnations, &c., the growing of them involving too much expense.

"To begin with, do not arrange your Snowdrops with small evergreens, like box, &c., as I have noticed you always do. I generally mix mine with their own leaves sparingly dotted amongst them, and the effect is very much more artistic. Also take off any stiff look, by having some with much longer stalks than others; and when your glasses are filled, pull up some here and there above the heads of the others, which will give a much lighter effect. Have them pulled with as long stalks as you can get, as they arrange so much more gracefully, and have them gathered when newly out, as then they will last a long time.

"One of the next earliest of our spring flowers is the well-known Crocus, and why it is so seldom seen arranged indoors I cannot understand. You remember admiring our old bowls with them. I fill the bowls with loose fresh moss heaped up in the centre, then dot in the Crocuses of all colours, and stand them in a sunny window to make them expand their blooms. When out, their colours are so brilliant they make a room look quite gay. A few tiny Ivy leaves, the dark red kind especially, stuck in round the edges of the bowls is a great improvement. I have often in early spring decorated the dining-room table with a dozen small bowls filled with the Crocuses in all colours, and they were very much admired.

"Now I must tell you of a plant which I cannot too strongly recommend, and which is not much known—viz., Doronicum caucasicum. Flowering as early as the end of March, it is, of course, extra welcome, and except it has been seen growing in very large clumps or long lines, few can realise how beautiful the effect is of its lovely Daisy-shaped flowers, blooming too when flowers are still so scarce. It is perfectly hardy, and increases very rapidly. A large stock of it can be got in a short time, by breaking up plants into quite tiny pieces, and planting in a row 6 ins. apart. The plants soon fill up the vacant spaces, and can be further sub-divided if more are wanted.

"In a cut state the flowers last very long, if as soon as cut they are immediately put into water; but if this is neglected they droop, and do not revive again. When I cut them to send to friends in town, I do so the afternoon of the day before, placing them overnight in water, in a cool dark room or cellar. With this precaution they arrive quite fresh, and last from ten days to a fortnight. After the plants have done flowering, the foliage grows very strongly, and being very beautiful, both as regards colour and shape, is very ornamental during the summer, and also very useful to cut from when green is required, especially for Heleniums and Bupthalmums, which have the same style of flower as the Doronicum, but their foliage being not at all good, I always in preference use the latter.

"Another spring flower I find either neglected or little known, is the double form of the common Wood Anemone—viz., Anemone nemorosa flore pleno. Anywhere in shady spots, in shrubberies or secluded mossy banks, it takes care of itself, and the flowers having more substance than the wild single one, last longer, and are also more effective-looking. Like the

Doronicum, to keep well they must be put in water immediately after being gathered.

"Corydalis tuberosa alba is another of my spring favourites, which I have never seen anywhere except in nurseries and our own garden. You may remember noticing it as it stood on our high mantel-shelf, its greeny white transparent flowers looking so delicate, and set off to advantage, arranged in a simple specimen glass. Well worth planting also, of the same class, are Corydalis nobilis and C. lutea, the first to grow in damp shady places, where in late spring its handsome foliage, and yellow flowers, are not at all to be despised. Corydalis lutea is in some places a great boon, succeeding as it often does where almost no other plant can be coaxed to grow. It makes itself at home everywhere, in the shade under trees where it mostly runs to leaves; on sunny old walls, and in bare exposed borders and banks it will spread, covering spots which otherwise, would probably be destitute of vegetation, and brightening them with its delicate green Fern-like foliage and small yellow flowers. Though the latter are of no use for cutting purposes, yet nevertheless all flower lovers must appreciate such a useful little plant, living and thriving as it does in almost any soil or situation. Only try dibbling bits of it into the crevices of an old wall, and you will be delighted with its graceful habit of growth.

"An old-fashioned plant we grow to fill glasses is the drooping yellow Tulip (Tulipa sylvestris); if placed high up its drooping flowers will then show themselves to perfection. Mixed with a few upright yellow Tulips or with heads of Luzula sylvestris, it makes a lovely glass to look at from below. Unlike other Tulips, once planted it can take care of itself and be left in the ground all the year round. Also uncommon is the white Fritillary (Frittillaria meleagris alba). In our soil they die out always after the third year, but they might be more permanent elsewhere, and are very well worth giving a trial.

"As to all Narcissi and Lent Lilies, gather them when only just in full bud, and arrange them with a very few of their own leaves. Gathered at this stage they keep very much longer, and any other foliage than their own spoils the effect of their flowers. White Squills which look exactly like wild Hyacinths except in colour, are bought under the name of Scilla nutans alba, and are not so common as they ought to be. I arrange them with their own foliage, as nothing else sets them off so well. Let me caution you to be economical in picking the leaves of all bulbous plants, as it is through perfect growth of the foliage that the roots become ripened, therefore indiscriminately robbing a plant of all its leaves must be avoided.

"Polyanthuses are such common things that you will wonder at my naming them, but of late years we have grown Barr's large yellow, and the giant yellow and white strains of Hartland's, of Cork, and all three have been such a success that I advise you to get seed and raise a collection for your own garden. As a rule, rich as are the colours of the Polyanthus, they look too sombre when cut to show well as a flower for room decoration; but these three strains are different. The yellow especially are most perfect as cut flowers, being so rich in colour and so large as to be almost as fine as Campernelle Jonquils, and with the advantage of lacking their faint overpowering smell. When the Princess of Wales visited Cork I read that Mr. Hartland sent her a bouquet of them, with which she was greatly pleased.

"A plant still little known, but which will repay a good deal of trouble in procuring it, as only a few nurserymen have it, is Heuchera lucida. The flowers are quite insignificant and worthless, but the foliage is most exquisite, both in colour and form, resembling a zonal Pelargonium, only serrated at the edges and extremely lustrous. As it is perfectly hardy, and the foliage lasts well on into the winter, I rarely cut it much till late in the season, when a few of its leaves make a most charming addition to autumn and early winter blooms. It arranges exquisitely with the white autumn Japanese Anemone (A. japonica Honorine Jobert), China and Christmas Roses, and yellow and white Chrysanthemums. As a permanent edging to a bed cut out on grass it is particularly suited, the rich lustrous crown leaves showing so well against the bright green turf; and then for cutting from, nothing could be better.

"You also noticed that pretty pale green Fern-like foliage I used so much last summer. It is Dielytra eximea, and we grow quantities of it merely for foliage to cut from, as the flowers are really not at all pretty. It often lasts for a fortnight as a green for dinner-table flower glasses. It is so delicate that it withers directly it is cut, and how I manage is to take an empty marmalade pot when I go to gather it, and as I cut each spray put it at once into the pot, which, of course, is filled with water. If I did not do this it would not carry fresh even into the house. It is quite as delicate in colour and habit as many Maidenhairs, but gathered as I describe, has the advantage of lasting a long time. If grown in the shade, it spreads more rapidly and grows larger and deeper green in colour, but some should be grown in the sun, where it grows more delicate and paler in colour, and it may even be got to come variegated and blotched with yellow by growing in a sunny spot in soil slightly mixed with lime rubbish. It is quite the best green I know to replace Maidenhair, and generally even a single clump has both upright and drooping leaves, the latter being so useful to fall over the edges of glasses, and its keeping so long is a very great recommendation.

"Believe, me, yours truly,

"GLADYS WOOD."

NOTES FROM SCOTLAND.

Honour to a Scottish Botanist. — The Senatus of Aberdeen University on Saturday resolved to confer the LL.D. degree on, among others, Mr. John Roy, headmaster of Dr. Brown's School, Aberdeen. Mr. Roy is a native of Perthshire, but he has been connected with Aberdeen for thirty years. His merits and success as a teacher have been duly recognised by his being admitted a Fellow of the Educational Institute of Scotland. The University Senatus, while not overlooking his qualifications as an instructor of youth, conferred the LL.D. degree upon him mainly in respect of his scientific attainments. In connection with the Earl of Crawford and Balcarres' Observatory at Dunecht, near Aberdeen, Mr. Roy did much valuable work, which was only known at the time to a very limited circle, as the results were printed for private circulation, and did not have Mr. Roy's name attached to them. It is as a botanist, however, that Mr. Roy has established his reputation. At the present time he is president of the Natural History Society of Aberdeen, of which for more than twenty years he acted as secretary. His contributions to that society's papers and his aid to young members have always been greatly appreciated. His researches have, however, gone far beyond what might be regarded as the popular side of botanical science, and the results of his investigations into the general botany of the north-east of Scotland will very shortly appear in the form of a "Botanical Guide," the joint production of Mr. Roy and the Rev. John Ferguson, formerly of New Pitsligo, Aberdeenshire, now parish minister of Fearn, Forfarshire. Mr. Roy's specialty is microscopic botany, and in that wide department he has chiefly, though not exclusively, engaged himself in the examination of the Desmids of this and other countries. For the benefit of non-scientific readers, it may be mentioned that the Desmids are amongst those lowest organisms which seem to connect the animal and vegetable kingdoms at their common starting point, and that they are usually found in stagnant or slowly running water. Mr. Roy has written on the result of his investigations in the *Scottish Naturalist;* has published the *Desmids of Japan* in conjunction with Mr. Bisset, of Wyndum, Banchory, near Aberdeen, who was for several years resident in that country; and has examined the Desmids of Leicestershire for the recently issued *Flora* of that county. The labours thus undertaken, and other work in which he has been active, have brought Mr. Roy into communication with many scientific men alike in Britain and on the Continent, and has made his name known among students of botany in every country in Europe. It has only to be added that great satisfaction is being expressed amongst the wide circle of Mr. Roy's friends, at his long and valuable services to science being so kindly recognised by the Senatus of Aberdeen University.

Scottish Horticultural Association.—The annual general meeting of this association was held on the 5th inst., at No. 5, St. Andrew's Square, Edinburgh. The twelfth annual report (which was submitted by Mr. Robertson Monro, the secretary) stated that the association had made steady progress during the session. Having offered a summary of the different papers read to the association, and alluded to the interesting features they presented, the report went on to mention that during the session fifty-five members (three of them being life members) had been added to the roll. The treasurer's report showed a small balance on the right side of the association's accounts, and also those connected with the Chrysanthemum Show. The reports were adopted, and the meeting proceeded to the election of office-bearers, which was carried out as follows:—Honorary president, the Duke of Buccleuch; president, Professor Bayley Balfour; vice-presidents, Mr. Alexander Mackinnon and Mr. James Grieve; secretary Mr Robertson Monro; treasurer, Mr. A. Mackinnon; new council, Mr. Grosart, Mr. M'Hattie, Mr. M. Dunn, Mr. Laing, Mr. Tod, and Mr. Macmillan.

The Edinburgh International Centenary Chrysanthemum Show.—We are pleased to observe that the Edinburgh Town Council, at their last meeting, agreed to guarantee the sum of £100, and to give a silver cup, value £20, for competition at the proposed Centenary Exhibition, to be held in November next.

North of Scotland Horticultural Association, Aberdeen.—At the usual monthly meeting of the members of this association, held on the 6th inst. (Mr. D. M. Smith, the vice-president, presiding), a paper on the cultivation of hardy fruits, by Mr. A. Chisholm, gardener, Duffus House, Morayshire, was read by Mr. William Reid, the secretary. The paper dealt exclusively with the growing of Apples and Pears. Although Mr. Chisholm would by no means recommend the planting of extensive orchards in Aberdeenshire, yet, as Peaches, Nectarines and Apricots did very well in Morayshire with merely the protection of a fold or two of an old net, when they were in flower, it was not too much to expect that Apples and Pears would succeed in Aberdeenshire. He had been asked by many persons why it was that Apples were so much inferior nowadays to those they used to get when they were young, and his reply to that was simply that it had to be remembered that a slice of a raw Turnip was considered first-class then.

His employer had given close attention to the cultivation of Apples and Pears for a great number of years, and he denied that there was any falling off in quantity or quality. He, however, complained of the seasons, and that some of the varieties did not ripen so well as they did formerly. It might be that our forefathers had not to contend with canker. That disease was a great pest, and he was sorry to say he could recommend nothing new as a cure. In Mr. Chisholm's opinion, the reason why Apples and Pears did not get more attention than they did was that there was such a large amount imported annually from America and elsewhere. These varieties of fruit could be grown and sent to Britain at so small a cost as to almost defy home competition. At no season of the year were Apples in such a state of perfection as in September and October, and this fact, Mr. Chisholm thought, might be worth the attention of those growing for profit, so that their fruit might be sold off before the foreign Apples glutted the markets. Several very practical hints were given as to the planting and pruning of trees, and the affixing to each tree of a permanent label bearing the name of the variety was advocated.

A discussion followed, which was taken part in by a goodly number of those present, and at its close the secretary was authorised to convey to Mr. Chisholm the hearty vote of thanks of the association for his instructive paper. A model of a fruit-protector was exhibited by Mr. Fairgrieve, Dunkeld, and received a good deal of attention. Mr. Auld, The Firs, Murtle, was awarded a Cultural Certificate for well-grown and beautifully flowered Cinerarias and Cyclamens.

Grafting to Cure Canker.—It would be interesting to know how many years trees keep in a healthy condition after they had been grafted by other kinds. The practice is well known to and familiar with the writer, but looking over a number of trees which had all gone wrong after they had been grafted and grown vigorously, were grafted again with another kind and appeared quite rejuvenated, and saved by the manipulation practised on them. But alas! time again shows how often one may be allured into a false faith when one has become confident that success is complete. There are, however, other causes of canker than the roots becoming inactive, over-active, or poisoned with improper food, viz., if allowed to become "snaggled" by improper and superfluous pruning in their earlier stages of growth; planting into rich soil, causing unnatural sappy growth which did not become matured, and rendering the tissues liable to injury by frost; cutting out large branches of vigorous trees, and leaving the stumps exposed to rain and frost, while slanting the wounds would have saved them. Some kinds (Cellini and Blenheim Orange especially) are very liable to canker. We cut a number of cankered trees back some years ago, which have made splendid growth, but we fear canker will again attack them.—*M. T.*

FLORICULTURE.

The Carnation and Picotee Union and the National Carnation and Picotee Society, Southern Section.

My much-esteemed and enthusiastic old friend, Mr. Wardill, suggests the publication of the schedules of prizes of these associations in the pages of The Gardening World, and I should much rejoice were it possible for the claims and merits of the two bodies to be thus brought into juxtaposition, and made apparent to the Carnation-loving world. But as I fear exigencies of space make this impossible, I hope I may be permitted briefly to recite and comment upon the salient features of each.

First, the Union offers prizes for twenty-four collections, each of twelve blooms, in three classes, eight in each; and for forty-five collections of six blooms, in five classes, nine in each, making a total of sixty-nine prizes for collections. No competitor can take part in more than five of these classes. Thus there is an assurance that, at the least, seventeen exhibits, if of merit, will be rewarded, with—the law of chances being considered—the strong probability that double that number will attain honours.

Further, the Union gives 120 prizes for single specimens (eight in each of fifteen classes), and five premiers for the best bloom selected from the whole exhibition—one, that is, for each section.

To the grading of these prizes the most careful consideration has been given, the aim being to proportion the amounts equitably to the relative merits of the several exhibits brought forward; to extend the list, so that at least seven-eighths of possible competitions, if of merit, may be rewarded, and (with the condition that the exhibitor of twelve blooms may not enter in the same section for six) to make the competition free as the very air itself, unhampered by the noxious divisions of amateurs and traders, and the not much less baneful division of growers of large and small stocks respectively. Experience has amply demonstrated that these restrictions, like all supposed-to-be protective laws, are sources only of weakness, full of anomalies, and fruitful of evil. It would be easy to illustrate this by relatively recent experience, but I refrain. Another point upon which, on behalf of the Union, I lay stress and claim credit, is the proportional amount offered for the twelve and six blooms classes respectively.

For eight prizes of twelve blooms each, ninety-six blooms in the total, £7 15*s.* are offered, giving an average reward of 1*s.* 7*d.* for each bloom shown, whilst for nine prizes of six blooms each, fifty-four blooms in the total, £6 15*s.* are offered, or an average of 2*s.* 6*d.* per bloom. On the face of it this shows an advantage of 50 per cent. in favour of the shorter classes. But the anomaly is not real. The object of the Union, as of all societies worthy of support, has been to promote the advantage of the many, not the interest of the few, and yet less the individual. Therefore the Union has sought, and has successfully extended its influence over an area wide beyond compare in excess of any previously attempted. Kent and Surrey have joined hands upon the exhibition table with Lancashire and Yorkshire, Hants in the south-west, Wales, and Scotland have been represented. Everyone conversant with the Carnation is aware the summer bloom culminates at very different dates in different localities. Speaking broadly, it may be said there is a week of difference with every sixty miles of northern latitude. Clearly, therefore, the less amount of bloom will be found on the outer area, whether from the decadence of the bloom, or from the fact that only a part, the earlier part, had got into flower, and therefore from this outer area the smaller number of flowers only may be produced. Yet, nevertheless, the larger expense from the longer distance of travel must be incurred by visitors from these wider areas, hence the equity of recoup by the relative larger reward.

Another point I have to advance for the Union in its claim for public favour, is the fact that it provides a free luncheon on the day of exhibition for its supporters. I lay great stress upon this point. Where more effectually can we promote fraternal communion than in the assembly round a common table, to satisfy the needs of our common natures, and gratify the spirit with our common sympathies? How many hasty resentments have paled and utterly died amid such influences! How many momentarily stinging disappointments have ceased to throb! How many by knowledge have found friends, where in ignorance they had feared foes! The Union has proved something of this, and as the years roll on will prove more.

Now I will deal with the schedule of the National. Fifty-six prizes are offered for collections of twenty-four, twelve, and six blooms or specimens respectively in eleven classes. Of these eleven classes one exhibitor may enter in seven, and if possessing strength, that is, if rich in the necessary accessories to cultivation, and able to command manipulative skill, may win seven first prizes, to the total value of £12 10*s.*, whilst his less fortunate brother, limited to the four shorter classes, could win only £4 5*s.*

In the case of the Union, the winner of the three first prizes for twelve blooms, if winner also of the two first prizes for six yellow grounds, which are open, would receive only £7 15*s.*; or if winner of each of the five first prizes for six blooms, also possibly within the reach of one exhibitor, £6 5*s.* As against the *nine* prizes offered for collections by the Union in the several classes, the longest number of the National is *six*; as against the 120 prizes for single specimens, the National proffers *seventy-five*; and as against the *five* prizes for premier blooms, *two*. Finally, the National, by these arrangements, creates facilities for the monopoly of the prize fund by one exhibitor to an extent varying from twenty-five to thirty per cent. of the whole; whilst the utmost attained by the ablest and most fortunate of the exhibitors in the Union was thirteen per cent. in the first two years only; and this, in the last two years, as the amount offered had been materially extended, fell first to eleven and then to nine per cent. respectively. To sum up, these inequalities of the National have shown that whilst the exhibitor can put into his pocket more than one-fourth part of the whole sum awarded, of *thirteen* competitors in the six blooms class, upon one occasion *eight* went empty-handed away.

Thus far I have dealt with the merits and claims of the two associations as affected by the arrangements for the annual meeting only; but this, important as it is, by no means exhausts the subject. It has always been, and probably will ever remain, that only a fractional number of lovers and cultivators of the Carnation—and relatively a small fraction—can be moved to all the stirring incitements of exhibition; whilst the immense proportion, though interested to the point of watching from year to year, and intelligently noting new developments and the progress made, will keep their souls in peace outside the arena of competition. For all such friends the Union arranges that value in the shape of plants shall annually be sent for the amount subscribed; and as the promoters of the association desire that its work may be more than a passing spasm, with the close of each year we issue with a statement of its accounts, list of subscribers, and the official awards, an elaborate report by a wide circle of correspondents upon the incidence of the season, good flowers seen or grown, and whatever else may have been of interest in connection with the flower, bringing on and completing from year to year its history to date.

It may be that, to some, in thus referring to and pressing home the lessons to be drawn from the present circumstances of the two associations, I may be thought invidious; yet even at that risk I cannot shrink from the task. Let the difficulties which beset the Union in its beginning be forgotten. Turn we only to the facts of the present day. Success has been attained by "leaps and bounds," dwarfing all former experience into insignificance. This success has been attained by keeping ourselves in touch with popular sympathy, by subordinating individual interest to the advantage of the many, and making every arrangement in the full light of day; and very clearly experience shows that the Union, at no distant future, may have an appointed staff and experimental garden to continue and enlarge a work it has been the greatest satisfaction of my life to have been permitted, in a small way, to begin.—*E. S. Dodwell, The Cottage, Stanley Road, Oxford.*

The Old Double Crimson Velvet Primrose.

History does not seem to give any clue to the exact origin of the double Primroses, varieties of Primula vulgaris. Most or all of them are so old that a halo of mystery surrounds them. From nine to a dozen distinct forms or colour varieties are in cultivation, but few collections can boast of the whole of this number. In some old-fashioned gardens a considerable number may be found planted about in the herbaceous borders or in beds, thriving and flowering annually with great freedom during March and April. As the weather gets warm, and the sun gains in power, their flowers at last fade. The northern or western parts of the country with a moist climate are more favourable to their well-being than southern districts, where the plants are liable to suffer through drought when they should be making growth. The double kinds in cultivation vary with white, sulphur, yellow, lilac, salmon, plum-purple, mauve-crimson, and crimson-velvet. We are indebted to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for an opportunity of figuring the latter. It is best known under the name of the Old Double Crimson Velvet, and is really a beautiful Primrose, fully double, rich in colour, and handsome. Pompadour is a name sometimes given to it. What must be gratifying to hardy plant lovers is that the double varieties are as fragrant as the single. It would be a great loss to the hardy flower garden should any of the kinds be allowed to die out and become lost. They all delight in rich, moist, and otherwise good garden soil, and in the sunny south must be planted in a somewhat shady position.

Primrose, Double Crimson Velvet.

Double and Yellow Hyacinths.

In the Rev. G. Henslow's historical note on Hyacinths in The Gardening World (p. 435) I find two errors, to which I beg to call attention. These mistakes are not unusual, as they are to be found in many books, having been copied from one to another. In point of time under cultivation the double Hyacinths are almost as old as the single ones, figures of double varieties being found already in the *Florilegium* of Swertius (1612) and in the *Hortus Eystettensis* of Besler (1613), and in different other books on horticulture of the

seventeenth century double Hyacinths are mentioned or described. I have discussed this question already in 1871 (see *Gardeners' Chronicle*, p. 873). Neither is it true that in 1842 a yellow Hyacinth was an impossibility. The yellow Hyacinths seem to have been first sold between 1762 and 1773; at least, in the second edition of George Voorhelm's treatise (1762) there are no yellows registered, but in the third edition (1773) we find noted four double yellows and six yellowish singles. In a list of the successors of this firm published in 1788 we find eight double yellow and thirty-eight single yellow varieties, and their number was progressive in later times.—*J. H. Krelage, Haarlem, March 12th*, 1889.

The Florists' Laced Pink.

I AM gratified to see in the last issue of this journal that "W. P.," Birmingham, is an admirer of the florists' laced Pink, and that he is in favour of its being brought again before the public at some important flower show held in London or Manchester. There would, I think, be no difficulty experienced in obtaining a few pounds by subscription towards furthering the object, and a dozen small prizes would give a little more interest and encouragement to exhibitors, and to amateurs especially, who, as a rule, spare no pains in endeavouring to produce their specimens in the highest state of perfection.

To carry out the wise suggestion of "W. P.," it would be necessary for a committee to be formed, who would be able to arrange for the show, and receive subscriptions. Mr. Barlow, Mr. Horner, with our old friend "Ben" Simonite, Mr. Arthur R. Brown, Birmingham, and some gentlemen to represent the south, would doubtless undertake this duty.

July the 20th, the date of the Manchester Rose Show, would, I fear, be too late for the midland counties and growers nearer south. It would, however, be suitable for the northern counties and Scotch growers, so I would suggest that efforts be made to hold a Pink Show at Birmingham (which is very central), in conjunction with the Rose Show, which will, I believe, be held there about the 10th or 11th July. It might also be arranged for a similar show to be held in London, in conjunction with one of the principal shows, which will be held there, say, about the last week in June. That would enable all growers from the south to exhibit. If preferred, it would be left to the vote of the subscribers to decide at what town or towns it would be most advisable for the Pinks to be exhibited.

I will now take upon myself to invite the names of gentlemen, either growers of the Pink, or otherwise, who would be pleased to support the suggestion of "W. P.," Birmingham; and if they will kindly send a line to either of the gentlemen I have mentioned as forming the committee, stating the amount they will subscribe, practical steps can then be taken in the matter. I should not be a competitor for any prize, but I shall be ready to subscribe one guinea towards forming the National Pink Show, and I will also give the following twelve first-class varieties of show Tulip bulbs as a special prize. Talisman (feathered), Adonis (feathered and flamed), Sir Joseph Paxton (feathered and flamed), Masterpiece (feathered), Heroine (feathered), Mrs. Lomax (flamed), Duchess of Sutherland (flamed), Modesty (feathered), Kate Connor (flamed), and Doctor Hardy (flamed). If it be decided to hold shows in London, Manchester, and Birmingham, they could be designated as the Southern, Northern, and Midland Counties divisions of the National Pink Show.—*James Thurstan, Finsbury House, Richmond Road, Cardiff.* [We have permission to say that if such a committee as Mr. Thurstan proposes be formed, Mr. Harry Turner and Mr. E. R. Johnson will be pleased to act for the London division. If a few prizes can be offered for competition in London the date should be June 25th, and the place, the Drill Hall, Westminster, for which no doubt permission can be obtained.—ED.]

PRIMULA FLORIBUNDA.

Gold-laced Polyanthuses.

WITH reference to the paragraph in your last issue (p. 432), in which the question is asked—"Can any raiser or grower of these fine old florists' flowers do for them what the Rev. F. D. Horner has done for the Auricula?"—I at once reply, yes! It only requires a person possessing the same leisure time, the same gardening facilities, with the same love and perseverance for his pets as Mr. Horner has, to enable the object to be achieved. The writer of the paragraph must, I fear, have been very unfortunate in his attempts to raise seedling [gold-laced] Polyanthuses, or his efforts to succeed may have lacked the patience and determination of a "Horner." He says: "So far, we never find in seedlings a flower larger than the best of the old sorts which has any claim to merit." What does he want them larger than the "old sorts" for? I have grown George IV., which is decidedly the best all-round Polyanthus in cultivation, 1¼ in. in diameter—the diameter of a half-a-crown piece!—Prince Regent and Lancer each 1 in., and Cheshire Favourite $\frac{15}{16}$ in., the pips being as perfect as they usually come. Polyanthus seed is very easily produced, and crossing or fertilising the flowers is one of the most simple and interesting processes imaginable. Our friend should adopt the "Horner" patience and perseverance, and cross George IV. with Cheshire Favourite, Cox's Prince Regent and Lancer, and *vice versâ*, as many times as his stock of plants will admit; and if he is anxious to introduce a little extra refinement into his breed he should try hard to obtain a plant of Barlow's Sunrise, and cross it with the others mentioned. By these means, and by the exercise of care in germinating the seeds, he will be able to raise hundreds upon hundreds of seedlings, and out of the first batch he will be certain to have some varieties of robust habit, with various shades of ground colour, heavy and light lacing, and circular and polygon eyes. One may be beautifully laced, and have a badly-shaped eye; another may have a grand bright circular yellow eye, but be deficient in lacing; and supposing the pips of one or the other to be a fair size, then I should cross them together in the hope of obtaining in the end a flower possessing both properties—viz., a circular bright yellow eye, with refined lacing. By following up this system a large and fine collection of show varieties could in a few years be ensured. Fifty years ago catalogues could be seen containing from fifty to a hundred different exhibition kinds.—*James Thurstan, Finsbury House, Richmond Road, Cardiff.*

PRIMULA FLORIBUNDA.

THERE can be no question as to beauty of a well-flowered batch of this Primula during the winter and early spring months. The flowers are of a clear brilliant yellow, and produced in tiers or whorls, one above the other, on stalks rising to the height of from 4 ins. to 8 ins., and which are produced from crowns or rosettes of shortly-stalked, coarsely-toothed leaves. The species is a native of the Western Himalayas, but is not so hardy as most of the other kinds from that part of the world. Some cultivators succeed more or less in preserving it during the winter in the open border, or on rockwork, by means of a sheet of glass or some other protecting material; but it never gives the same satisfaction as when grown in a greenhouse, with a moderately warm or intermediate temperature. It should also be raised annually from seeds to get the best results. The mere possibility of preserving it alive in the open air can never reward the cultivator in the same way as a batch grown under glass, such as we saw the other day in Mr. B. S. Williams' Victoria and Paradise Nurseries, Upper Holloway. We give an illustration of this beautiful yellow Primula.

GARDENERS IN AMERICA.

IN answer to the query of "J. S." in your issue of February 15th, as to the wages that gardeners receive in America, I would like to say for the benefit of such gardeners as are inclined to try their fortunes in this country, that it all depends upon the gardener. At present, situations are not very plentiful, many good gardeners are out of place, and many that have good situations would lose them if the employer could find better men to succeed them. Now what I mean by good men is men that will not *own* the place they are hired to manage. It is a notorious fact, that as soon as a gardener from Europe gets a situation in this country, the owner must stand aside, must not cut a flower, nor pick any fruit or vegetable without the gardener's consent. Now that may do in many countries, but not in this. Here the owner of a place delights to show it to his friends, and also delights to cut a bouquet for his visitors. To this the gardener usually objects, and in such a manner that he not only disgusts his employer, but loses all chance of advancement, or even respect, and in a very short time his situation too.

Very many gardeners coming to this country bring their social customs with them, and indulge more freely here than at home. This they cannot do, from the fact that in this rare atmosphere stimulants have a very different effect on a man from what they have in other countries. The result is that before a man is aware of it he has created an appetite beyond his control. We

know very well a more genial or better class of men never lived than our gardeners, but their kind natures—their desire to treat their fellow man generously—often work to their injury. Very many of the best, in being kind to others, have been unkind to themselves, to their utter ruin.

We know of many instances where men of wealth have become so disgusted with the arrogance and unsteady habits of their gardeners, that they have either abandoned their conservatories, or employ only an inexperienced gardener, simply because they will do as they like with their own. We know others that would gladly erect large structures for flowers and fruits, but will not because of this peculiarity of the gardener.

The situation in America is simply this. If an experienced gardener, a man worthy the name, comes here, and gets a situation, and at the same time is determined to please his employer in all ways, he will very soon get £10 to £20 per month, and a good house to live in. Many of our most successful florists came here with this intention; they did as men should do, and the result in many cases was that the owner of the place said, "Here, John, I will put up a range of houses for you if you like; I will furnish the bullion and you the brains, and we will divide the profits." I have an intimate friend in an English gardener who started in just this manner, and who is now worth £20,000, which he has made within the last fifteen years; and there are many others I could name who are on the same road to success.

In conclusion, let me say to the gardener who starts out for America, leave caste or rank at home; do not think because you rate A 1 at home that you will here rank higher than he who cannot pot a plant. Your ability will be fully appreciated, but that alone will not meet with success. You must be a man as well as a gardener—then success awaits you; and it is here considered a better indication for a man to spend his evenings at home rather than at the beershop.—*C. L. Allen, Garden City, N. Y.*

The Amateurs' Garden.

Dahlias.

Those who possess old tubers, either of the single or double kinds, should now overhaul them, and see that they are sound and good before inserting in soil to start them. Cut away all decayed tubers, or portions of them, and allow the wounds to dry up for a day or two, or rub them over with dry powdered charcoal. Then get a box or boxes, according to the quantity, and having put some rough material in the bottom by way of drainage, set in the roots as thickly as they may conveniently be placed, and cover up with light sandy soil containing a good quantity of partly-decayed but rough leaf-soil. Leave the crowns well exposed, so that the progress of the buds may be watched, as well as to prevent damping. Place the boxes in the warm end of the greenhouse, where a moderate heat is maintained. Here they will come on rather slowly at first, but as the sun increases in power, so will the Dahlias grow. Those who possess a warm propagating case may then take off cuttings and root them. Those who have not this means at command may simply divide the old tubers carefully with a knife, retaining a tuber to each bud if possible; or if this cannot be done, part of one will suffice to form a new plant, which should be potted up in a light but rich compost, and put back to the same place till they form fresh roots. After becoming established, they may be removed to cooler quarters, with more ventilation to keep them sturdy.

Gladioli.

Several methods or modifications of the same are adopted, with the view of obtaining an early batch to flower before the main lot comes on. One method is simply to plant early in the open ground, and this may be done at once provided the soil is fairly dry and in good workable order. Another way is to pot up a selection of large or good corms in 3-in. pots, standing the latter in a house where a moderately high temperature is maintained. Here, however, if they stand for any length of time they must not be neglected in the matter of light, that is, if they are primarily stood in a dark place or at a distance from the glass for the sake of greater warmth. As the foliage elongates the pots had better be placed in a light position near the glass in a properly ventilated house. Harden them off and plant out of doors as soon as the weather becomes favourable. Another way is to plant the corms thickly in a box, and place out after they have made some growth, but this method is objectionable, on account of the injury to which the roots are liable. Select all the small corms, and plant immediately in a reserve piece of ground consisting of rather rich soil. A great number of these small corms will flower strongly in autumn, forming at the same time good-sized corms for next year's flowering.

Propagating Herbs.

These are propagated in different ways, according to the character and habit of the respective kinds. Annual sorts must, of course, be propagated from seed, while most of the perennial or shrubby kinds may also be grown in this way by those who have no old plants, and wish to add fresh subjects to their collection. Sow at once, when the soil is in favourable condition, seeds of Chervil (Anthriscus cerefolium), Fennel (Fœniculum vulgare), Summer Savory (Satureja hortensis), and Pot Marjoram (Origanum marjorana). The following subshrubby kinds may be propagated by slips or cuttings—namely, Sage (Salvia officinalis), Hyssop (Hyssopus officinalis), Lavender (Lavandula vera), and Rue (Ruta graveolens). The undermentioned old and well-known kinds are readily and easily increased by lifting the old plants and pulling them to pieces, each consisting of a few shoots, or even underground stems or rhizomes with their roots attached. Useful sorts are Peppermint (Mentha piperita), Spearmint (Mentha viridis), Thyme (Thymus vulgaris), Balm (Melissa officinalis), Chives (Allium Schœnoprasm), Common Marjoram (Origanum vulgare), Chamomile (Anthemis nobilis), Winter Savory (Satureja montana), Tansy (Tanacetum vulgare), and Tarragon (Artemisia Dracunculus). Pennyroyal may be left undisturbed till towards the end of the month, when the weather is warmer.

Gardening Miscellany.

Anthracite Coal.

Concerning the question as to the size of coal suitable for greenhouse furnaces, I may say that we use lumps weighing from 1, 2, to 3 lbs. It is delivered in certain sizes, such as "parlour," "stove," and "furnace." We have no trouble in its use; a fire will last as long again as with soft coal, and will "draw up" as easily. I have three houses attached to one boiler, running 1,500 ft. of 4-in. piping, the fire-box having a capacity of about 250 lbs. When steam is "up" at 6 p.m., I can fill the box, and by regulating dampers, can run it until 7 a.m. next morning, maintaining a temperature of from 50° to 58°, according to houses, on zero nights, and by still further regulation, it will run until 4 p.m. next afternoon, and then "draw up" and "brighten" ready for banking at 6 p.m.—*T. D. Hatfield, Wellesley, Mass., U.S.A., Feb. 26th.*

Amaryllis, J. R. Pitcher.

There is something very striking in the colour of this garden variety. One need not look inside the flower to see this colour, for both sides, including the tube, may for the want of a better term be described as of a rich crimson-red. The tone is exceedingly dark, so that on the whole the variety is notably distinct notwithstanding the number of kinds in cultivation. Although so nearly uniform, the inner face of the perianth is undoubtedly the brightest and most lustrous. The whole flower is of medium size, compared with the huge kinds now in cultivation, and the lower portion tapers into a short tube. It seems also to be an early-flowering kind, as it was one of the first to flower this season in the collection of Mr. B. S. Williams, Upper Holloway.

Early Spring Flowers.

Those who lay out part of their garden for early spring flowers are well rewarded for doing so. At Oakwood we have a number of beautiful flowers in bloom, notwithstanding the late very trying weather. Early Cyclamens have been in great beauty, but are past their best; I am now sure that they thrive best in full sun. Narcissus minimus has been out for more than a month; a large Hoop Petticoat, I believe Corbularia sulphurea, is in fine flower, and also a smaller pretty one. Hybrid Hellebores, of many shades of colour, are finer than we ever had them before; these have a rough shelter in hard frost and in very rough weather. Some Helleborus niger I had from Bath, planted late, continue to throw up good flowers. Scillas are beginning to bloom, and so are Chionodoxas. Some species of Snowdrops are out, Galanthus plicatus, G. Imperati, G. Redoutei, G. Elwesii, and some others; some varieties I had given me before we knew the best places to grow them in, alas! are lost. Many of the species of Crocus are most beautiful, one a purple, much richer in colour than any of the garden varieties I know. Hepaticas are coming out well; some of our best are on a mossy bank, which adds to their beauty; the single pink and blue have endless shades of colour. Primroses have been beautiful of all shades, many of the descendants of Scott Wilson having beautiful shades of plum-blue and blue-purple, and some of them are of a pale greyish blue, more like the colour of the old Blue Primrose. Iris reticulata cœrulea, a gem, is nearly over, but the type is in beauty. A few hardy Heaths, both pink and white, are out, and large plants of Andromeda floribunda. Petasitis has not much beauty, but looks well in a mass. Snowflakes also are especially beautiful in large clumps. Anemone buds are slow in coming out. I have enumerated all the flowers I remember, but not writing on the spot some may have been left out.—*George F. Wilson, Heatherbank, Weybridge Heath.*

Troughton's Prolific Cucumber.

This is the most prolific Cucumber I have met with. It is a seedling raised by Mr. William Troughton, nurseryman, Preston. A friend sent me a few seeds two years ago and I soon found it to be quite distinct. We have had fruits of it 24 ins. long, without neck or rib, and when better known it will doubtless make a name for itself on the exhibition table. The skin is a good shade of green, with a few black spines. The fruit is free from bitterness, even when badly grown, which cannot be said of many Cucumbers. The plant has a vigorous constitution, and shows as many as six and eight fruits at a joint, which set freely; on this account it has proved to be an excellent variety for winter culture. All Cucumber growers should give it a trial, for I am certain it would afford every satisfaction as a winter-fruiting variety.—*Llewellyn Jones, Roby Hall Gardens, Liverpool.*

Prunus Pissardii.

I quite agree with your correspondent, "R. D.," that Prunus Pissardii is a very useful and highly decorative plant, and if placed in borders amongst other trees and shrubs produces a grand effect. I have a fine stock of it in my nursery, and I must say it stands well. It has also fruited out-of-doors in my borders for the last two seasons, the fruits being about the size of a small Greengage, and the flavour good. I thought perhaps some of your readers might like to know that it does fruit out-of-doors in this climate.—*W. Potten, Camden Nursery, Sissinghurst, Staplehurst.*

Primrose, Blue Gem.

Improvement continues to be made in the single varieties of Primula vulgaris, and in that under notice the depth of the blue colouring is most remarkable for a Primrose, or indeed a Primula of any kind. The individual blooms are large, and, with the exception of a large eye, is of a uniform tint, which for want of a better term we may call indigo-blue. It is not only a decided advance over the old-fashioned blue Polyanthus, but is altogether different from any of the blue forms of P. sinensis. The eye consists of five deep yellow lobes surrounded by a narrow white line. A plant was exhibited at the Drill Hall, Westminster, on Tuesday last, by Mr. R. Dean, of Ealing, when it received a First Class Certificate.

Primula sinensis, Imperial White.

The variety shown under this name at the Drill Hall, Westminster, on Tuesday last, by Mr. Robert Owen, Floral Nursery, Maidenhead, was a semi-double pure white of great substance. The flowers individually are large and apparently produced with great freedom. Being semi-double, of course the variety can be perpetuated by seed, a matter of no small importance from a horticultural point of view. The foliage is of the ordinary type, but robust, with red petioles. A First Class Certificate was awarded to it by the Floral Committee of the Royal Horticultural Society.

Iris Rosenbacheana.

Plants of this Iris were shown at the Drill Hall on Tuesday last, both by Messrs. Barr & Son, Covent Garden, and by Mr. James Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford, and a First Class Certificate was awarded in both cases. In habit the species resembles I. tuberosa, and has light green flattened leaves clasping the stem at the base. One flower terminates each peduncle, and is much larger than those of I. reticulata. The broad

petaloid stigmas and the narrow spathulate standards are lilac, blue, or purple. The standards are notable in this species, inasmuch as they spread horizontally or droop instead of being erect. The falls are much broader and arching, lilac in the lower part, with a medium yellow ridge, and of a deep violet-purple on the upper half. In colour, however, different individuals vary considerably, as that shown by Messrs. Barr & Son was darker in all its parts.

Amaryllis, John Ruskin.

Great regularity is shown by the flowers of this species, which are borne in pairs on the top of short peduncles. They are of great size, and almost or quite orbicular, with the lower segment of the perianth only slightly smaller than the rest. The tube is short, and the flowers widely expanded almost to the base, and all parts are of great substance and have a refined appearance. This is accounted for in a great measure by the almost uniform distribution of the soft scarlet colour, shading to a somewhat darker tint towards the base, with a very small six-rayed greenish star at the base only, It is a noble acquisition to this gorgeous class of plants. A specimen was exhibited at the Drill Hall on Tuesday last by the Messrs. Veitch, when it received an unanimous award of a First Class Certificate by theFloral Committee.

Clivia, Lady Wolverton.

In this we have a wonderful advance upon the varieties of this that have previously appeared before the public. The whole plant exhibits unusual vigour, with leaves of enormous width, and great flattened peduncles bearing huge trusses of flowers. Individually the latter are also of great size, with broad segments of an orange-scarlet, and yellowish white in the throat. The flowers also show themselves off to great advantage by the way in which they spread open. A large plant was exhibited by Mr. P. Davidson, Iwerne Minster Shaftesbury, at the Drill Hall, Westminster, on Tuesday last, when it was unanimously awarded a First Class Certificate.

ORCHIDS AT NUNFIELD, DUMFRIES.

At the present time the Orchid houses belonging to W. H. Scott, Esq., are quite gay with many species and varieties of great excellence, Cattleya Trianæ being in the foremost rank. C. T. Williamsii, with its blush sepals and deep crimson lip is far ahead of its congeners, and at first sight reminds one of C. T. Osmanii, only smaller in all its parts. Another noble specimen, carrying sixteen spikes, had a grand appearance, and demonstrates what a valuable winter-flowering Orchid this is outside the London fogs, C. T. delicata also being in good form. Dendrobiums made a grand show; one specimen with fifty-three flowering growths, carrying over 600 blooms, was an imposing sight. D. Wardianum and D. Jamesianum were also in flower. Cœlogyne cristata is grown in large quantities, from huge specimens with dozens of spikes to small pieces with two or three spikes, hanging from the roof in baskets, which had a very pretty effect. Dendrochilum glumaceum filled the house with its delicately-scented flowers. Odontoglossum Cervantesii was well represented, as also in good form, one having twelve fine spikes. Various Cypripediums, Lycaste Skinneri, and others also added to the show. A fine specimen of Cymbidium eburneum, carrying thirty spikes, will soon be at its best. The whole collection reflects great credit on Mr. Rowe, the head gardener. —*R. C. Fraser.*

[A box of flowers has reached us from Mr. C. J. Rowe himself, showing that the collection must contain some fine things. A form of Cattleya Trianæ was particularly distinct, inasmuch as the markings in the tube of the lip looked as if the plant had been the result of a cross between C. Trianæ and C. Dowiana, the former being the seed parent. The whole of the lower part of the tube was deep purple, much darker along the centre, and striated with yellowish white lines. There was a large yellow blotch in the throat, but this did not run down to the base as usual; the upper portion was of a dark purple. Besides these particulars, the petals were 3 ins. long, of unusual width, and deeper purple than is generally the case. Another variety with delicate blush sepals and petals was notable for the rich crimson-purple covering the whole of the lamina of the lip. A flower of Cœlogyne cristata sent us was as large as that named the Chatsworth variety. A spike of smaller flowers with a shorter lip than is usual for the species, but in no other way differing from the type, does not seem to have received any special name. The side lobes nearly touched the column. It may, however, ultimately grow out of this character.—Ed.]

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

The Flowering House.—There can be no doubt that when a house is devoted to Orchids in flower in any establishment where a good collection of plants exist it forms a very useful and attractive feature, and this plan of moving those flowering plants which may safely be transferred from their growing quarters has been carried out for some years past in many well-known establishments. The advantages are many where the necessary accommodation exists, and experience teaches us that such a house in which the flowering plants are mixed with Palms and Ferns proves attractive to ordinary visitors who hardly care to go through a lot of houses on purpose to see a sprinkling of blooms in each, though, of course, to enthusiastic cultivators the plants are almost as interesting as the flowers.

In the case of very large specimens it is not advisable to transfer them, though it is a matter for regret that in many places fine masses of Cattleyas, Lælias and many other things bloom on tall stages almost unseen from below, and consequently unappreciated. Many houses are ill adapted for showing off flowers to the best advantage, and therefore it is all the more necessary to have a flowering house, or to set apart a portion of the structure, so as to make one or two groups of blooming Orchids. Where, however, the houses are well adapted for displaying the flowers without removal this may be unnecessary.

The flowering house here is kept at the same temperature as the Cattleya house, but a little drier, which tends to prolong the flowering season, but care must be taken not to allow the plants to suffer too much, through flowering for too long a period, nor is it advisable to put weakly plants into the house for any length of time. Many of the Dendrobiums are best removed to their growing quarters as soon as the flowers are over, if the young growths are pushing from the base of the bulbs. This remark applies also to such things as Zygopetalums, Chysis, Odontoglossum citrosmum, and other things which push up the flower spikes and growth together.

It is not advisable to remove Phalænopsis or the choicer varieties of Cypripediums into the flowering house, nor do we take any Odontoglossums in, except such as O. Rossii majus, O. Humeanum, O. aspersum, O. citrosmum, and a few others which grow in pans or baskets; but there are plenty of other things which help to keep the house gay. At the present time Cattleya Trianæ is making a nice show, and other plants in flower are Cœlogyne cristata Lemoniana, Chatsworth and Trentham varieties; a plant of C. cristata alba, with sixty spotless flowers; Cypripedium villosum, C. Harrisianum, C. Boxallii, C. insigne, C. Maulei, C. calurum, C. Sedeni, and six strong spikes of C. Sedeni candidulum, a plant which should be in every collection; Lycaste Skinneri, in variety; Oncidium splendidum, O. Cavendishianum, O. Phalænopsis, and O. cucullatum giganteum; Lælia harpophylla, and L. cinnabarina, which, with Ada aurantiaca, help to give bright colour in place of Sophronitis grandiflora, which is now over. Odontoglossum Rossii majus, in 6-in. pans, look very nice suspended from the roof when well bloomed; while small plants of Cœlogynes in pans, with two or three spikes on each, are very pretty.

We find Oncidium Marshallianum, O. crispum, O. concolor, O. Forbesii, O. varicosum Rogersii, and allied plants grow best in the coldest house, supplied with abundance of water, but they are taken into the flowering house when their spikes are well advanced, and seem to benefit by staying there a month, after the flowers are over, in the drier atmosphere while at rest.

In several collections which I have visited lately I have found Mr. Outram's Orchid Flower Holder in use. Like all simple contrivances, it is very convenient, and certainly must be admitted to be well adapted to show the flowers to best advantage when cut off the plants for the sake of easing them.—*W. P.*

Cymbidium eburneo-Lowianum.

The name of this hybrid indicates its origin. In habit and general appearance, it, however, bears a greater resemblance to C. Lowianum, especially with regard to the arching spike, which bears a number of flowers. C. eburneum bears one flower only, or two under good cultivation. The spreading sepals and petals are pale straw-yellow, while the lip is paler, almost white in the interior of the tube, with a yellow blotch in the throat like that seen in C. eburneum. The upper portion of the lip is also furnished with a large horse-shoe-shaped, reddish brown blotch. A specimen of it was exhibited by Messrs. J. Veitch & Sons, Chelsea, at the meeting of the Royal Horticultural Society in the Drill Hall, Westminster, on Tuesday last, when it was unanimously awarded a First Class Certificate by the Floral Committee. The next object of the hybridist will be to get a pure white form having a long raceme of flowers, as in C. Lowianum.

Cypripedium Rothschildianum.

A fine plant of this new and noble species bearing two flowers on a spike was exhibited by Lord Rothschild (Mr. Hill, gardener), Tring Park, at the meeting of the Royal Horticultural Society on Tuesday last, when a First Class Certificate was unanimously awarded to it. Both the upper and lower sepals are large, roundly ovate, yellow, and striped brownish purple. The petals are of great length, spread nearly horizontally, and are striped and spotted with brownish purple on a yellow ground; they are ciliate on both edges with brownish purple. The huge lip is almost wholly of a brownish purple slightly stained with yellow, and from its shape, as well as in the various colours, bears some affinity with C. Stonei and its variety, C. S. platytænium. The staminode, a most curious structure, is bent in the middle, above which it is spathulate, notched at the apex and covered with purple white-tipped hairs. The great rigid deep green leaves are strongly channelled. When established this will no doubt prove a magnificent species. Cypripedium Elliottianum was shown at the same time by Mr. Whillans, gardener to the Duke of Marlborough. The peduncle bore one flower only, which was smaller in all its parts than that of C. Rothschildianum, and the petals being much shorter, the brownish purple markings were less developed. The upper sepal was also narrower. C. Elliottianum can therefore only be a small-flowered variety of C. Rothschildianum unless it improves greatly when thoroughly established.

Odontoglossum Harryanum.

If the several parts of the flower of this bold species would grow in a flattened-out manner, in the same way as Miltonia vexillaria and others of that class, they would be much more effective for horticultural purposes than they are, yet none the more distinct for botanical purposes. From Mr. P. McArthur, The London Nursery, 4, Maida Vale, we have received a very fine form, the upper sepal of which measured somewhat over 1 in. in breadth. It was of leathery consistency, deep chocolate-brown, and ornamented with a scroll-work of yellow. Much of this was, however, lost by the way in which the edges became strongly revolute. The violet and white reticulation at the base of the petals and lip were also well marked. The broad upper portion of the latter was white, more or less tinted on the sides with canary-yellow. The flower exhaled a moderately strong but not disagreeable odour. Accompanying this was a twin-flowered spike of O. Rossii majus, the lip and petals of which were pure white, except at the base. The sepals were heavily blotched with brown on a white ground, and the whole flower was of great size for the species.

Cypripedium bellatulum.

This is evidently going to be one of the most vigorous of the group which includes C. niveum, C. Godefroyæ, and C. concolor. A large batch of plants of last year's importation, now nicely established in the nursery of Messrs. Hugh Low & Co., Clapton, are showing for flower. The leaves are of great size, and beautifully tesselated, while the under-side exhibits the same variability as occurs in the rest of the group. A freshly imported lot is also about to flower, having advanced considerably on their way home. The leaves made in the native home of the plant are even longer than those established last year, but the conditions under which they had been grown there would determine the cause. The soil adhering to the freshly imported pieces resembles red clay in its nature—or, at least, a very heavy loam. We have also seen other species of this group grown in loam in this country, but we should still be cautious in recommending potting material of that nature.

Odontoglossum odoratum baphicanthum.

Amongst the various forms of O. odoratum, few are more distinct than the subject of this note. The pale ones are generally known in gardens as O. gloriosum, but there are no structural differences to separate them from O. odoratum. The sepals and petals of the variety under notice are of a uniform canary-yellow, with four or five deep chestnut-brown spots about the middle of each. The lip is similarly coloured, with a broad triangular base. In this latter respect it differs somewhat from the typical form, and is certainly very distinct. We noted it in the nursery of Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

POTTING NEW HOLLAND PLANTS.—All hard-wooded plants, whether coming strictly under this designation or not, should receive attention before the season is farther advanced. Should any require potting, the operation had better be set about and completed as early as possible before growth is too far advanced. Turfy loam should be used that has lain for some time to become mellow; it should be tolerably dry, so as to prevent puddling in mixing and in the potting operation. A greater or less amount of peat will be required according to the kind, and a liberal use of sand. Break the loam and peat into a lumpy condition and mix the whole well together. The surface of the ball should not be torn about, as a great many of the young and most active roots get destroyed by this process, to the disadvantage of the plant. It must also be remembered that the roots of hard-wooded plants are generally firmly interlaced forming a hard ball, so that in giving the plants a size larger pot, the soil should be well pressed home with a piece of wood, otherwise any water that may be given will pass away by this, leaving the old soil unmoistened. Successful results can never be obtained when such is the case.

FORCED SHRUBS IN THE CONSERVATORY.—There should now be no lack of these, and at no time of the year may the conservatory be kept in a more gay, varied and interesting state. Foremost amongst these are the Lilacs, such as Charles X., also Syringa vulgaris alba and a more popular variety for forcing purposes—namely, S. v. virginalis. The Persian Lilac (Syringa persica) also constitutes a useful subject by way of contrast to the above. Then there are Forsythia suspensa, F. viridissima, the Snowball Tree (Viburnum opulus sterilis), and the common Laurestine (Viburnum tinus), which when flowered under glass comes of the purest white. Staphylea colchica, Azalea mollis and a host of the varieties of A. indica, and Rhododendrons may be called into requisition, as well as Spiræa prunifolia, the double dwarf Peach, Deutzia gracilis, and Prunus Pissardii, which has recently come into favour as a forcing plant. Camellias, Oranges, hybrid greenhouse Rhododendrons, as well as the new Carmichael strain of hybrids of Azalea amœna, swell the list of good things now at the cultivator's command.

PRIMULAS AND CINERARIAS.—Where batches of these are required to be in flower early in autumn a pinch of seed should be sown at once. As soon as the seedlings are fairly well through the soil, remove them to a light position near the glass, otherwise they will get drawn and subject to damping, while at the same time their constitution will be greatly deteriorated.

THE FORCING HOUSES.

VINERIES.—In the earliest house a brisk fire should be got up early in the morning, in order to raise the day temperature to 75°, so as to reap the advantage of what little sunshine we get early in the day. A night temperature of 65° will be quite sufficient, and on frosty nights, such as we have experienced lately, a little lower than that figure is to be preferred, in order to avoid an arid and drying atmosphere owing to the great heat of the pipes. In sunless cloudy weather, a lower temperature during the day is also to be preferred to that advised for bright days. Ventilate as early in the morning as possible, increasing it gradually as the temperature rises. Avoid having to admit large bodies of air suddenly for the purpose of reducing the temperature, and close early in the afternoon, when the temperature may be allowed to run up to 85°, at the same time damping down the paths and borders thoroughly, so as to secure a sufficiency of moisture. Attend to the thinning of the bunches in later houses.

STRAWBERRIES.—Owing to the cold and sunless weather of last summer and autumn, cultivators will probably experience difficulty in getting their plants to behave properly, as the buds ripened badly. The leaves will have a tendency to become greatly developed at the expense of the proper maturation of the flowers. In such cases the maximum temperatures allowed in ordinary cases should not be employed here. By lowering the temperature a little and increasing the ventilation, matters will right themselves, and both flowers and foliage will develop more uniformly, or at relatively more equal rates. One of the best Strawberries for early forcing is Vicomtesse Héricart de Thury, as it responds well to forcing before as well as after the setting of the fruit.

THE KITCHEN GARDEN.

SEED SOWING.—No time should now be lost in getting, whenever the soil is suitable, the main sowings of Onions, Carrots, Scorzonera, Salsafy, and Parsnips into the ground. Onions especially should be seen to in the first instance, as the ground requires so much treading and working to get it in order for the seed. There is, therefore, all the greater necessity for its being in good workable condition. A sowing of Beet may be made for early use, but the main crop should not be sown till later on, as it is liable to grow coarse, attaining too large a size. Make successional sowings of Peas, Beans, Turnips, &c. Sow the main crop of Celery in boxes under glass.

THE NURSERY AND SEED TRADE.

ANNUAL MEETING OF THE TRADE ASSOCIATION.

The annual meeting of this association was held on Monday evening last at the office, 25, Old Jewry, E.C., Mr. N. N. Sherwood, the president, presiding. The minutes of the last annual meeting having been read by the secretary, Mr. Goodchild, and confirmed, the president called attention to the salient features of the report and statement of accounts, which were considered to be of a satisfactory character, as showing that the association was steadily growing in usefulness. In our last issue we quoted from the report an important statement with reference to the question of the assessment of nurseries to the Poor's Rate, and now give some pertinent remarks with reference to "long firms" and payment on account.

Long Firms.—The year has been remarkable for the numerous attempts on the part of persons (pretending to belong to the trade) to obtain goods fraudulently from members of the trade. In some instances they have been successful, and it has subsequently been discovered that the goods so obtained have been sold either by public auction or privately on the first opportunity. The course usually adopted is to write or telegraph, requesting the immediate dispatch of the goods ordered, and intimating that a cheque has been posted. Occasionally a more deliberate course is pursued, and a small order, accompanied by cash, is followed by a larger order, for which credit is desired, and too frequently given. The amounts of the orders vary from a few pounds to a few hundred pounds, and in one case it amounted to over a thousand pounds. Your committee would strongly recommend members in such cases to communicate with the secretary the names of all such persons before executing the orders, as a safeguard against bad debts. The secretary, through the information given by members, and otherwise obtained, has enabled members to avoid dealings with such persons.

Payment on Account.—As much loss is sometimes occasioned to members by their using cheques sent by customers for amounts less than those due, your committee wish to call their attention to the subject. If a customer sends in payment of an account a cheque (or other negotiable instrument) for an amount less than the account applied for, and states that it is sent in settlement of the account (or words to that effect), and if it be not the intention of the member to accept such cheque, &c., in settlement, he must at once return it, otherwise he cannot recover the balance of the account. It is not sufficient for him to acknowledge it on account of the amount due, as by so doing, and by using the cheque, &c., the customer is released in respect of the balance. Members, therefore, must either accept it in full discharge or return it.

On the motion of Mr. William Paul, seconded by Mr. John Laing, the report was unanimously adopted.

The committee was next re-elected, with the substitution of Mr. Huggins (Messrs. Cooper, Taber & Co.) for Mr. F. Taylor, resigned; and a hearty vote of thanks having been accorded to the auditors, Messrs. W. J. Nutting and T. S. Ware, on the motion of Mr. Harrison, Leicester, seconded by Mr. Harry Turner, these gentlemen were also re-elected.

A letter was read from Mr. H. W. Williams (Messrs. Keynes, Williams & Co., Salisbury), suggesting that some action should be taken by the association with reference to the new lists of rates recently put forward by the various railway companies, and a discussion followed, with the result that on the motion of Mr. Harrison, seconded by Mr. Ware, it was resolved that a committee be appointed to consider the various new Railway Rates and Classifications, and to give notice of objection to the Board of Trade if it should be found necessary to do so. The following gentlemen were subsequently elected to serve on the committee:—Messrs. N. N. Sherwood, J. Harrison, G. Bunyard, W. J. Nutting, W. Paul, T. S. Ware, A. Pearson, and H. Williams.

Mr. William Paul, who considered it would be greatly to the benefit of the association if disputes arising between any of the members could be settled by arbitration, instead of appealing to a court of law, moved "That a committee be appointed to arbitrate in any cases of dispute that may be submitted to it; but in all cases so submitted, one at least of the disputants must be a member of the association." This was seconded by Mr. Harrison, and agreed to *nem. con.* It was also resolved that the committee should consist of Mr. H. J. Veitch, Mr. H. Turner, Mr. Protheroe, and Mr. W. Paul, to deal with cases arising in the nursery trade; and Mr. Sherwood, Mr. Nutting, and Mr. Taber, to act in a similar capacity for the seed trade, an umpire to be appointed in each case before proceeding to arbitration.

The meeting was then made special in order to deal with a motion submitted by Mr. Harrison, and seconded by Mr. Ware, to alter the date of holding the annual meeting to April, and after some discussion an amendment moved by Mr. Sherwood and seconded by Mr. William Paul, that in future the annual meetings be held in May, was carried by a good majority. A cordial vote of thanks to the chairman concluded the business of the meeting.

THE SEED TRADE.

Messrs. Hurst & Son, 152, Houndsditch, report a brisk sale for Agricultural Seeds. White Clover being in full supply, offers on easier terms. Trefoil scarce and dearer. Red Clover and Alsike steady. Grass Seeds dull.

FROM THE LONDON GAZETTE.—*March 12th.*

ADJUDICATIONS IN BANKRUPTCY.—William Foster, Nurseryman, Stroud; Henry Stringer, late Nurseryman, Aldrington, Sussex.

PARTNERSHIPS DISSOLVED.—F. A. Morgan, R. G. Smith and C. F. Walsh, Strand, London, trading as *The Horticultural Times* Publishing Company.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*March 12th.*

THE display at the Drill Hall, Westminster, on Tuesday, was a considerable improvement upon recent gatherings, and this notwithstanding the fact that the weather was not all that could be desired for tender stove and greenhouse plants. Daffodils and other hardy flowers occupied the side stages, while Cyclamens, Camellias, Alpine Saxifrages, sundry Orchids, and a grand lot of Nepenthes occupied the central table. Fruit was exhibited in small quantity, but was not a feature of the meeting.

A Silver Banksian Medal was awarded to Messrs. J. Veitch & Sons, Chelsea, for a collection of Nepenthes, containing such grand and well-known forms as N. Rafflesiana, N. Chelsoni, N. Mastersi, N. Veitchii and its striped variety. The new N. Dicksoniana was also there in grand form, and N. Wrigleyana, like a large form of N. Hookeræ. They also showed some Amaryllis, including Cato, Vandyke and Acquisition, (the latter receiving an Award of Merit), and a magnificent sort named John Ruskin, which was certificated. A beautiful hybrid was Dendrobium Schneiderianum, and the hybrid Cymbidium eburneo-Lowianum was also certificated.

A similar award was made to Messrs. Wm. Paul & Son, Waltham Cross, for twelve boxes of cut blooms of Camellias. Good white sorts were Centifolia alba, Montironi, Candidissima, Fimbriata, Alba plena, and Princess Charlotte. Choice red kinds were Mathotiana, Reine des Fleurs, and Marchioness of Exeter; beautiful pink sorts included Contessa de Hainaut and Madame Ambroise Verschaffelt. There were a grand lot of blooms and made a fine display. To Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, a Silver Banksian Medal was awarded for a collection of hardy flowers—chiefly Daffodils. Amongst them were all the leading yellow trumpet kinds, such as Golden Spur, Spurius, Maximus and Nobilis, also N. bicolor Horsefieldi, N. b. Empress; the hybrid kinds, and the Poet's Narcissus in its various sections, as well as the smaller varieties, such as N. triandrus albus, N. monophyllus and the beautiful N. cyclamineus, were represented. There were some other hardy bulbous subjects of great interest. A Bronze Banksian Medal was awarded to Messrs. Barr & Son, for Daffodils and Crocuses. The leading kinds of

Daffodils were shown, and along the front of the table was a number of different species of Crocus, including C. Sieberi, C. S. versicolor, C. Imperati, C. aureus, C. bannaticus, C. biflorus Weldeni, and several other hardy bulbous subjects, such as Scillas, Bulbocodium vernum and Iris Rosenbachiana. A similar award was made to the St. George's Nursery Company, Hanwell, for a large and beautiful group of well-flowered Cyclamens in 48-sized pots. The strain was of the giganteum type, with very large flowers in many striking colours. One variety named Prince of Wales, with large deep rose flowers, received an Award of Merit.

A good-sized collection of Alpines, chiefly Saxifrages, was exhibited by Messrs. Paul & Son, Cheshunt. Amongst them were S. Burseriana, S. oppositifolia major, and its large form S. o. pyrenaica superba, also S. Frederici Gulielmi, S. Sancta, Galanthus plicatus, Androsace Laggeri and others. They also showed a quantity of small and other flowering Roses, including the Polyanthus kinds, Parquerite and Mignonette. Some Orchids were shown by Mr. B. S. Williams, Upper Holloway, including Lælia albida bella, Odontoglossum Humeanum, O. baphicanthum, O. facetum, Oncidium splendidum, Lycaste Skinneri alba, Cypripedium hirsutissimum and others. He had also some Azaleas, Primula floribunda, &c. A box containing many varieties of Primula sinensis blooms was shown by Mr. Robert Owen, Maidenhead. He had also Genista Oweniana, a hybrid, and a semi-double white Chinese Primula, which was certificated, and a late Chrysanthemum named Mrs. J. N. Jerard. Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford, exhibited Hyacinthus azureus and Iris Rosenbachiana, the latter being certificated. Mr. F. Ross, gardener to Sir Geo. Macleay, Pendell Court, Bletchingley, showed some cut flowers of Calliandra Tweediana, Mutisia Clematitis, a curious scarlet or red-flowered composite, Canarina Campanula, and also Hardenbergia Comptoniana. Some beautiful hardy Primulas were shown by Mr. R. Dean, Ealing, including Cardinal, Lady Sandhurst, and Blue Gem, the latter being certificated. A vote of thanks was awarded to Mr. William C. Leech, of Albury Park Gardens, Guildford, for three boxes of Violets, including Marie Lemoine and De Parme, dark double blue; Old Neapolitan, and Swanley Double White. A vote of thanks was also accorded to Mr. R. Manning, Manor House, Gunnersbury, for a basket of Chinese Primulas. Mr. E. Coleman, Camilla Lacey, Dorking, showed some sports from the old double white Chinese Primula. A Cineraria was shown by Mr. Hay, gardener to J. Nicholay, Esq., Iver, Bucks. Mr. W. Gordon, Twickenham, Middlesex, exhibited some Camellia blooms, and three Azaleas, named Ko Ko, Yum Yum, and Piti Sing respectively, having purple or scarlet flowers. Four baskets and three pans of yellow, rose, red, crimson, and Hose-in-Hose Polyanthus were shown by Mr. H. B. May, Upper Edmonton. From the Royal Horticultural Society's Gardens, Chiswick, came Saxifraga Burseriana. A pretty Primula, named P. petiolaris, was shown by Professor M. Foster, F.R.S., Shelford, Cambs, and it received an Award of Merit from the committee.

Besides those already mentioned, some small and separate exhibits of Orchids were made. The finest plant in the show was a specimen of Dendrobium nobile Wallichii, about 1 yard in height and 4 ft. in diameter. It was shown by Mr. C. Beckett, gardener to B. Bryant, Esq., Juniper Hill, Dorking, and deservedly received a reward of a small Silver Medal. A Cultural Commendation was awarded to Messrs. Heath & Sons, Cheltenham, for a plant of Odontoglossum luteo-purpureum crispatum, bearing three spikes with an aggregate of fifty flowers. The Duke of Marlborough, Blenheim Palace, exhibited a plant of Cypripedium Elliottianum.

At a meeting of the Fruit Committee, Mr. Divers, Wierton House, near Maidstone, showed a small collection of Apples, including Stone's, King of Pippins, Summer Golden Pippin, Winter Hawthornden, Ribston Pippin, Northern Greening, White Queening, and others. Some beautiful examples of Calville Blanche Apple were shown by Mr. P. Blair, Trentham Gardens.

In the afternoon there was a fairly good attendance of Fellows to hear a lecture by Mr. J. G. Baker, of Kew, on the genus Saxifraga. Mr. W. T. T. Dyer took the chair, and in addition to Mr. Baker's lecture, which was mainly devoted to the geographical distribution of the species, and their classification by botanists, a paper was read by Mr. George Paul, which was confined solely to cultural details. Both papers will be published in the forthcoming part of the society's journal.

LAW NOTES.

A Railway Smoke Case.

Bailey Denton *v.* The Great Northern Railway Co.—In this case, which was tried early last month in the Hitchin County Court, before His Honour Judge Bagshaw, the plaintiff, Mr. John Bailey Denton, of Orchard Court, Stevenage, sought to recover £40 for injury done to trees and flowers at Orchard Court by smoke, cinders, and the like emitted from locomotives on a siding of the defendants' line, which adjoins his garden. The defence was that the company exercised their statutory powers in a proper and reasonable way.

Mr. Snow Fordham (instructed by Mr. Nash, solicitor, Hitchin) appeared for the plaintiff, and Mr. Cyril Dodd (instructed by Messrs. Nelson, Barr, & Nelson, solicitors, London) for the defendant company.

Mr. Fordham, in opening the case to the jury, said the plaintiff's garden was separated from the defendants' line by a wall, and just outside that wall there was a siding used by the company. A few years ago the shunting on that siding was done by horse power, but of late the traffic had increased, and engines had to be used. Volumes of smoke and a quantity of soot and cinders were thrown off by these engines, the consequence being that the plaintiff's flowers and fruit in his garden were greatly damaged, and, in fact, the garden was rendered almost useless. Mr. Denton had from time to time complained to the company, but they had not, it would appear, taken steps to alleviate the state of things he complained of. It looked as if they were determined to drive Mr. Denton away from the place. We all knew that railway companies had statutory powers to use their lines, and the defendants would no doubt say that they were only acting under such powers; but it had been held several times that in exercising them they must take every precaution in their power, and use every means that science could suggest to prevent injury to others. He would be able to prove that great damage had been done, and he would also prove that every precaution had not been taken. If great volumes of smoke and large quantities of soot and cinders were given off by the defendants' engines and injured the plaintiff's garden, it was clear that every precaution had not been taken. Engines could be worked in such a way as not to give rise to complaints of this kind; he therefore asked the jury to award such damages to Mr. Denton as they themselves would be satisfied with if they were injured in the same way.

Plans and photographs of the siding and garden were put in on behalf of the plaintiff, and admitted by the defendants.

Counsel for the plaintiff referred the Judge to the following cases:—*Vaughan* v. *the Taff Vale Railway* (5, *Hurlston and Norman*, 679); *Geddis* v. *the Bann Reservoir Company* (3, Appeal Cases, 450); *Lawrence* v. *the Great Northern Railway Company* (16, Queen's Beuch Cases, 643); Re *Ware* (9, Exchequer, 395).

The defendants' counsel relied on *The London, Brighton and South Coast Railway* v. *Truman and others* (11, Appeal Cases, 45) in which it was held that in order to recover damages for an admitted nuisance it must be shown that a railway company have acted outside their statutory powers.

Evidence having been tendered for both parties, the Judge in summing up said he would ask the jury to answer the question—"Has it been proved to your satisfaction that the defendants have caused injury to the plaintiff's fruit or other garden produce by smoke or dust beyond what would be caused by their exercising their Parliamentary powers in a reasonable and proper manner, and with due care? In other words—Has the plaintiff proved negligence or want of proper care in the use of the shunting engines?" If so, they would answer the further question, "What is the amount of damage?"

The jury, after deliberating, said that they were of opinion that the company had not given sufficient attention to Mr. Denton's complaints, but they were unable to agree upon the question whether the defendants had exceeded their statutory powers.

The Judge explained to the jury that what they had to consider was whether there had been negligence—whether there had been due diligence in working the shunting engines properly. The plaintiff was bound to prove that the engines had improperly emitted smoke.

After considering the case for nearly three-quarters of an hour longer, the jury again came into Court and said that there was no prospect of their agreeing.

The Judge thereupon discharged them, and the case will have to be tried again if not settled otherwise.

QUESTIONS AND ANSWERS.

Alocasias.—*A Constant Reader:* The tubers you sent us are affected with mites, rather larger than those which are found on the Eucharis. Whether these are to be blamed with the whole of the mischief is a great question; but if you examine carefully under the decayed and flaky or corky outer portion of the tubers, you will be able to find them close to the fresh and living portions. During summer, while growth is active, the tubers do not suffer so much, but when dormant in winter, they are much more liable to harm. What you had best do is to wash and scrub the tubers well with a brush in a solution of soft soap and sulphur, or Gishurst's Compound and sulphur; be careful, however, not to injure either the tubers or their buds. Afterwards wash with clean water, and allow the tubers to dry before potting them in a mixture of peat and well-decayed manure, with sand and a small proportion of good fibrous loam. Give plenty of water and a high temperature when making their growth in summer, and keep them dry, but in a warm pit or stove, during winter.

Botanical Work.—*Microscope:* You cannot get a really useful compound microscope for any purpose at £2. If you really mean to invest in one, we should advise you to get a good one at once. We do not dissuade you from getting it second-hand. There are no doubt good articles in the market, provided you can determine their value. You can obtain a really useful student's microscope, with all the necessary apparatus to commence with, for £5 5*s*. Back's Star Microscope for about £3 3*s*. is good at the money, but the light is by no means so clear as we should like.

Cattleya labiata Eldorado.—*Alex. Chalmers:* When established the typical form you sent will evidently be good, owing to the dark upper portion of the lip and the well-defined orange-yellow blotch in the throat, but the white band surrounding the latter colour was not at all distinct; this will also probably improve when the flowers attain their proper size. The white variety, we believe, is C. l. E. Wallisii, but we should be jumping to conclusions to say definitely in its present state. The finest white form of the species is C. l. E. ornata, which is distinguished by a large, deep orange blotch on the disc, extending with a broad line to the base. The flowers of C. l. E. Wallisii are also white, but distinguishable from the other by having a very much smaller orange-yellow disc, and this is actually the case with the specimen you sent us. See that it retains this character when the plant becomes established.

Names of Plants.—*M. J. R.:* 1, Libonia floribunda; 2, we cannot identify without flowers; 3, Nerium oleander.

Palms.—*J. Hanagan:* If you put a good wisp of straw, a handful of paper, or some equivalent, into the petroleum barrels and set fire to it, so as to sweeten the inside, and subsequently give them a good cleansing, there is no reason why they should not do admirably for the Palms and tree Ferns.

Papaver orientale, Blush Queen:—Erratum. At p. 436, in the paragraph on this subject, fourth line from the top, for "America" read "Armenia."

Primula Seeds.—*H. Weston:* If the plants are in good health, and you can assist them with stimulants, you may let all the flowers seed if necessary; but if you only want a small quantity for your own use, you should leave only the largest, best-shaped and best-coloured pips. A few good pods of choice, well-developed seeds will give more plants than most gardeners can grow.

Salvia patens and Anemone vernalis.—*J. C., Leeds:* The Anemone, if planted on a rockery, or in moist, well-drained sandy soil or peat, would stand the winter in Yorkshire, but the Salvia certainly would not. It is not hardy even in the south.

Communications Received.—J. P.—J. B.—M. T.—G. S. A.—W. G.—R. O.—S. B.—J. C.—E. S. D.—C. B. G.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending March 9th was 29·61 in.; the highest reading was 30·03 in. on Tuesday evening, and the lowest 28·84 in. on Friday evening. The mean temperature of the air was 37·4°, and 3·1° below the average in the corresponding weeks of the twenty years ending 1868. The mean was considerably below the average throughout the first four days of the week, but showed an excess on Thursday, Friday, and Saturday. The direction of the wind was variable, and the horizontal movement of the air averaged 12·3 miles per hour, which was 1·6 miles below the average in the corresponding weeks of sixteen years. Rain fell on three days of the week, to the aggregate amount of 0·54 of an inch. The duration of registered bright sunshine in the week was 26·0 hours, against 26·5 hours at Glynde Place, Lewes.

COVENT GARDEN MARKET.

March 13th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Cobs .. per 100 lbs.			Pine-apples, Eng., lb.	1 0	1 6
Grapes .....per lb.	1 6	4 6	Strawberries.. per lb.	12 0	14 0

Canadian and Nova Scotia Apples, per barrel, 7*s*. to 17*s*.

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus....per 100	14 0		Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0		Lettuces ..per dozen	1 6	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages.... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes ..per dozen	1 6	
			Small salading, punnet	0 4	
Celery ....per bundle	3 0		Spinach, per strike ..	2 0	
Cucumbers ....each	0 9	1 0	Tomatos ....per lb.	1 3	2 6
Endive, French, doz.	2 6	3 6	Turnips ....per bun.	0 6	

Potatos.- Kent Regents, 80*s*. to 100*s*. per ton; Kent Kidneys. 80*s*. to 100*s*. per ton; Champions, 70*s*. per ton.

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	6 0	18 0	Foliage Plants, various .....each	2 0	10 0
Arum Lilies..per doz.	9 0	18 0	Genista ....per dozen	9 0	12 0
Azalea.....per doz.	24 0	42 0	Hyacinths ..per doz.	6 0	9 0
Cineraria ..per dozen	6 0	10 0	Lilies of the Valley, per doz.	12 0	24 0
Cyclamen ..per doz.	9 0	18 0	Marguerites per doz.	6 0	12 0
Cyperus, ..per dozen	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz.	30 0	60 0	Pelargoniums, scarlet, per dozen	6 0	9 0
—viridis, per dozen	12 0	24 0	Primula sinensis, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Solanums....per doz.	6 0	12 0
Ferns, in var., per doz.	4 0	18 0	Tulips ..... per doz.	8 0	10 0
Ficus elastica ..each	1 6	7 0			

Out Flowers.—Average Wholesale Prices.

	s.d.	s.d.
Anemone, French, per doz. bunches.	2 0	6 0
Arum Lilies, 12 blms..	2 0	5 0
Azaleas ....12 sprays	0 6	1 0
Bouvardias, per bun.	0 9	1 0
Camellias, white, doz.	2 0	4 0
— coloured..... ,,	0 9	2 0
Carnations, 12 blooms	2 0	3 0
Cyclamen..12 blooms	0 4	0 9
Eucharis ..per dozen	4 0	6 0
Gardenias, 12 blooms.	9 0	18 0
Heliotropes. 12 sprays	0 6	1 0
Lapageria, 12 blooms	2 0	4 0
Lilium longiflorum, 12 blooms	5 0	9 0
Lily of the Valley, 12 sprays	0 6	1 0
Maidenhair Fern, 12 bns	6 0	9 0
Marguerites, 12 bun.	3 0	6 0
Mignonette, 12 bun.	2 0	4 0
Mimosa, French, per basket	4 0	6 0
Pelargoniums, 12 spys.	1 0	1 6
— scarlet ..12 sprays	0 6	0 9
Paper White Narciss, French, doz. bunches	2 0	5 0
Primroses..doz. buns.	0 9	1 6
Primula, double, bun.	0 9	1 0
Ranunculus, French, per doz. bnchs.	2 0	4 0
Roman Hyacinths, 12 sprays	1 0	1 6
— — French, 12 bun.	1 0	3 0
Roses, Tea, per dozen	1 0	3 0
— Red .....per doz.	6 0	9 0
— Red, French, dozen	2 0	3 0
— Saffrano ..per doz.	2 0	4 0
— Safrano, French per doz.	1 0	3 0
Tuberoses, per dozen.	2 0	3 0
Tulips ....12 blooms	0 8	1 6
Violets ..12 bunches	1 0	1 6
— Parme. French, bun.	3 0	4 0
— Czar, French ,,	1 6	2 0
— Dark ,, ,,	1 0	1 6
Wallflowers, 12 bnchs,	4 0	8 0
White Lilac, French, per bun.	4 0	6 0

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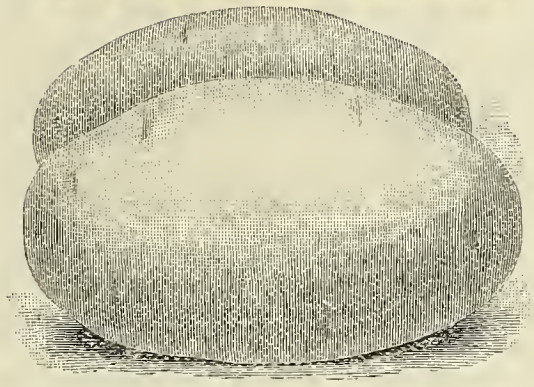

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From Mr. W. BROCKWELL, Chatham, February 13th.

"I forward you my list with cheque which I had the honour of winning with your Seed Potatos, also winning the SILVER CUP with your DANIELS POTATO, and I don't know, in all my experience, that I ever grew a better kind. They are an excellent cropper and a good keeper, and I can't put them out of their place for cooking purposes."

From the *Gardeners' Chronicle*, September 1st.

"THE DANIELS POTATO.—A few weeks ago you kindly made mention of a Potato called DANIELS, and how well the variety looked when growing, giving great promise. We had a small local exhibition here the other week, and I was tempted to dig up my DANIELS. They exceeded my expectations. I staged two dishes, and was awarded two Prizes, in a strong competition with different varieties in both classes. A friend of mine was present when I took up two roots to be weighed, on one of which we found twenty-one Potatos, and twenty on the other. On weighing the best root it was found to turn the scale at 6 lb., all good, sound tubers, clean and free from scab. After exhibiting at Keighley they were put to the test of being cooked for the table, and they were found to be all that could be desired.—F. G. EPWORTH."

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Next Week's Engagements.

MONDAY, March 25th.—Sale of Lily Bulbs at Protheroe & Morris's Rooms.

TUESDAY, March 26th.—Royal Horticultural Society: Meeting of Fruit and Floral Committees at 11 a.m. General Meeting at 3 p.m. Sale of Orchids in Flower at Protheroe & Morris's Rooms.

WEDNESDAY, March 27th.—Sale of Lily Bulds, &c., at Protheroe & Morris's Rooms.

THURSDAY, March 28th.—Glasgow and West of Scotland Horticultural Society's Show.

FRIDAY, March 29th.—Paisley Horticultural Society's Show. Sale of Orchids at Protheroe & Morris's Rooms.

For Index to Contents & Advertisements, see p. 473.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MARCH 23, 1889.

CURRENT TOPICS.

MR. BAKER'S LECTURE ON SAXIFRAGES.—A very rapid speaker, and a very able but exceedingly technical demonstrator, is Mr. J. G. Baker, of Kew. As we listened to his remarkably comprehensive and almost exhaustive address on Saxifrages at the Drill Hall on the 11th, we could hardly help realising that we were listening to a sort of human cauldron, which, under the influence of the fire that burned so fiercely beneath, fairly boiled and bubbled over, with such rapidity and such deep intensity did the words full of information flow forth. Able and even eloquent as was the lecture, however, it still seemed to us as if it were more fitted for the ears of botanists purely, than for a mixed gathering, the bulk of which was composed of horticulturists. We do not wish that the Royal Horticultural Society should stoop so low as to present a course of lectures or papers fitted to illustrate horticulture made easy, but none the less that they should be rather horticultural than botanical.

Of course, with a man of the profound botanical knowledge possessed by Mr. Baker,

anything other than a learned botanical disquisition could hardly be looked for; and in this case, even some of the cult looked as though they were just a little afraid to tackle the propositions of so capable a master. Next Tuesday we are again to have a similar gathering; but Hyacinths chiefly will be the topic under consideration. Perhaps the less said about these bulbs—botanically or historically, much less allegorically—the better, as we have had a fair share of that information in previous years. We rather look for information that is at once horticulturally useful as well as bright and intelligent; but the field has been wonderfully hard gleaned in the past. We may well ask to be spared three papers, as one is ample for a short hour's meeting, and to afford some time for a discussion. The Scientific Committee must meet at four o'clock, and to interfere with that gathering might be provocative of some awful catastrophe.

Paper Components.—It has been said that the coming epoch will be known as the "age of pulp." May we rather venture to term it the "vegetable age." The wolf is not just yet about to dwell with the lamb: neither, so far as we know, is man, except to eat the little bleater; but when we make gunpowder out of Rye straw, we may not be surprised presently to learn of the manufacture of cannon out of paper. But the point, after all, is, out of what material will paper be created in the future? The world fondly imagines that its stock of cotton and woollen rags suffices for that purpose. Nothing can be farther from the truth. Esparto Grass, straw, and wood—all pure vegetable products—furnish a very large portion of the paper in use in the world; and even that which provides us, after it has gone through the printing press, with the news of the day, is chiefly the product of the substances named.

But we may some day find that even in this country certain vegetable products are largely grown for the production of paper, for almost any stout fibrous matter seems to be readily convertible into this useful article. We hear of Hollyhock stems being so utilised; and in Ireland, the Mallow, Hop-vine, and Red Clover have been converted into paper. Seaweed, flags, rushes, common Fennel, in fact, many ordinary vegetable products seem to be equally available. Some day, perhaps, we may light upon a substance which may prove particularly suitable for paper production, and then convert it into a standard and profitable crop.

It is very satisfactory to learn that, whatever may be the state of our coal fields, at least, so far as paper is concerned, we have but to grow certain suitable plants to have an abundance of material at our disposal. Rhubarb stalks and leaves ought to be specially useful for the purpose, and we should like to know if that material has been tried.

Carnation Societies. — Our kindly correspondent, Mr. E. S. Dodwell, has given a lucid description of the relative merits of the schedule of prizes offered by the Carnation and Picotee Union, which he pilots, and the Southern Society which Mr. Douglas directs, and the contrast is striking as well as instructive. In one case the young beginner finds a fair chance of recognition offered to him in several classes. In the other case, the bulk of the classes seem to be spoil only for the established exhibitors. We have so often noted, in connection with both the Auricula and the Carnation shows in London, the fact that the chief prizes fall into very few hands. Perhaps it may be said, with some truth, that better have the good examples of the few, than the poor examples of the many; but the many must eventually form the backbone of these societies, and every encouragement should be given to the stiffening of that element. Perhaps it would be worth consideration whether, if the large exhibitors showed for one year as honorary exhibitors, giving a wider prize list to the small growers, very much that is helpful would not be given to the flowers named, and their cultivation.

Gold-laced Polyanthuses.—Our esteemed correspondent, Mr. Thurstan, so admirably points the way to the production of these finer and improved forms of Gold-laced Polyanthuses—the paucity of which we recently lamented—that no one can but wish he would have gone farther and intimated his intention to do what he shows others may do. We presume that during the past fifty years some florists have been striving to accomplish all that Mr. Thurstan suggests, but, as he asserts, at that time from fifty to one hundred exhibition kinds were then catalogued, and we have hardly a score now, whilst our show-tables seldom see a dozen, that the florist's labours have been rather retrogressive than progressive. Even Mr. Barlow, who has worked hard in the direction named, has accomplished little, whilst his beautiful Sunrise, yet so hard to cultivate, has small flowers. We want to see some of the robustness of habit and size of pip found in the fancy kinds thrown into the gold-lace forms, yet having all the points which go in them to make up an ideal florists' flower.

Pinks.—Whilst the proposal to establish an Annual Southern Exhibition of these lovely summer flowers should be hailed with universal satisfaction, it is to be hoped that the honours offered will not be restricted to laced or purely florists' kinds only. We want to see the best of the selfs, whether white or coloured, which are such effective border flowers, and withal so valuable for furnishing cut blooms, well encouraged. The past winter has proved to be somewhat unfavourable to Pinks, as the plants suffer under too much rainfall; and we have seen considerable breadths of plants eaten up, as it were, with rot or fungus generated by the rain. On the other hand, Pinks a few years ago suffered severely in the south from great heat and drought, although they have some fondness for a fairly dry soil. Still, being so beautiful and so sweetly perfumed, Pinks merit all possible encouragement and appreciation.

The Kent County Chrysanthemum Society, which has just issued a capital schedule of prizes, will hold its second exhibition at the Rink, Blackheath, on November 6th and 7th.

Gardeners' Orphan Fund.—We are pleased to learn that this fund benefits to the extent of £51 0*s.* 6*d.* by the concert recently held at Edmonton under the management of Mr. H. B. May and his brother florists.

Mr. J. H. Witty.—We are pleased to hear that in consideration of eleven and a half years' faithful service as gardener at the Highgate Cemetery, the Directors of the London Cemetery Company have recently promoted Mr. J. H. Witty to the post of superintendent of their cemetery at Nunhead.

Proposed Duty on Plants Imported into the United States.—The *American Florist* is in receipt of advice that an association of nurserymen has recently, through a memorial, petitioned Congress, requesting that a duty of 30 per cent. be placed upon all plants imported into the United States.

New Plants Certificated in Ghent.—At the meeting of the Belgian Syndical Chamber of Horticulturists, held on the 11th inst., Certificates of Merit were awarded to Mr. Leon Poelman for Lycaste lasioglossa; to Mr. Jules Hye for Cypripedium bellatulum var. Mariæ; to Mr. A. Peeters and Messrs. Blancquaert & Vermeire for seedling Clivias; to Mr. A. Van Geert for Calanthe giganteum; and to Mr. G. Vincke for Cypripedium villosum aureum.

Dendrobium nobile nobilius.—As evidence of the high appreciation in which this beautiful variety is held, may be mentioned the fact that a small piece with three stems was sold the other day in Stevens' Rooms, Covent Garden, for 8½ guineas. Both the plant in question, and several others which we have recently noted were healthy and well flowered, demonstrating that it is equally as vigorous as the type, and as floriferous. When it becomes more common it is to be hoped that specimens will be allowed to attain a handsome size, such as the huge specimen of D. n. Wallichii, exhibited recently at the Drill Hall, Westminster, measuring 1 yard in height and 4 ft. through.

Celebration of the Chrysanthemum Centenary in Belgium.—The Royal Society of Botany and Agriculture of Ghent proposes to celebrate the hundredth anniversary of the introduction of the Chrysanthemum into Europe by holding an international exhibition from the 24th of November to the 1st of December next. The schedule which has recently been issued contains seventy-five classes for plants and cut flowers, and some forty supplementary classes for specimens of various trees and shrubs introduced from China and Japan, Palms, &c.

Floriferous Phalænopsis.—What used to be a weedy and otherwise unoccupied corner in Messrs. J. Veitch & Sons' nursery at Chelsea, is now occupied by a house which serves to connect several others, making the communication between them much more convenient, besides being in itself a useful and instructive example of what can be done with various kinds of plants, and Orchids especially. Rockwork, consisting of Derbyshire tufa, is constructed round the sides, with an isolated piece in the centre with a dripping well. On this is a fine piece of Phalænopsis Schilleriana, with a branching spike bearing 120 fully expanded flowers. The plant is grown in a basket, and is furnished with large leaves, very distinctly zoned with grey. The form is a good one, as the flowers are of good size and well coloured.

National Chrysanthemum Society.—At a meeting of the General Committee, held on Monday evening last, two members and one Fellow were elected, and the Derby Chrysanthemum Association and the Green Street Cottage Garden Association were admitted into affiliation. It was definitely decided to hold conferences at the September and January shows of the society; and it was also announced that a conference would be held at Hull in connection with the society's Provincial Exhibition. The schedule of prizes to be offered at the various exhibitions were brought up by the sub-committee, and passed after a few amendments had been made. The question of the centenary celebration was also discussed, and a sub-committee appointed to consider and advise upon the matter. Mr. Kipling, of Knebworth, sent four good bunches of beautifully fresh Chrysanthemums, and was unanimously accorded a vote of thanks.

Reversion of Cyclamen Atkinsii.—As is now pretty well known, the original and typical form of this was raised as a hybrid between C. Coum and C. ibericum, two vernal-flowering species, and the result was a plant with large white flowers, having a deep purple ring round the mouth. There are now several which are considered varieties of this, varying in the colour of the flowers. C. Coum and C. ibericum are closely allied, and readily intercross with one another, provided they are grown in close proximity. When grown separately, however, they remain distinct. Seedlings of what is described as C. Atkinsii are annually raised in quantity, and amongst these numbers appear with the characteristic foliage of C. Coum, that is, the orbicular leathery leaves are of a deep green above, altogether devoid of the grey zone or marbling which is characteristic of C. Coum. These cannot rightly be considered C. Atkinsii, although we occasionally note them in gardens under this name. They are rather to be considered as reversions to the parent type, or a separation of the hybrid characters seen in C. Atkinsii, the leaves of which are distinctly zoned or marbled with grey.

A Simple Method of Blooming Lilacs in Winter.—A Baltimore correspondent of the *American Florist* writes:—"I was particularly desirous to have some Lilacs in bloom as early as possible this season, but having no plants suitable for forcing at hand, I decided to try some branches in water—a method of which I had heard and read a good deal. I happened to have several very old trees about the place that required thinning out and shaping up, so from a large tree of the white variety half a dozen branches were cut and placed in water on the pipes under a high stage. They were well syringed several times daily, and two weeks later were taken into the light, a place being arranged for them on the pipes in a convenient corner. These branches were cut December 9th, 1888, and on January 19th, 1889, I cut the crop, which amounted to about two dozen very pretty little bunches. The clusters were small, but they served my purpose, and I was so

well satisfied that on January 19th I put in a good stock of both the white and purple varieties. These were placed at once in the light—otherwise they have been treated precisely as the first lot—and they are to-day (February 2nd) in splendid shape, many of the clusters now being 6 ins. long. None of the branches are less than 1½ ins. in diameter, and I notice that the larger the stems the better are the results."

Anthurium Scherzerianum Williamsii.—Collections of Anthurium should always include this very distinct garden form of A. Scherzerianum, popularly known as the Flamingo Plant, in allusion to the brilliant red colour of that bird. The foliage of the variety under notice is the same as in the type, but the spathe opens of a soft canary-yellow, and gradually changes to a pure ivory-white. The spadix, moreover, retains its yellow colour, so that the contrast between it and the type is well marked. It is now flowering in the Victoria and Paradise Nurseries, Upper Holloway.

SPRING FLOWERS.

Lenten Roses.

THE weather during the latter part of February and the beginning of March was anything but propitious to the proper flowering of this beautiful class of plants, but they do not appear to have been much retarded. A mild spring would, however, have favoured a better development of the flowers. On examining Messrs. Barr & Son's collection at Lower Tooting the other day, we are still inclined to consider Helleborus colchicus, with its dark plum-purple flowers, the best of them. Some seedlings showed large and very richly-coloured flowers, and the variety which they name H. c. coccineus is particularly fine, although it is not scarlet. H. caucasicus punctatus, having rosy sepals dotted with purple, is very pretty, as is H. orientalis guttatus, which has white sepals dotted with purple. A variety named Frau Irene Heinenmann is also a beautiful kind, with large flowers now in perfection. The three outer sepals, or two and a half of them, are greenish, while the rest are white, and all are spotted with purple. H. olympicus has pale green and white flowers tinted externally with purple, while the variety H. o. roseus is suffused with rose. Most of the evergreen-leaved kinds the Messrs. Barr classify as varieties of H. orientalis. We noticed a deciduous kind with green flowers, smelling strongly of Elder. It is named H. Bocconi. Besides these there is a large assortment of seedlings.

Glory of the Snow.

THE two most popular species of Chionodoxa (literally translated Glory of the Snow) are C. Luciliæ and C. sardensis, the former having large bright blue flowers, with a large white eye, and the latter having deep blue flowers with a small white eye. This is now largely used for forcing purposes, for which it seems more suitable than C. Luciliæ, because it naturally flowers earlier, and has the richer coloured flowers of the two, a fact which is the more especially noticeable when the plants have been grown under glass. In Messrs. Barr & Son's Nursery at Lower Tooting there are five long beds of C. sardensis, and two beds of the other. They produce a mass of blue which is conspicuous even from a distance, although the bulbs producing them were very small when planted. The white C. L. alba occasionally crops up in the beds. C. gigantea seems to be a large form of C. Luciliæ with long deep blue segments, and a comparatively small white eye. C. cretensis alba is a much smaller flowering kind than any, and is quite distinct from either. It bears a number of small white flowers on a stem, marked down the midrib of each segment with a pale blue line.

Galanthus poculiformis.

THIS is merely a garden name for a very distinct form of G. nivalis, in which three inner segments have developed nearly to the size of the outer ones. The usual green blotches are almost or perhaps sometimes entirely absent. A green line can, however, be detected in some cases running downwards beneath the apical notch on the inner surface. The notch by this abnormal growth has become almost obliterated, while the flower gains, according to the estimation of some, by being of a purer white. The green blotches in our estimation are not only characteristic of Snowdrops, but add greatly to their natural beauty. The inequality in the size of the outer and inner segments was given by Linnæus as the mark distinguishing Galanthus from all other allied genera; and seeing that this has been broken down in G. nivalis poculiformis, the distinctions between it and a Leucojum are very small indeed, as far as structure is concerned, for we can hardly suppose that G. n. poculiformis is any more closely related to a Leucojum genetically than is the normal form. It is believed by some to be of spontaneous origin occurring in woods in Wales.

Galanthus caucasicus.

THE most striking feature of this new Snowdrop consists in the broad glaucous leaves. According to their size, we may compare them with Galanthus latifolius—better known, perhaps, under the name of G. Redoutei, the foliage of which is of a bright grass-green, thus differing from all the other species or varieties under cultivation. On the contrary, so glaucous are the leaves of G. caucasicus that they have almost a hoary appearance; they are also somewhat incurved at the sides, and slightly hooded at the apex. The flowers at first sight bear a close resemblance to those of the common Snowdrop (G. nivalis); but on closer inspection they will be found to correspond more nearly with those of G. Elwesii, inasmuch as the three inner segments stand erect, forming a tube rather than a cup, and furthermore are slightly spreading at the mouth, and striped with green internally in the same way as those of the latter. A considerable quantity of it has recently been introduced by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. The bulbs have flowered more or less freely, but when they become established and grow strongly, it will, no doubt, be liked by hardy plant lovers on account of its foliage.

Twin-flowered Tulips.

LEAVES and flower-stalks of the Tulip named Proserpine have been sent us by Mr. C. Grant, The Rookery Gardens, Dorking. Neither of them were of exceptional vigour, yet the grower records that of three bulbs potted in the usual way into a 48-sized pot, all of them bore two blooms each on one flower-stem. The terminal one was the first to expand, and below it was a small leaf or bract. Then, from a lower level of the stem, another pedicel was given off, bearing a somewhat smaller flower, which also expanded a little later on. There are some species of Tulip that normally produce two or three blooms on a stem, but it is altogether an unusual occurrence, so far as we are aware, for the much-cultivated garden kinds to do so. A section of the stem of the specimens in question gave us the impression that two flower-stems had grown up together in a state of union.

Iris reticulata.

YOUR correspondent, Mr. G. F. Wilson, in his remarks on spring flowers (p. 454), very properly describes a variety of this plant as a gem. Iris reticulata being one of the most beautiful of our early spring flowers, besides being sweet-scented, it is a wonder it is not more generally grown. It is very hardy, and when once established in the bulb border soon increases. The flowers are of a rich deep bluish purple colour, reticulated with yellow and black, and are very pleasing and attractive.—*Alfred Gaut.*

ODONTOGLOSSUM CRISPUM ROSEUM GUTTATUM.

ODONTOGLOSSUM CRISPUM.

THERE seems practically no limit to the variations of this popular and ornamental species. Usually the blotches are chestnut-brown, or some other shade of that colour; but in the variety roseum guttatum the blotches are of a clear rose on a white ground, which gives the flower a very distinct and handsome appearance. The blotches on the sepals and petals are larger than those on the lip, and several in number, or by running together they form one large blotch. The variety first flowered in the collection of H. M. Pollett, Esq., Fernside, Bickley, in May, 1884. It then received a First Class Certificate from the Floral Committee of the Royal Horticultural Society. It has flowered annually ever since, and proves constant. In vegetative growth it is not so strong as the type, but is comparable in this respect to several of the other highly blotched or richly-coloured forms. When flowering in October last, however, it produced a strong spike.

GARDENERS AND GARDENING.

As a member of the craft, I read with feeling interest your outspoken remarks headed "A Brilliant Proposal," the offer of which, and the clear light you have presented it in to your numerous readers, may well damp the ardour of the rising members of our calling—profession I cannot term it. I must say, too, that any gardener who knows anything of advertising could give many such instances of the serfdom that has been offered to him. I remember some years ago, when as a foreman I was endeavouring to obtain my first head place, I received such an offer from a retired officer residing at a fashionable watering-place in the west of England—only, if anything, it was worse. I really thought at the time, "Well, had I been advertising in my own name, this would surely be the composition of some wag wishing to show me what I should have to undertake when I started to run alone." I should have treated such an offer with silent contempt; but as my would-be benefactor had sent a stamped directed envelope for a reply, I thought I would return one, and did so in the following terms:—"'Alpha' begs to say that having spent twelve years in some of the best gardens in England, he now requires a situation where he can show his abilities as a cultivator, and not as a handy man. He knows nothing about washing dogs and the other requirements mentioned, and therefore does not feel himself capable of undertaking so responsible a situation!"

I often hoped that my reply had some beneficial effect, but of that I doubt, as the "charitable" feelings of such benefactors is akin to the laws of the Medes and Persians—they alter not. But the lady whose letter you quote from ought certainly to "take the cake" for her charitable opinion of gardeners' honesty. In most professions honesty and integrity are rewarded by a good salary, but it is not always so with gardeners, many of whom are placed in a similar position to the labouring parishioners of a rural divine, of whom he said "they are as honest as they well can be."

Your subsequent remarks on "crowding in" I thoroughly endorse, and think with you that if there are no better opportunities open to the rising generation than gardening offers, it is a lamentable prospect, and I cannot but think that your correspondents who advocated the higher education of gardeners, either live in the land of Goshen and know nothing of the ups and downs of the ordinary gardener's career, or else that there is a deal of irony in their remarks and their zeal is misplaced. We "mend" ground to get some substantial return from it; would the advocates of higher education "mend" the gardener's knowledge with 'ologies and 'isms to reap such a reward as that alluded to at p. 447? Your remarks on market-growing are opportune, for now it appears to be such a *sine quâ non* to sell the surplus in private establishments that it behoves every young gardener to make himself acquainted with market work, whether his future is to be cast in one or the other. Market work may be hard, but if they make overtime it is paid for, whereas in some private places a gardener is expected to be working early and late; and market-men usually have few subjects and every facility, while in a selling private establishment the gardener has a hundred and one things to look after, and numerous inconveniences.

I look at the ups and downs of my own career and those of my gardening friends, and cannot say that either are encouraging. As a journeyman and foreman I had the good fortune to practise in good gardens, and fondly hoped that some day I should be able to say, "Go thou and do likewise"; but through lack of opportunities I have not been able to emulate my chiefs. I know something of advertising and its consequent watching and waiting, and am still waiting for something to turn up; for though a head man, I am remunerated at a lower rate than when a foreman!—*Pathfinder.*

EVERLASTING PEAS.

To whom are we indebted for the discovery and introduction of the broad-leaved Everlasting Pea—Lathyrus latifolius? It would appear that it is an English plant, and that it must have been in cultivation in this country for many years. How did the white variety originate, and who first introduced it into cultivation? Is it a sport from the red, or did it originate as a seedling? The term Everlasting is said to come from the French, *pois eternel*, and that it was so named because of it not being like the common edible and Sweet Peas—an annual. The forms of L. latifolius with which I am acquainted are the common red, or rosy purple, the white, and a charming variety named L. delicata, having pink lines upon a white ground. The former comes readily from seed, though the seedlings may vary, and it is a most useful subject for cutting purposes, only that the flowers burn somewhat under the hot sun and soon lose their beauty; but then it is wonderfully free of bloom. The white variety makes a most useful plant for cutting from, and in the case of a well-established specimen, they are produced in abundance for weeks in succession. But this form by no means comes true from seed; the tendency is to revert to the red type, and thus it is, I take it to be, a sport. It is said that if a plant of the white Everlasting Pea be planted right away from any possible contact with the red, the seed saved from it will produce much larger percentages of white-flowered plants than when the two are planted closer together.

I have seen fine forms of the red Everlasting Pea, and some years ago Mr. Robert Parker, late of Tooting, received a First Class Certificate of Merit for one under the name of Major, or Grandis, or some such designation. But I think that any such variation in size of flower or richness of colour is due to the character of the soil in which the plant is grown, and my reason for coming to this conclusion is by knowing a part of Kent where the common Everlasting Pea takes a very fine form—far beyond what one sees elsewhere. In the flower garden of an old farm-house, where it is planted against an old Bigarreau Cherry tree, which one would think would starve it out of existence, the plant produces truly magnificent flowers, and also in an old rectory garden a mile away. I have tried seeds and plants from both places only to find that in Middlesex it reverts to the old form as we know it in this part of the country.

What a delightful thing L. grandiflora is! Were it introduced now for the first time, how lovers of hardy flowers would rave about it, and yet, in how few gardens is it to be found! When once established, it appears to defy all the rough usage to which it can be exposed. In Mr. Samuel Barlow's garden, at Stakehill, there is a large patch of it, and it is always in glorious bloom about the same time as Tulips. It is earlier than the common Everlasting Pea, and it is so free that we can say with the poet, that it "heaps up its flowers in happy plenteousness." They are very large and finely coloured. This came from southern Europe nearly three quarters of a century ago, and it seems to do best in a deep sandy loam, or in a good loam resting upon the gravel. L. latifolius will do in a stronger soil. Has anyone ever heard of L. grandiflorus seeding?

Then there is L. Drummondii. It is said by some authorities that this is identical with L. rotundifolius; but this last is said to be of dwarf growth, while the former is quite tall, and when once established, grows to large size and flowers abundantly. The blooms are of a kind of salmon-carmine, and produced in dense clusters; but it seeds sparingly, and in a dry state they differ from those of L. rotundifolius.

Some persons who sow seeds of Everlasting Peas, complain that they are unable to get them to germinate. Adopting a method recommended by the late Mr. C. Green, I soak the seeds for twelve hours in water before sowing, then take them out and lay them on a shelf for the same period; I then sow, and as a general rule, very few failures occur, provided the seeds are young and plump.—*R. D.*

AMARYLLIS AT CHELSEA.

The Amaryllis house of Messrs. J. Veitch & Sons is now remarkably gay with an exceedingly varied assortment of flowers. These occupy the central bed of the house, and in a short time a greater number will be in full bloom. The whole of them were re-potted in January, not earlier, and some of them were brought into the house at different dates with the object of prolonging the flowering season. No fire-heat was employed for a long time after the bulbs were potted, and free ventilation was given owing to the mildness of the early part of the year. The two side benches are occupied with younger bulbs, which were brought into the house at a later date. These will flower later on, and will yield about 300 spikes of bloom on each bench. It is needless to dwell upon the perfection to which the strain has been brought, suffice it to say that it has been mainly derived from A. Leopoldii and Empress of India. The first-mentioned variety supplied the shape, and the latter the splendid colour for which the best types are notable. They are characterised by a short tube, a large and widely-expanded flower, and very broad segments of remarkable substance. The breadth of the latter gives regularity to the flowers, which, in the original types, had narrow segments, presenting a star-like or rayed appearance, while the lower segment was generally very narrow. The widening of this in the newer types is certainly a marked improvement, and to this point Mr. J. Heal, the skilful hybridist, who keeps a strict record of all his operations, pays due regard.

It may here be stated that the hot-water pipes are wholly enclosed by a casing continued down from the benches, so that dry heated air from the pipes cannot play upon the flowers. All the pots are plunged in spent tan, and recently a little bottom-heat has been employed. The house is quite cool, and even in the present sunless weather ventilation is given at the top. A double row of slender pipes (about 1½ in. diameter) runs under the lower part of the roof of the house so as to keep the atmosphere dry if need be. The heat, however, was turned off on the occasion of our visit the other day. By their use any condensation of moisture during cold or wet weather is prevented. A great concourse of visitors always seek after this house while the Amaryllis are in bloom.

Short-tubed, Open Flowers.

The undermentioned are almost without exception seedlings flowering for the first time. John Ruskin may for convenience sake be taken as the type of this group, as it was the first of the finest kinds that appeared this spring, and received a First Class Certificate at the last meeting of the Royal Horticultural Society, by the unanimous voting of the Floral Committee. (*See* p. 455 for description.) Since then a finer variety has flowered, of a deep crimson-scarlet, measuring 9 ins. across the bloom. It is dwarf, as is John Ruskin, being only 18 ins. high to the top of the flowers. A third one named Optimus is the finest of the three, having brilliant crimson-scarlet flowers of great regularity with broad segments of great substance. It is also 18 ins. high, bearing two flowers on a scape. All three were raised from the same pod of seed, and they are the grandchildren of A. Leopoldii and Empress of India. Mirabella has scarcely any tube, but the segments are slightly less flattened out. The flowers are white, slightly striped with scarlet, especially on the upper segments. Felicia is of the same strain as the last, and white, with more of the scarlet markings. The flower scape is only 15 ins. high. Two is the commonest number of flowers on a scape, but occasionally there are three or four. The flowers, however, lose in size when they gain in number. The largest are the most popular with the public; but we hope that the present limit will now satisfy the most fastidious in that respect. Some bulbs produce two scapes each, including the largest-flowered kinds, such as John Ruskin. Orphix may be included amongst the short-tubed kinds, but it bears four flowers on a scape, which are crimson, with a greenish star at the base and a pale midrib, and of moderate size.

Other Types.

The tendency of the hybridist is to get away from long-tubed flowers, the extreme of which we have in A. solandræflora. When the tube is long, the limb of the flower must be short, and *vice versâ*. There are probably no specimens in the entire collection resembling A. solandræflora, and the undermentioned kinds are far removed from it, with tubes of moderate length, and the segments spreading widely above their middle, or even from below it. A dwarf sort is Admirable, with scapes about 15 ins. high; and the specimen we noticed had two scapes from the bulb, bearing each two large flowers of a reddish crimson, with a six-rayed, greenish star at the base. A handsome variety named Conquest, with large, brilliant, crimson-scarlet flowers, bore the same number of blooms as the last, but the scapes were somewhat taller. The effect of well-grown specimens such as these in a greenhouse or conservatory is very telling, and must be seen to be estimated at its proper value. The scapes of Harbinger were about 2½ ft. high, bearing four flowers each, which, notwithstanding their number, are of good size, and scarlet, striped with white along the centre and at the base. As yet there are no pure white kinds in bloom, although several beautiful ones show a close approach to it. Colour, it may be stated, is largely influenced by locality, and new varieties sent out from Chelsea often improve so sensibly as to appear a different thing altogether. Reto is a creamy white kind, variegated with a few red lines on the upper segments. Another light kind named Galicia is beautifully reticulated with rosy red lines. The scapes are 2 ft. high, and bear three flowers each. Virgilius also bears three flowers on a scape, all of good size, white, and slightly striped with scarlet. It is a fine bold type, and might easily be greatly improved, but unfortunately for the hybridist the finest kinds soon get sold and taken away. Finette is a pretty white kind of last year, with well-shaped flowers, slightly striped with red on the midrib towards the base. The above is but a short review of the finer kinds in flower a few days ago.

INJURIES TO TREES BY HOAR FROST.

At the last meeting of the Scientific Committee additional and corroborative information was received from Mr. Plowright, of Kings Lynn, of the remarkable occurrence described at the previous meeting, of boughs of various trees being broken off by the extraordinary growth of crystals of rime upon them. As no snow had fallen during the period, it was impossible to attribute the results to such a cause. There had been excessive fog previous to January 7th, 1889; the rime forming upon the telephone wires was so great that they were broken down. The ice was deposited unilaterally like flat sheets of glass, 1½ ins. to 2 ins. in width on the south side. On the 8th was a thaw. The result of the frost was that a Birch had a branch amounting to one-third of the tree broken off; the smaller branches particularly suffered. The Elms were most injured, branches of all sizes being broken off, even large arms, one measuring 5 ft. 6 ins. in circumference, and 1 ft. 10 ins. in diameter. To such an extent was the roadway covered with *débris* that the market carts were greatly impeded. Oaks, Willows, and Poplars also suffered; but Ashes and Scotch Firs escaped. Several photographs and broken branches were sent as illustrations of the way in which the damage was effected, for Mr. Plowright noticed that fracture without falling was a distinct feature of rime-injuries to trees, excepting to Willows and Poplars, the vast majority of whose branches fell to the ground. It was a remarkable sight, for example, to observe the broken but still pendent branches of the Oaks upon the Hillington Road, hanging on them for some weeks afterwards, and all on the south side.

Mr. W. G. Smith recorded and figured in THE GARDENING WORLD for March 20th, 1886 (p. 457), a very similar occurrence at Dunstable, due on that occasion to frost, fog, and wind combined. The ice forms sheets as thin as paper, about 2 ins. wide, and attached to the leeward sides of the boughs, but at intervals only to the wood, thus forming a series of arches. He attributed this fact to the warmer temperature of the living shoots, which melted the ice throughout the greater part. These blades of ice were about 2 ft. long. Any little extra wind caused a stir among the branches like the sound of breaking glass. For several days previously the frost had been very severe, the hills at the same time being continuously hidden by wet fog, which was driven gently along by a biting wind from the north-east.

CROCUSES AT TOOTING.

NOTWITHSTANDING the fact that there are some seventy species of Crocuses known to science, and that the greater proportion of these are now in cultivation at a few places, the great majority of gardens can only boast of two or three kinds, such as C. vernus, in endless variety, C. aureus, in the large form known as Dutch Yellow, and perhaps Cloth of Gold (C. susianus). With the exception of one or two private places perhaps, the collection of Messrs. Barr & Son, at Lower Tooting, is the most extensive in the country. A collection is grown in frames, but the greater bulk of them are grown fully exposed in the open ground, and a fine appearance they present when the sun is shining.

The garden varieties of C. vernus are not grown, for the reason probably that they are left to the Dutch florists. The interest attaching to the collection is therefore immensely increased. All are pretty, there being no weeds in the genus. C. vernus leucostigma is blue with a white stigma; C. v. leucorhynchus is a striking kind, having a deep blue zone beneath a white tip; and C. v. George Maw is white, with a yellow blotch at the tip. Other blue or lilac kinds are C. bannaticus, with a darker blotch below the apex; C. carpetanus, lilac; C. c. lavandulacea, lavender; C. Sieberi, lilac-blue; and C. S. versicolor, a rare white variety, with purple band externally. A large, pale lilac-blue species is C. Thomasinianus, grown in quantity. Several species, of which C. Imperati may be taken as the type, are characterised by their pale lilac or blue, but extremely variable colours, with a broad, brownish grey band externally, often beautifully feathered with purple veins. C. etruscus, C. reticulatus, C. suaveolens, and C. versicolor may be included in this group. The last-named is a large-flowered and very beautiful hardy Crocus, for which light-coloured and striped varieties of C. vernus are often substituted for forcing purposes. The prettiest of the varieties, we consider, are C. versicolor striatus, richly feathered dark purple; and C. v. picturatus, feathered with purple on a white ground. C. biflorus, striped purple on a white ground, is a small, but elegant and very floriferous species, of which Cloth of Silver or Scotch Crocus is a variety. Its varieties, C. b. Weldeni, freckled with pale purple, and C. b. W. alba, are very distinct and pretty. The latter should probably be distinguished as C. b. Pestalozzæ. A rare species is C. Malyi, white, with purple stripes externally.

The yellow kinds are both numerous, varied, and striking on account of their conspicuous, often brilliant shades of colour. They are wonderfully hardy, and merit a very much more extended cultivation. The commonest no doubt is the Dutch Yellow, a variety of C. aureus, and found in some old books under the name of C. luteus. C. aureus itself is a pure golden yellow, and other varieties are C. a. sulphureus, C. a. sulphureus striatus, and C. a. fusco-tinctus, whose names indicate the colour. Added to this is C. stellaris, the native country of which is unknown. It is golden yellow beautifully lined with deep brownish purple externally, and when the sun shines the segments spread out in a star-like manner. C. Olivieri, although a small-flowered species, is deep golden yellow and very floriferous. It is grown in quantity and increases rapidly. The beds in the open were planted a little over a year ago, so that the corms are flowering for the second time since put in the ground. We counted from five to eleven flowers from a single clump, representing single corms last year, so that many flowers arise from each. For horticultural purposes C. chrysanthus is similar to the last, but it gives rise to several very distinct varieties, such as C. c. pallidus, C. c. fusco-tinctus and others. C. Cambessedesii, C. alatavicus, and C. Balansæ may be added to the list. The last named is a beautiful kind in its best forms, which are richly feathered with brown on a golden yellow ground; others are banded or tinted with these colours. An albino of C. alatavicus is white with a yellow throat.

ORCHIDS AT UPPER HOLLOWAY.

As the days lengthen, flowers get more plentiful, but in no family of plants do we find greater variety than amongst Orchids in spring. Calanthes, Dendrobiums, Odontoglossums, Cypripediums and Cattleyas were most plentiful on the occasion of a visit to the Victoria and Paradise Nurseries, Upper Holloway, where Mr. B. S. Williams gives considerable attention to Orchids.

Near the door of one house was a bank of various subjects in flower, including a number of Calanthes. C. Williamsii has a deep purple lip with paler petals, while C. Stevensi was white, with the column and the base of the lip of a rosy colour. C. Regnieri Fausta is much darker in the colour of the same parts; C. bella is rosy pink with a dark eye, and C. nivalis of a pure snowy white. Many Dendrobiums in flower are scattered about in different houses, including such showy kinds as D. Ainsworthii, D. A. roseum, D. Leechianum, notable for the great size of its flowers compared with D. Ainsworthii; also the beautiful D. Linawianum, with curiously flattened and jointed pseudo-bulbs. The pretty Australian D. bigibbum is also flowering. Suspended from the roof of a house is a splendid bit of D. nobile nobilius, quite equal to that figured in the *Orchid Album*. The flowers are of great size, and the sepals and petals of a rich purple, with a very intense crimson-purple blotch on the throat of the lip.

Amongst the Odontoglossums in flower are some fine pieces of O. sceptrum, showing considerable variation in the depth of colouring, and the toothing of the petals. The lip is also fairly fringed. Not very plentiful are O mirandum and O. cristata, both marked with dark brown on a yellow ground. The crest of the latter is very marked and distinct, with radiating finger-like segments. Amongst the Cattleyas are some fine varieties of C. Trianæ, one of which resembles C. T. splendidissima in colour. C. Skinneri is now rapidly pushing up its sheaths, while other species, as well as the Lælias, are in excellent healthy condition and will soon be in flower; L. cinnabarina harpophylla is, however, in bloom. Closely allied to the Lælias is Brassavola glauca, occasionally met with in gardens, but here in bloom. The flower is white and similar to that of B. Digbyana, but not fringed at the edges.

A large number of Cypripediums are in flower, but we noted only a few of them, including C. insigne Maulei, C. Argus, C. barbatum Crossii (Warnerianum), C. Haynaldianum, an improvement upon C. Lowii, also C. vernixium, C. Meirax, and the curious but beautiful C. hirsutissimum. A good variety is C. Sallieri aurea, with a soft brownish yellow ground colour. It is very pleasing. The largest of all we noted was C. Charles Canham, the petals of which are of great size, drooping, and soft rose, spotted with purple. The pouch is also of enormous size. Cœlogyne cristata and its varieties, C. c. alba and C. Lemoniana, are flowering freely. Lycastes are represented by L. plana, L. Skinneri alba, pure white, and L. gigantea, a curious kind, with large flowers and a reddish brown fringed lip. Cymbidium eburneum is also in season, and presents some variety with regard to the presence of purple spots on the lip and a large yellow blotch. This species is very fragrant. A grand piece of C. Lowianum has six spikes, each bearing from twenty to twenty-seven flower-buds, which will expand shortly. A strong contrast to other kinds is furnished by the orange-scarlet flowers of Ada aurantiaca. Phaius maculatus, with its yellow sepals and petals and crumpled orange lip, as well as yellow-blotched foliage, is one of the most distinct species we have. A graceful plant is Dendrochilum glumaceum, bearing a couple of dozen spikes of fragrant white flowers.

There is also a considerable sprinkling of the finer Oncidiums in flower or rapidly pushing up. The spikes of O. sarcodes are already about 2½ ft. to 3½ ft. in length. A well-flowered bit of O. Forbesii showed off its deep chocolate-brown and yellow markings to great advantage. The little known O. splendidum bore flower-stems about 3 ft. in height. The flowers themselves resemble those of O. tigrinum in colour and size, but in structure they differ as well, markedly so in the great rigid leaves. A specimen of Phalænopsis Sanderiana was flowering under rather cool treatment, and had good foliage.

NOTES FROM SCOTLAND.

North of Scotland Root, Fruit, and Vegetable Association.—This flourishing association, which holds its exhibitions in Inverurie, N.B., has already issued its prize schedule for the show proposed to be held under its auspices in November next. In the sections for garden produce pieces of plate are offered for the various exhibits. Several additions have been made to the prize money, and even at this early period there is shown an unusual amount of preparation and enthusiasm, which augur well for the success of the show. The prize list includes a couple of handsome silver hot-water kettles, for the best lots of Swedes and Yellow Turnips. The kettles must be taken three times, but one exhibitor is not allowed to take both. For Field Potatos a piece of plate is offered for the best lot in certain classes. Among those from a distance offering prizes are Messrs. Sutton & Sons, Reading. There are to be three more classes this year than last, and judging from the schedule, the show of 1889 promises, with a favourable season, to be one of the best held in recent years. The secretary, Mr. William Maitland, is indefatigable in his efforts to that end, and it is to be hoped he will succeed.

"Ringing" Fruit Trees.—Though the practice of mutilating the bark of fruit trees is not to be encouraged, we know of many cases where ringing—and severely, too—has been attended by results which set apparently barren trees into fruiting, and they continued so most satisfactorily. We have had similar experience to that of an Irish clergyman, who told us that he had a large number of vigorous and healthy young trees badly barked by sheep which had been allowed inadvertently to wander into his orchard. Their coarse unfruitful growth ceased, fruit buds forming instead, and fine crops were annually gathered. When forming a new park and garden in Worcestershire, we found among a large quantity of shrubs which had been roughly heeled in, bundles of young fruit trees, which had been planted, lifted, pushed into the soil in these bundles, and left. We lifted them out, cutting off all suckers, dead wood, and cankered bark which had been caused by sheep eating the bark off the stems. They were carefully planted, mulched, and firmly staked, the result being healthy growth and an abundance of excellent fruit.—*M. T.*

Tobacco Culture in Aberdeenshire.—Among the many experiments conducted during the past ten years by Mr. Thomas Jamieson, lecturer on agriculture in Aberdeen University, there has to be included that of Tobacco culture. Professor Jamieson, from the results he has obtained, has practically proved that the soil of Aberdeenshire can produce Tobacco of a quality which, when manufactured, meets with the appreciation of smokers. The experiments were carried out on the experimental farm of Glasterberry, near Aberdeen, under the auspices of the Aberdeenshire Agricultural Research Association, and from the results Professor Jamieson concludes that Tobacco might be grown, ripened, and cured in this country, and that with the skill that comes by experience even the finer varieties might be successfully made. The plants were grown upon an experimental plot, and on a larger scale in the field; they were late in being planted, yet the produce is described as heavy, and though not thoroughly matured, it was manufactured into three forms of Tobacco, and to quote Mr. Jamieson's report, "smoked with appreciation." It is rather to be regretted, however, that the experiments have had to be abandoned owing to the trouble and inconvenience entailed on the grower and the Inland Revenue officers by the frequent inspection of the crop.—*Cor.*

Manure and Fruit Trees.—Now that fruit tree planting is drawing to a close for the season we state that it is a great failing to suppose that fruit trees of any kind, except it may be Currants and Gooseberries, require manure at planting time mixed in the soil for the roots. If the soil requires enriching, and is too poor for raising fine healthy trees, it is much better to remove a goodly portion, and replace it with fine loam if such can be had, and manure may be applied as a mulching by placing a portion over the roots (not next them), making it firm by the use of a fork. A coating of soil placed over all keeps in the virtue of the manure, and renders the surface presentable to the eye, which is something in a well-appointed garden. The manure placed above the roots, instead of amongst them mixed in the soil and below them, induces upward growth of the feeders, and acts as a preventative of grossness, and by their being drawn within range of the action of solar heat the fruiting proclivities of the trees are increased.—*M. T.*

FLORICULTURE.

The Gold-laced Polyanthus.

You asked in a recent issue, "Cannot some raiser do for these florists' flowers what Mr. Horner has done for the Auricula?" Being an exhibitor of these flowers, I, several years ago, tried seedling raising with some amount of success; but am sorry to say the first and principal reason why I have not followed it up, is owing to this class of florists' flower only growing and living under treatment that is specially their own. My plants all died one dry summer, owing to red-spider; and unless the locality is eminently suitable to their cultivation, they do not live or get the attention they require. I have never yet met with anyone who has been able to say that these plants grow with them like weeds in the open garden. I mean, of course, the gold-laced Polyanthuses, not the garden varieties, from which they seem to have a different constitution altogether.

With Mr. Horner, seedling Auriculas will grow in the open garden winter and summer, and two years ago I tried the same experiment with my seedling Auriculas, but lost the entire lot, and some of them were three years seedlings—so much for situation. If gold-laced Polyanthuses would only live with us in Lancashire in the open, I have no doubt we should soon have some fresh faces. Around Middleton, near Manchester, they are very successful in growing them, but it is owing to their peculiar treatment in frames, &c., that needs a daily care. Such varieties as Lord Lincoln have even died out with them, and of Beauty of England and Kingfisher I question if there is a plant in existence. I have never seen either. There are seedlings being raised, however, and I have seen several obtained by Mr. Barlow, whose Sunrise is in my opinion the finest red ground in cultivation.

Owing to these plants not growing in the open borders with any degree of success, the stock of a seedling takes several years before it makes sufficient quantity to be of any use to exhibitors. I saw several seedlings raised by Mr. Oldham, of Middleton, which give great promise, but am afraid they may get into the hands of those who will not take the trouble to increase them so as to be of any service in future years. None of the varieties yet raised is anything near perfection. Cheshire Favourite, although one of the best, is full of faults, and rarely, if ever, is the lacing correct. There are two varieties of this—the common one, with a broad lacing and a good constitution, while the lacing seems ragged on the inner edge; the other with a fine lacing but poor constitution. Of the latter you seldom see three correct pips on a truss, but when perfect they are gems. Its fault is that the lacing does not cut through.

The gold-laced Polyanthus has not the same fascination when in full bloom as a house of Auriculas with their self colours and edges, which are a lovely sight, while the laced Polyanthuses have a great sameness about them, the only difference being in the colour of the ground—black and red, and if there is plenty of sunshine even that is very little. In an old florist work published in 1822, there is a picture of a purple-ground flower, but I am sorry to say I have never seen one like it yet. It is only during the last six years or so that the gold-laced Polyanthus has had many prizes awarded to it at the National Shows, except for a pan of three, containing either black or red grounds, but now they have pans of black grounds, and the same of red grounds. The last exhibition in the Manchester Town Hall was the best of these plants I ever remember to have seen. In Manchester it has been usual to have one truss only, but in London there was no restriction, and the plants were often overgrown, and the flowers coarse and out of character.—*W. Bolton, Warrington.*

Yellow Hyacinths.

My edition of Thomas Hogg on the *Culture of the Carnation and Other Florists' Flowers* (1822), contains a list of nine named double yellow Hyacinths taken from a Dutch catalogue, the names of the varieties being Bouquet Orange, Chrysolora, Duc de Berry, Heroine, L'Or Vegetale, Louis d'Or, Ophir, Puré d'Or, and Vainqueur. I have just referred to the Bulb catalogue of Messrs. E. H. Krelage & Son for 1888-89, and I find that they still catalogue all but the first and last of these nine varieties. That some of these had been in cultivation many years previously there can be no doubt. In 1822 the single varieties of Hyacinths were scarce indeed; and, in fact, the double forms were regarded as much more valuable than the single. It is within my own recollection that this preference existed, but now, with but few exceptions, the single varieties are the rage, both for decorative and exhibition purposes. Hogg gives four single yellow, five single white, twelve single red, and the same number of single blue; and of these latter Grande Vedette, Orondates and Staten Generale still find a place in Bulb catalogues. But there was no lack of single varieties at that time, as it is stated in Page's *Prodromus* (1817) that of the garden Hyacinth "there are more than one hundred varieties of single, and as many of double named sorts."—*R. D.*

The Florists' Laced Pink.

I am pleased to see my old friend Mr. James Thurstan calling attention to the claims upon florists of the beautiful fragrant laced Pinks, and his generous offer of Tulip bulbs is one that I hope will be availed of. It would be a pity if the accumulated wealth of named varieties of the florists' Pink, including Mr. Thurstan's fine new varieties, were lost for lack of enthusiasts to grow them. If an exhibition can be arranged in London, I shall be happy to render such small help as I can in the matter. I can grow the Pink only in pots, and then at a great disadvantage, as the London fogs during winter try them severely, and anyone who wishes to grow the laced varieties near London should get without the range of the fogs, so that suitable soil and a pure atmosphere may aid him. I have succeeded in bringing through the winter in pots a few of the named laced and forcing varieties, and they will presently go into the open ground, turning the plants out of pots without disturbing the ball, and planting them in fresh and suitable soil.

I am glad to see that Mr. Dodwell is turning his attention to the florists' Pink. I last year flowered three or four seedlings he sent me, and very beautiful they were, even with such poor round of culture that I could give them, but there was enough to show me that the strain is good and full of promise.

If anything is to be done by way of forming a Pink centre, in order to carry into practice Mr. Thurstan's suggestion, it should be done at once. Will Mr. Harry Turner convene a meeting of those who take an interest in the Pink, doing this at some convenient time, such as one of the meeting days of the Royal Horticultural Society? I am afraid the venture means the floating of another special society; but if any special work is to be done in these days, it is only by means of overs of a particular flower banding themselves together for the express purpose.—*R. Dean.*

The "Greensides" Pink and its Raiser.

There worked at Medlock Vale, when I was a lad, a man named John Bradshaw. He was a very keen florist, but unfortunately he was a little deficient in his upper storey. He was like what our friend Edwin Waugh calls about ninepence to the shilling. But for all that he had a real and genuine love—aye, a passion—for flowers, and I remember with distinct pleasure his taking me to Stockport, in 1838, to see two very large collections of Dahlias. They were the finest I ever saw, I think. They were remarkable all over the country at that time. Well, Jack Bradshaw, by crossing Bow's Suwarrow with another Pink, raised a purple laced Pink, which he named "Greensides," after the place at which he lived, and very proud he was of it. I remember him taking me to see it in bloom, and the way in which he went on about it was something of a caution. However, it did turn out as well as he anticipated, and it was the leading purple laced Pink for several years afterwards.

Jack used to indulge in strange whims. One of his constant wishes was to be able to find "an old field that somebody had done with," and then he said he would show somebody how to grow Potatos. He never got it, as far as I remember, because fields that folks have done with are rather scarce. I have never seen one yet. Jack, among the whims that florists often have, wanted some soil on one occasion, and as he was prowling about he saw some good soil in a field belonging to a farmer named Dick Worswick, who kept "The Humphrey Chetham," at Clayton. Jack never concealed anything, but told all the workpeople about his affairs; so one day he met one of them named Hulme, a fellow of infinite humour, and said to him, "Robin, I've sin some rare good soil i' Dick Worswick's meadow. I could do wi' a good lot o' that rarely. Dost think he would let me have it, if I wur to ax him?" "To be sure, he would," replied Robin, "but I should never trouble about axing him at o'. Borro' a barrow, and help thisel' to it." So Jack fetched about half a dozen barrowsful from the place, which was about half-way between his garden and the farmer's house. Then Dick got to know about it, and so Jack was summoned, and was fined 5*s.* for trespass and about 2*s.* 6*d.* for the value of the soil. This preyed on his mind for some time, and he often said, "I'll be straight wi' that chap some road." And so he went about for a day or two, when he came to my father's, and said, "Here, Barlow, I know what I shall do wi' Dick Worswick." "Give over bothering about it," said my father. "Nawe," he said, "I shanno. I'll catch a mad dog and set it at his cows!"—*From a paper on Garden Gossip, by Mr. S. Barlow.*

NOTES ON VEGETABLES.

How Synonyms are Multiplied.

We are just in receipt from our London office of a copy of The Gardening World of February 23rd, in which we note the letter of Mr. James Muir on "How Synonyms are Multiplied." We must express to you our appreciation of your courtesy in publishing this article, and also our sense of the importance of the subject. As you will see by the marked paragraph enclosed from our Farm Annual for 1889, we are trying to curb to the best of our ability this iniquitous system of selling the same variety of seed under several names. Mr. Muir speaks particularly of Messrs. Oakshott & Millard using the same American illustration of Charles Downing Potato which appeared in our catalogue for 1888, to advertise apparently the same Potato as their "Satisfaction."

We have before us a copy of this firm's catalogue for the current year, and note on p. 14 that they have appropriated our copyrighted illustration of Laxton's Evolution Pea, which appeared in our catalogue for 1886, to advertise their "Specialité Pea."

On p. 20 they have appropriated the original illustration of our Cardinal Tomato to illustrate their "First Little Beauty," while on p. 18 they prominently announce "Oakshott & Millard's Mammoth Silver King Onion," claiming as their own a variety which was first named and introduced by us in 1884. While we have pirating in America, it is seldom that we meet with quite such bold piracy as in this catalogue from Reading.

Last year Mr. R. H. Vertegans also bodily transferred a number of our American illustrations of vegetables, evidently procuring seed from America and introducing them as new and distinct novelties into England.

The re-naming of novelties in vegetables and flowers in America is now taken in hand by several of our leading journals, assisted by the State Experimental Stations, and it is likely that this deceptive practice will be largely curtailed. We are glad to see that your journal is so fair and impartial as to take the same stand in England.—*W. Atlee Burpee & Co., Philadelphia, U.S.A., March 8th.*

Potato, The Puritan.

I am tempted by Mr. Kipling's interesting communication in your last issue to give this variety a trial, as I do most new vegetables that I think are conscientiously recommended. Can your correspondent or any other reader tell me if The Puritan is the same variety as is being advertised under the name of Early White Hebron?—*Amateur.*

ICELAND POPPIES.

The Poppies popularly known under this name are varieties of Papaver nudicaule, the naked-stemmed Poppy. It is a native not merely of Iceland, as the popular name would lead us to infer, but of the Alpine regions of the whole of the northern hemisphere. P. alpinum, although a dwarfer kind with generally more divided leaves, shows a similar range in the variation of the flowers as to colour, and botanically cannot be considered a distinct species. The three most common colours now to be met with in gardens are the typical clear yellow, the white (P. n. nudicaule alba), and the orange variety (P. n. miniatum). Other shades occur, such as lemon and sulphur-white, but unless a collection is the desideratum, the first-named will be found quite sufficient for all ordinary decorative purposes. As cut flowers they are extremely elegant when cut and placed in glass vases or flower-holders. They should be cut when they first expand, and put into water immediately. Iceland Poppies are perennial, but they produce seed freely and can be readily raised by an amateur even, in this way. The three kinds are obtainable either separately or mixed, and may be grown in beds, borders, or rockeries, according to the fancy of the grower or his convenience. We give an illustration of the white variety (P. nudicaule alba), for which we are indebted to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

HARDY HERBACEOUS PLANTS.

LETTERS FROM A LADY TO A FRIEND CONCERNING THE BEST FLOWERS TO GROW FOR CUTTING.—II.

"My Dear Mary,

"In the very early spring let me advise you to gather branches of Horse Chestnut and Larch just when the buds are well filled out, but get them from trees either out of the way, or one doomed to be cut down, as otherwise do not on any account to gratify a passing whim go and spoil good timber. Bring them into the house, and stand in water in a large clear crystal vase, in which their brown stems look to greatest advantage, or place in a coarse brown jar, which also suits them well. With the heat of the room the buds burst, and when the leaves appear, being so forced, they are of the most tender green colour. A branch lasts a long time, and it is both very interesting to watch the leaves unfolding, and when fully out is very lovely.

"Plants I consider that repay their price are herbaceous Pæonies, but as they are rather expensive, ascertain the prices before ordering any. They are now to be had in all colours from white through blush to glowing crimsons. Arranged in separate shades or all mixed, and placed in large brown earthenware jars, with a very few of their own leaves, nothing can produce a better effect where a mass of colour is required.

"Iris germanica comes in well to use the same way, and any humpy heavy effect can be avoided by cutting the stalks in different lengths. Also they ought to be gathered when the first bud shows colour, as each flower lasts only one day and should then be cut off, and the other buds will open successionally till all have bloomed. A few sprays of very long grass, in addition to two or three of their own leaves, are a great improvement. English and Spanish Iris are equally beautiful, and should be gathered at the same stage of growth, but being smaller do not answer so well for large vases.

"A good grass to grow, and useful to cut from in spring, when it is in flower, is Luzula sylvestris. Being indigenous it can either be transplanted from its native habitat or bought at a nurseryman's. When in flower it is most lovely to arrange with all sorts of Daffodils, Violas, etc. The common old-fashioned striped grass (Phalaris elegantissima) is also useful to cut from when inflorescent, but the leaves fade and fall so quickly that they should always be peeled off from the flowering heads, as they make any arrangement in which they are used look so very soon shabby.

"Another very desirable grass to grow is Carex pendula, but it must be procured where it is growing wild, as I have never been able to get it at any nursery. I noticed it in most of the gardens at Hastings, and was told it was indigenous to the neighbourhood. It is an extremely handsome, tall, drooping grass, accommodating itself equally to sun or shade, and its long catkin-looking inflorescence makes it a very picturesque object, either in the garden or in large vases amongst cut flowers.

"You ask me about a really good strain of Forget-me-nots, as you complain of yours coming so pinkish and purplish in colour. We grow only the large ones called Myosotis palustris semperflorens. It is a very lovely blue and very true, and the only precaution required to get it to flower in perfection, is to grow it in damp and shady places, digging it up every alternate year, otherwise it grows too crowded and produces very inferior bloom. A large, round, shallow dish filled with this Forget-me-not, the stalks cut 4 ins. or 5 ins. long, and in as great quantity as the dish will hold, to be quite compact, and dotted in with Luzula sylvestris and a few Ox-eye Daisies, makes a lovely arrangement. It lasts long also, the Myosotis going on growing and eventually rooting in the water.

"Many people complain that although Violas are so beautiful in the varieties of their colouring, and grow so luxuriantly, admitting of cutting them freely, they cannot arrange them effectively. Try the following: Fill a large flat dish with very wet sand, and insert any small vase or glass right in the middle, to heighten the centre. Edge the dish with a row of pretty small Ivy leaves, then dot in the Violas all over in the sand, choosing the longest-stalked ones for your centre glass. This done, stick in amongst the flowers any small grasses to be found, the inflorescent heads of the common-striped one doing as well as any. Sometimes I use only one colour or two, when I keep the centre different, but every shade mixed is, I think, much prettier. An exquisite arrangement is red Ivy leaves for an edge, and one or two shades of yellow Violas dotted in with brown heads of Luzula sylvestris.

"With your immense rooms you often want effective flowers to fill up large corners. Nothing can be better than the Oriental Poppies, the variety P. bracteatum being especially good. They are herbaceous, and their colours are most gorgeous, brightening up a dark corner wonderfully. Their habit of growth also gives great variety, the flowers of some plants drooping, and others having very strong erect stems. These latter are preferable in every way, it is therefore a good plan to keep only a few plants of those in which the flowers droop, and increase the stock of the stronger upright ones, they being more tidy-looking in the garden, and when cut they last longer and are more effective.

PAPAVER NUDICAULE ALBA.

"Erigeron glabellum and Scabiosa caucasica are two pale blue, or rather pale mauve flowers which supply a pleasing variety of colour, contrasting well with the vivid scarlet of the Poppies. Yellow flowers being at present so much in request, Bupthalmum salicifolium is very much to be recommended. It is a Composite, resembling in habit of growth and size of flowers the small white French Marguerite, only that the blooms are a brilliant yellow, very abundant, and last long after being cut.

"As you asked me to tell you only of flowers and leaves that after being gathered keep well, I am sorry to answer you in regard to your query about Delphiniums and Canterbury Bells that they must be avoided. The blue Delphiniums and Bells lose their colour in one day, and the white become rusty-looking. It is the same with nearly all Campanulas, so where constant arranging is wanted to be avoided they are best left to bloom in the borders. If, however, for a special occasion you want to fill up a large corner, Canterbury Bells of all colours make a very effective large vase, arranged with a few long fronds of the Male Fern if you have it at hand.

"That reminds me also to advise you to plant in quantities this common Fern, as it is the best of all the native ones for keeping after being cut, and looks also very ornamental about shrubberies and drives. It is so convenient too, as generally it can be got in all sizes from quite small fronds to very large ones. Grown in the sun it keeps small, and in colour is a very much lighter and yellower green than when grown in the shade. This is worth trying for the variety of colour it gives you. Oats, Barley and Wheat ears, when green, are very useful for arranging with many flowers, but they should be used sparingly, as they very soon cause the water to smell disagreeably. To avoid this, as they are so graceful to use, I have often pulled them out every morning to be washed in tepid water to remove the sticky matter which gathers, then dried and replaced them again.

"Another very useful flower is the French single Pyrethrum, or coloured Marguerites as they are sometimes called. We bought a packet of seed from Mr. Ware, who has a very fine strain. We sowed in May, and raised a stock the first year, which flowered sufficiently by late autumn to show the colours of the blooms. We then weeded out those not worth keeping, planting out the remaining ones in permanent situations, and the following June they flowered profusely in the most lovely shades, from white and blush to glowing crimson. I always arrange them with grasses only, as I consider that is how they show to best advantage. Like the Doronicum, they must be put into water as soon as gathered, in which case they last for a long time.

"Two yellow annuals you ought to sow are Chrysanthemum segetum and Venidium calendulaceum, the last being half-hardy, which means it must be sown in a frame or not out of doors till May. The first is quite hardy, but both produce finer flowers if transplanted. They look best arranged in masses quite without foliage, and the Chrysanthemum especially, thus used, makes a very effective arrangement for a dinner-table, placing the flowers in Liberty's small blue and white nankeen bowls at 9*d.* each. I never gather the Venidium during summer, as although it is effective, it is not so pretty as many other things; but you will understand my recommending it when I tell you that late in November I have gathered buds off beds of it, which, brought into the house, came out quite perfectly. By November outdoor blooms are, as you know, not particularly plentiful, so that plants that will bloom then are acquisitions. During the summer it makes a very effective constant-blooming mass of colour, and is really very much to be recommended.

"Believe me, yours truly,

"GLADYS WOOD."

CHRYSANTHEMUM NOTES.

STANSTEAD WHITE.

I can assure "Observer" that directly I see a good bloom of Stanstead White I shall not be slow to admit its qualities, and shall have to consider that it is not the variety that is at fault, but the grower, as if one man can secure good blooms of any variety, another ought to do likewise. It is the outer petals that I object to; they vary so much in character from the centre ones as to give the flower a thin ragged look. The florets objected to are so much longer than the centre ones, of a quill-like character, and are so few in number that they give a "thin" look to the bloom, showing a great want in "build." The colour, too, is not so white as I should like to see it; dull white flowers are not those most sought after.—*E. Molyneux.*

THE BRONZE SPORT FROM GOLDEN BEVERLEY.

Your correspondent, "Fair Play," is in error in stating (p. 449), that Mr. Bunn was introduced about 1877 or 1878, as he will see from the following quotation from the N. C. S. catalogue. "Mr. Bunn (Bunn), 1881, bright golden yellow, moderate height, sport from Golden Beverley, from which it differs in its brighter colour and finer florets. ["Fair Play" said Mr. Bunn

was "obtained" about 1877-8, and is therefore quite correct. It was not introduced in the commercial sense until 1881.—Ed.] "Fair Play" says he has a distinct recollection of seeing at the Aquarium on the 21st of November, 1888, two plants of this sport, which was presented to the Floral Committee of the N. C. S. for their award. It was impossible for him to see it on that date, for there was no such meeting of that body at the Aquarium on the 21st of November, 1888. "H. Shoesmith, a bronze sport from Mr. Bunn," was certificated on the 24th of October, 1888, and not on the 21st of November as stated by "Fair Play."—*Observer.* [Here again "Observer" is wrong as regards the meeting on November 21st, which was certainly held at the Aquarium. The other date is correct. —Ed.]

The Amateurs' Garden.

Rose Pruning.

The season has now so far advanced that we can hardly expect severe frosts after this date to do any harm to Roses. Hybrid Perpetuals, Noisettes, and Bourbon Roses should now be pruned. The first mentioned may be closely cut back according to the variety. Dwarf or weak-growing kinds should be pruned to the lowest live or healthy bud, and they will break all the stronger on this account. Those that grow more rampantly should not be pruned so closely, otherwise they are liable to grow coarsely without flowering in proportion. Teas and Noisettes will, as a rule, require little pruning beyond removing weak and useless wood in places which would otherwise be crowded, and shortening the improperly ripened tips. The two latter kinds when grown out of doors are generally trained to a wall, so that the amount of thinning out will depend upon how the space is occupied with shoots. Prune and train pillar Roses in pyramidal fashion. Weak shoots that can be dispensed with should be cut back to the very base. Tie in the strong ones after pruning away all laterals close to the lowest bud. Hybrid Perpetuals grown as standards must be pruned in such a way as to regulate the distribution of the branches, so as to form an equally balanced globular or semi-globular head. Of course, weak shoots should be dispensed with whenever they can be spared. In the pruning of the old Rosa multiflora and its varieties, which are generally grown on walls, always give encouragement or preference to strong young shoots from the base of the plant, to carry on the vigour of the same.

Making a Hot-bed.

Those who have the command of fermenting materials, and a frame to place on the top of the same, should now set about getting the material together and fermenting it for the purpose of making up a bed. Stable manure alone would be liable to ferment too rapidly, giving rise to violent heat; whereas, if mixed with some good, dry Oak or Beech leaves, fermentation will be milder and the heat much more lasting. The whole should be made up at first in a conical heap, shaking up the material in alternate layers. Allow to ferment for about three days, and then turn over the entire heap, making a fresh one, and at the same time thoroughly mixing the leaves and dung. After about a week the material should be made into a square, flat-topped heap and trodden down firmly. Level it and place the frame on the top, covering it with the glass sash. Immediately on completion or soon after, a quantity of soil should be put on over the fermenting material, in order that it may get warmed up. After all danger of violent heating is over seeds may be sown directly in the soil, or what is better, in pots or pans stood on the top of the soil or half plunged. Each kind can then be removed to cooler quarters before it becomes drawn and weakly.

Seed Sowing.

Those who have the means at command of making the hot-bed recommended will find it very useful for raising seeds of many kinds, as well as for propagating cuttings of such things as will be necessary to make up a sufficient number of anything for bedding-out purposes that may have run short by damping in winter. As soon as the heat has cooled down sufficiently for the safety of the seeds, sow such things as Lobelias, Golden Feather, and Petunias, all of which have small seeds, and require a long time to develop into useful size. As soon as they are well up, they may be taken to cooler quarters, provided they show any signs of damping. This, of course, will depend upon the heat of the frame and the amount of ventilation given. Half-hardy annuals of all kinds may now be sown, provided there is a cool frame for their reception. Whenever the seedlings of such things as Stocks, China Asters, Zinnias, French and African Marigolds, Helichrysums, and other subjects are well above ground, they should be pricked off into boxes, or into a bed of soil prepared in a cool frame, where they can receive the proper amount of watering and ventilation.

Seeds for the Children.

I remember my father buying my brother and myself a shilling's-worth of mixed annuals, and giving us a bed, and I most distinctly remember the pride of proprietorship. Just to be the possessor of a corner, or to hold a small portion of a bed or space for a plant is something, but it is nothing at all to having a whole bed to yourself. So we cultivated this bed, and I daresay in weeding we pulled a few young annuals up; but, however, what were left were such a great gratification to me that I shall never forget it as long as I live. I think it was about the best laid-out shilling that I have ever known of in the whole course of my life. I remember now quite distinctly the greater part of the plants that were in that bed. As soon as ever I came from school I was at it, and I was at it before I went to school, and I spent, in fact, the greater part of my leisure time upon it. I remember that we had five kinds of Lupins, including rose and white; French and African Marigolds, Virginian Stocks, Muslin Poppies in charming varieties, and a large number of other things, including Mignonette. The moral of this is that if any of your children show any disposition or taste for gardening, buy them a packet of seeds, and give them a little plot of ground. If they only get a tithe of the pleasure that I got it will be money well spent.—*S. Barlow.*

Gardening Miscellany.

Protecting Wall Fruit Trees.

In his remarks upon this subject at (p. 436), our friend Mr. Gaut has quite overlooked one of the most simple and efficient protectors anyone can wish for. I allude to ordinary garden netting. In many places garden walls are, to a certain extent, fitted with glass copings. These are all very well in their way, but they are not sufficient without some material being suspended in front of them. I have always found that netting thus suspended in three thicknesses is sufficient. It is easily fixed, being hung upon hooks placed on the under-side of the coping, and kept in its place by being tied to stout stakes driven into the ground the same distance from the wall as the copings project from it. Where glass copings are not in use, it is a good plan to drive iron supports into the wall, upon which an 11-in. plank can be placed. These supports should be fixed about every two or three yards apart, and provision should be made to allow the boards to be screwed down to them. This does away with any danger of their being disturbed by high winds. The netting may then be fixed as to the copings. As the netting does not exclude sun or air there will be no necessity to remove it till all danger from frost is over.—*Thomas Nutting, The Gardens, Childwickbury, St. Albans.*

Tacca cristata.

This singular plant is just one of those subjects which have sufficiently distinctive characteristics of their own to entitle them to a place in even moderate collections, not on account of their gorgeous colours, delicate scent, or elegant habit of growth, but simply from the grotesque formation of their flowers. This is one of the most quaintly distinct of all flowers, and will always attract attention and impart a unique feature to any arrangement of plants in which it is staged. It is a stove herbaceous plant from one of the warmest parts of the East Indies, and cannot well be subjected to too much heat and moisture. A compost of peat and loam with a fair proportion of silver-sand suits it well, but over-potting should be avoided. An 8 in. pot is quite large enough, and always keep the collar of the plant well above the soil. It will be found that as the lower leaves die off, fresh roots are sent down into the soil. After flowering, the crown of the plant may be cut off with some of the roots, this will make a new plant, and the old stool will soon send up two or more young shoots, which may be divided into separate plants; this method of propagation will enable most people to increase their stock sufficiently. It can be propagated from root-cuttings, but that plan will seldom be adopted, unless in nurseries. Old plants ought to be shaken out once yearly in the spring, and be re-potted in fresh material.—*W. B. G.*

Gardeners' Orphan Fund.

As it seems to be a settled matter that a second fête in aid of the Orphan Fund shall be held in Covent Garden Market, it is hoped that whilst on the one hand every effort will be made to ensure a handsome product to the fund, that on the other the charges made for admission will not be absolutely prohibitive. There may be some sacrifice made on the part of growers of plants in thus enabling the public to see one of their remarkable displays, but generosity may be discounted if the charges for admission shut out from seeing the show all but the rich. Market growers last year, it will be remembered, did make an exceptionally good market the morning after the fête, and were thus pecuniarily well repaid for any extra trouble thrown upon them. The terrible crush which had to be endured then, with such a poor pecuniary result after, was owing to the lavish giving away of tickets of admission. That was erring in one direction, whilst very high charges will be erring in another. The public should have some consideration, as well as the fund.—*X.*

Warnham Court.

This noble mansion, the seat of C. T. Lucas, Esq., is beautifully situated about a mile and a half from Horsham, in the centre of a splendid park, and surrounded by fine trees. Gardening in all its branches is carried to a high state of perfection in this establishment by Mr. G. Duncan, and at the time of my visit there were hundreds of Amaryllis coming into bloom, among which there were many new and rare varieties of the most gorgeous colours. The forcing of fruits, flowers, and vegetables at all seasons of the year is another feature in this fine place, the demand for them being very great. Vines and Peach trees look promising, and with an abundance of good weather there will be heavy crops. Orchids are not extensively grown; however, there is one worthy of note—viz., Dendrochilum glumaceum, a fine specimen, measuring 2 ft. across, and carrying upwards of eighty glorious racemes in prime condition. Palms, Crotons, Dracænas, and Ferns are grown in quantity for house decoration, all of which are in the best of health.—*J. McNab.*

Rhododendron, Princess Beatrice.

Amongst the newer kinds of hybrid greenhouse Rhododendrons, we noted Princess Beatrice the other day in the nursery of Messrs. J. Veitch & Sons, Chelsea. The vigour of the race is being greatly increased as new kinds come into flower. The leaves of Princess Beatrice are oblong elliptic, leathery, and of great size; and the shoots are terminated with great trusses, bearing flowers of a size removed a long way from the original type. They are of a soft blush with a tint of salmon, but so difficult to define precisely, that we would fain avoid attempting the task; the particular shade would also vary according to the incidence of the light and the position of the beholder. In order to obtain bushy plants of this class of Rhododendron, they should be well cut back in their early stages, in order to encourage the development of shoots from near the base. Afterwards, when a bushy habit has been induced, the shoots should be allowed to complete their growth and form buds, when they will flower abundantly. Training or tying into shape may be practised successfully.

Bougardia Rauwolfii.

Considerable interest attaches to this plant, both on account of the family to which it belongs, its real beauty, and from the fact that its tuberous underground stem is boiled by the Persians in the same way as we do Potatos, and eaten as an article of food. It belongs to the Barberry family, and is a native of Greece, extending through Asia to Afghanistan. The leaves are pinnatisect, with the lateral branches divided into about four segments, each of which is green in the upper, and beautifully purple in the lower half. The branching inflorescence bears numerous bright yellow flowers with a red margin along the sepals. The purple markings on the leaves resemble what are seen on several species of Oxalis, and the leaves, it may be added, are eaten in the same way as those of Oxalis or Sorrel. It is nearly hardy in this country, but requires a bell-glass placed over it in winter to keep the tubers dry. It also forms a beautiful subject for cultivation in pots for a frame or cool greenhouse. It may be seen so grown in the hardy plant house in the herbaceous ground at Kew.

Sweet Peas in Pots.

SWEET PEAS are universal favourites, not only on account of the brilliancy of colours in many of the varieties, but also for the delicious fragrance of the flowers. Unfortunately, being climbing plants, and requiring sticks to support them, they present a rather unsightly appearance for a long time, and therefore are not often used in beds or borders near the house, but chiefly at a distance or in the kitchen garden, to supply cut flowers. They do very well if sown in 10-in. or 12-in. pots, in light rich soil with a good drainage, the soil being 1 in. or 2 ins. from the rim of the pot, so as to enable a slight top-dressing to be administered before sticking; and if plunged in a bed of ashes the roots are kept cool until the flowering time, when they can be moved into positions near the house, where the plants, if well done, cannot fail to be admired and appreciated. —*Alfred Gaut.*

Corokia Cotoneaster.

THIS New Zealand shrub is a member of the Dock family, but is altogether very distinct from any representative of the order in this country. It is by no means plentiful here, even in greenhouses, and is, perhaps, best comparable to a Mühlenbeckia, several species of which are grown in this country, the most plentiful being M. complexa. The latter is grown for the beauty of its slender wiry stems, and small, orbicular, dark green leaves. The Mühlenbeckias are, however, slender and climbing, twining or trailing, whereas Corokia Cotoneaster is a stiffish erect shrub, with very much branched stems, and curiously zigzag slender branches, well clothed with small orbicular leaves, borne in tufts on short lateral shoots. They are deep green above and snow-white beneath. The star-like five-parted flowers are bright yellow, and scattered singly over the bush, giving the whole a curious but pretty and interesting appearance.

Cobæa scandens variegata.

THE value of this plant as a decorative subject is becoming more and more recognised. Those having tall and cool conservatories would find it a most useful subject for draping the roof. It runs up to an enormous height if required, and appears to very fine effect when grown along under the ridge of span-roofed houses close to the ventilators, where it seems to enjoy a free play of air. When allowed to attain some height it flowers freely, but although the flowers are large, they are not particularly showy owing to their dull colours. The variegation occupies a large portion of the leaf, and till the foliage attains some age, is of a pale yellow colour, but afterwards it tones down almost to white. It may also be utilised for decorative purposes when grown in a small state, as we saw a fine batch of plants from 3 ft. to 5 ft. high grown in 48-size pots, in the nursery of Mr. B. S. Williams, Upper Holloway.

Asplenium caudatum.

THIS strong-growing species is very suitable for planting on rockwork. At first sight the long narrow fronds and their elongated pinnæ bear some resemblance to those of A. furcatum, but the fronds attain a much greater length, those we saw at the Victoria and Paradise Nurseries, Upper Holloway, measuring from 3 ft. to 4 ft. in length. They assume a spreading or pendulous habit, so that they are more adapted for planting out than for arranging on the stages. They are twice divided, and of a leathery evergreen character, and their drooping habit in a state of nature would seem to favour the rooting of the young plant developed at the apex, in the same way as Woodwardia radicans.

Pultenæa daphnoides.

NEW Holland plants, as those from Australia are generally termed, are extremely numerous, and were formerly more extensively cultivated throughout the country than they are at present. There are some seventy-five species of Pultenæa, all natives of Australia; but of these only a very few are now in cultivation, including the species under notice. It has been compared to a Daphne, on account of the habit of the bush, and the shape of the leathery evergreen leaves. The Pea-shaped flowers are borne in terminal, dense, umbel-like racemes, or they may appear as dense sessile heads. They are bright yellow, with a red calyx and a brownish black keel, and are large enough to constitute the plant a very ornamental subject for conservatory decoration. They are in season during the early spring months.

Aotus gracillima.

THE flowers of this Leguminous plant are borne in long terminal leafy racemes, and from their great abundance constitute no mean ornament of the greenhouse or conservatory at this season of the year. After flowering the shoots should be cut back; and young shoots are again produced from 2 ft. to 3 ft. in length. From 8 ins. to 12 ins., or even more of the upper portion of these are occupied with the yellow pea flowers, which are greatly enlivened by the keel and the base of the wings being of a dark brownish red. The wiry slenderness of the shoots well entitles the plant to the specific name gracillima, for they are really very graceful, yet require no staking or tying of any kind.

Tillandsia tessellata.

FORTUNATELY for gardening purposes, flowers are seldom produced by this species, so that it attains to a large size after several years' growth. Most of the species soon reach their full size, and send up an inflorescence from the central axis of the rosette, after which the plant is ruined for ornamental purposes as far as the foliage is concerned, because more of the energy is directed into the inflorescence, and the foliage generally loses its pristine freshness. T. tessellata continues, however, to increase in size, and each succeeding tier of leaves grows longer than the last. They are of a beautiful light sub-glaucous green, beautifully tessellated with light yellow. We noted a plant the other day in the Victoria and Paradise Nurseries, Upper Holloway, which had a diameter of 3½ ft. to 4 ft.

Boronia heterophylla.

THE recent introduction of this West Australian shrub to our greenhouses is a great acquirement. In general appearance it is similar to the older B. elata, but differs in the leaves having only three leaflets, which, like all other members of the Orange family, are closely beset with glands charged with a fragrant oil. The flowers are of a charming shade of rose, especially when grown under favourable conditions with regard to air and light; they are produced in axillary clusters of two or three together along a considerable part of the length of the annual shoots, and have a charming appearance when in full bloom. Their fragrance, if not so powerful as that of B. megastigma, is nevertheless equally agreeable, and have the additional recommendation of showiness, which the flowers of B. megastigma have not. The plant is therefore worthy of a place in every establishment where early spring flowers are required for the embellishment of the conservatory.

German Iris.

IN my garden I have many clumps of the common blue Iris. In 1886 they flowered abundantly, forming quite a feature in it; but they failed to bloom at all the succeeding year. I then placed a little soil over the rhizomes that were bare, and sprinkled Clay's Fertiliser over that, expecting to see a full bloom in 1888, but was again disappointed. I had only two flower-stalks where I should have had a couple of hundred. Can any reader suggest why I have failed to secure flowers? —*J. C., Leeds.*

Prunus Pissardii.

YOUR correspondent "R. D.," in describing the above on p. 423 in THE GARDENING WORLD for March 2nd, states that he is not sure whether it has set fruit in this country. In the autumn of 1887 I saw some fine specimens about 12 ft. in height, bearing a heavy crop of well-ripened fruit, in the nursery of Mr. J. J. Foster, at Stanmore, Middlesex. The fruit was about the size of a small Plum, of perfect shape, not at all unpleasant to eat, and of the same colour as the foliage. I saw the same trees last year, but they were then only carrying a few fruits. With us it seems perfectly hardy and of a robust constitution, having planted it in very exposed positions two years since. I quite agree with "R. D." that it should find a place in all gardens, as it is undoubtedly one of the finest foliage trees we have.—*Edwin Beckett, Elstree.*

Tetratheca Hugelli.

THE flowers of this species are about twice the size of those of T. hirsuta, but of the same lilac colour, with brownish black anthers. They are produced in the axils of linear hairy leaves, and droop on slender footstalks. Like the rest of the species, it is a native of Australia, and best known in gardens under the name of Tremandra. It may be had at various times, according to the treatment.

ORCHID NOTES AND GLEANINGS.

CATTLEYA TRIANÆ.

IN the Cattleya house of Messrs. J. Veitch & Sons, Chelsea, this Cattleya and its various forms now reign supreme. There are, it is true, a few other species in flower, but of C. Trianæ there are about 500 in bloom. The individual specimens show a great range of variety with regard to colouring, a trait for which this Cattleya is remarkable. The season of flowering and the long tube are characters by which it may readily be recognised, notwithstanding the variations of colour. Between the typical C. T. delicata and C. T. Schroederiana there are so many gradations that make it difficult sometimes to distinguish the two. The latter is, however, characterised by an open tube, while the petals and the lip are large and finely crisped at the margins. The whole flower is of an uniform blush, suffused with white; while the disk of the lip is furnished with a large, pale orange-yellow blotch. C. T. delicata has a long closed tube, its sepals and petals flushed with pale amethyst-purple, and the limb of the lip of a deeper hue. Both are, however, very choice when obtained true. C. Trianæ Horsmani has a very large, richly-coloured lip.

ONCIDIUM MACULATUM.

So distinct is this from most other species of the genus that Lindley originally gave it a different generic appellation—namely, Cyrtochilum maculatum. The characters, however, were so slight that he found it difficult to retain as distinct from Oncidium, the short column of which it possesses. The lip, however, is structurally different from that of a typical Oncidium, and approaches that of an Odontoglossum. It is a beautiful species, with a fragrance resembling that of Lily of the Valley. It is variable both with regard to the structure of the lip, and several forms have received varietal names. A plant which has just flowered at Devonhurst, Chiswick, where it was received directly from its native country, Mexico, has its sepals and petals heavily blotched with brownish purple on a yellow ground. The lip is white, with a few purple lines on the crest, and is halbert-shaped—that is, flat with two side lobes, the terminal one of which tapers to a point, as in Odontoglossum.

ORCHIDS ON CORK.

IT has often been a subject of inquiry among gardeners as to how Orchids generally thrive on cork. I have often seen cork used, both for potting purposes and as blocks suspended from roofs of glass structures. So far as root action is concerned, cork acts admirably for many species, but we have not seen anything like such finely developed flowers or substance of foliage on cork as is generally seen with the use of fibry peat. A few years ago we had a consignment of Cattleyas sent, and a few dozens were potted in the usual way, while others were fastened to cork and suspended. The latter far out-distanced the former in formation of roots, and in most cases development of foliage. The root growth of these was in the course of a few months advanced from 12 ins. to 18 ins. long, but they have never flowered so freely, neither are the flowers so large. On the cork, and suspended as they are, more labour is required by dipping to keep them healthy, than those potted in peat; but on the cork they have a very picturesque appearance. More information on this subject will be thankfully received.—*Kent.*

A FREAK OF CŒLOGYNE CRISTATA.

WE noted a very curious occurrence the other day at Devonhurst, Chiswick, in a flower of the popular Cœlogyne cristata, and which might be justly termed a reversion. What seemed to some extent to determine the cause was that a bract had remained attached along one side of the ovary, preventing the latter from assuming its normal position, so that one of the petals was behind the flower, in fact in the position of the dorsal sepal, except that it still evidently belonged to the inner of the two perianth whorls. The other petal was adnate to the side of the lip. One sepal was reduced to a pigmy, while the other was enlarged, resembling a second lip with half of the fringes seen on that organ. The column was even more abnormal and was separated into three distinct stamens and three perfectly distinct stigmas. The latter were erect and viscid on their inner face, but the deep stigmatic cavity, from which the generic name is derived, was wholly absent. The three stamens were attached by their sides, but only the two lateral ones, which belonged to the ideal outer whorl of three, bore anthers; only one of them bore pollinia, two masses instead of four, but seemingly perfect; the middle one of the three was perfectly barren. The column was twisted, so that the anthers were not in the exact position where we should have expected them.

ONCIDIUM BICALLOSUM.

IN habit and general appearance this resembles O. Cavendishianum, a more commonly grown and better known species. The rigid, thick and channelled leaves are lighter green than those of the latter, and are produced singly from the rootstock, which can hardly be described as a pseudo-bulb. The flowers are produced on a comparatively short stalk, and have rich brown sepals and petals margined with yellow. The bright yellow lip is of large size, and furnished with two calli near its base. They are spotted with brown and purple, and the specific name takes its rise from them. On the whole it is very distinct from the usual run of Oncidiums seen in Orchid houses, and being dwarf requires but little room for its accommodation. It is a native of Guatemala, and therefore prefers a warm house. A flowering specimen may be seen in the nursery of Messrs. Hugh Low & Co., Clapton.

CYPRIPEDIUM BARBATUM CROSSII.

THE above is the accepted name of a splendid variety of C. barbatum, which has several synonyms. C. b. Crossii was a garden name given previous to 1865. C. barbatum Warnerianum was given to it in 1870. (See Warner's *Select Orchids*, iii., t. 11.) Professor Reichenbach has more recently given it the name of C. orbum. But notwithstanding the names with which it is hampered, it may be reckoned oue of the best and most distinct forms of the species. The habit is dwarf, and the flowers of good size and substance. One of their most striking characters is the strongly declinate petals, which are of a bright purple, with the exception of a green band near the base. The upper sepal is also strongly marked with a ∧-shaped band of deep purple, occupying the central portion, while the upper part is pure white. We noted this fine variety the other day in the nursery of Messrs. Shuttleworth, Carder & Co., Park Road, Clapham.

CATTLEYA TRIANÆ, BACKHOUSE'S VAR.

AMONGST the numerous forms of this variable Cattleya now in flower, Backhouse's variety stands out very prominently. The sepals and petals are rosy purple, but on the upper part of the latter is a large, oblong, amethyst-purple blotch. The labellum is even finer, the anterior portion being of a deep magenta-purple. The yellow blotch in the throat is present, but is considerably reduced in dimensions, while on either side at the upper end is a large white blotch, the two adding considerably to the handsome character of the flower as a whole. Something similar is seen in the best forms of C. gigas. Backhouse's variety is now flowering in the nursery of Messrs. Hugh Low & Co., Clapton.

ONCIDIUM SPLENDIDUM.

THIS species is described in the *Botanical Magazine*, t. 5878, as a variety of an older and better-known species, namely, Oncidium tigrinum. It was originally introduced from Guatemala in 1862, but fresh importations continue to be made, and will no doubt give rise to some slight variation in the colour of the flowers at least. The ground colour of the sepals and petals of the typical form is strongly tinted with green ; but this we may expect to give place, in some individuals at least, to a more decided yellow ; and these organs are also more or less heavily transversed with bars of brown, while the labellum is large and of a deep golden yellow, justly entitling the plant to its specific name. As the recent importations get disseminated, we may expect the species to become more frequent in collections ; and if it prove readily amenable to cultural treatment, its increase and popularity in this country will be rendered certain. A specimen in the warm house at Kew has a flower stem between 3 ft. and 4 ft. high, bearing several branches, and the leaves are borne singly from the apex of the pseudo-bulb, are erect, rigid, deep green above, purple beneath, and about 1 ft. in length.

THE GARDENERS' CALENDAR.

THE STOVE.

CUTTINGS OF WINTER-FLOWERING PLANTS. — The present is a very suitable time for inserting cuttings of such things as Justitia calycotricha, Euphorbia fulgens (jacquiniæflora), Ruellia macrantha, Eranthemum nervosum, Asystasia (Mackaya) bella, and the old-fashioned Thyrsacanthus rutilans. Many kinds can be propagated at the present season, as advantage may be taken of the various hot-beds that have been put up for different purposes, and of the pits now at work, to strike the cuttings. If not already done, cuttings should be taken of Sericographis Ghiesbreghtii, Centropogon Lucyanus and Bouvardias. The latter, however, should be well rooted by this time where the cuttings were taken early, if proper attention has been paid to them. If so, have them potted off singly into 60-sized pots, and as soon as they begin to move again pinch out the tops to make them bushy.

ALLAMANDAS, DIPLADENIAS, &c.—Those who grow these subjects for exhibition in pots will find it very advantageous where the roots cannot otherwise be properly exposed to light, to tie them to trellis-work or to wires, trained close under the glass till they approach the flowering period, when they can be trained into whatever form it is desirable they should take—either globular, balloon-shaped or otherwise, according to the taste or fancy of the grower. It is desirable to do this some time before they are intended for exhibition, so that the foliage may have time to right itself after the tying of the shoots. Clerodendrons and Bougainvilleas may be treated to some extent in the same way. Trachelospermum jasminoides need not be unfastened from its wire framework, as it can be taken to a house where little or no shading is given.

THE GREENHOUSE.

FORCED SHRUBS.—Azaleas that have done flowering should be prepared for re-starting, in order that the buds may become well advanced before autumn. If this has beeu done, they will be more easily started into flower, with gentle forcing, in autumn or winter, according to the time they will be required. Prune back any straggling shoots, so as to render the plants compact and bushy. Cut away all seed-pods, in order to direct the energy of the plants to the production of good wood. Stand the plants in a warm pit or vinery not long started, to induce fresh growth. Should any require re-potting, this may be done when the buds are just starting. Lilacs, Deutzias, Forsythias, Staphyleas, and other subjects now out of flower should not be turned out in the open air unprotected till the weather becomes much warmer, if they are required for forcing again, otherwise their foliage and yonng shoots will get destroyed or much injured.

CINERARIAS.—These are now very gay, and if carefully looked after with regard to ventilation and cleauliness, will last a long time in good condition. With cold, drying east winds, green-fly and red-spider are liable to obtain a foothold, either on the underside of the leaves, or on the young flower-heads. On the least appearance of the enemy, a gentle fumigation should be given on successive nights if necessary. Avoid, if possible, cold draughts from playing upon them. After the flower-heads become well expanded, no more liquid manure need be given, but clear rain-water, if possible.

THE FORCING HOUSES.

VINERIES.—The fruit in the earliest house should now have commenced to colour. Just now the Vines must not be neglected in the matter of stimulants, as there is at this period a great demand on their energies, owing to the material necessary to swell off and finish the fruits. This applies more especially to Vines in pots than to those planted out. Attend to the stopping and tying down of the shoots in later houses, as if allowed to push against the glass they are liable to injury on frosty nights.

MELONS.—The sun is now gaining strength, if, indeed, it puts in an appearance at all, and on the mornings of bright days it will be necessary to put on a little air when the temperature reaches 75°, and if necessary increase it as the day advances. Close early, damping down heavily and syringing at that time. Syringe also on the mornings of fine days.

STRAWBERRIES.—The earliest batch will now have berries of some size, and both they as well as those that have just commenced to swell, will stand a much higher degree of temperature than when coming into flower. Supply them with stimulants while the fruits are swelling.

THE KITCHEN GARDEN.

PROTECTING FRUIT TREES.—Where it is the custom to leave Peach and Nectarine trees untied till this late period of the year, the work must not now be neglected but finished at once, so that the necessary protection may be given to the trees against late frosts. Roller blinds are very convenient, and may be rolled up during the day. A double fold of herring netting is sometimes used, and this may be left on all day. Evergreen branches of various kinds are also used with good effect when judiciously inserted amongst the branches of the trees, so as to protect the flower buds against frost from above.

HORTICULTURAL SOCIETIES.

Royal Botanic.—*March 20th.*

THE first spring show of this society, held on Wednesday last, proved equal to those of former occasions, or even better than that held at the same time last year. Azaleas in the amateurs' class were much better flowered than in March last year, and the first prize was awarded to Mr. H. Eason, gardener to B. Noakes, Esq., Hope Cottage, Highgate, who had fair size semi-globular specimens ; 2nd, Mr. J. Clement, gardener to L. H. Hicks, Esq., Springfield House, Muswell Hill. A second prize only was awarded in the nnrserymen's class to Mr. H. James, Castle Nursery, Norwood. Messrs. H. Cannell & Sons, Swanley, Kent, took the best Chinese Primulas. The Deutzias were large plants, and the first prize was taken by Mr. H. Eason. Messrs. Paul & Son, Cheshunt, had the best Roses, which were fairly well flowered. Mr. D. Phillips, Langley Broom, Slough, took the first prize for Cyclamens in both the open and amateurs' classes. Mr. J. Douglas took the first prize for Hyacinths in the amateurs' class ; and Messrs. H. Williams & Sons, Fortis Green, Finchley, were first in the nnrserymen's competition. The spikes, however, were lacking in quality compared with those of former seasons. The Tulips also lacked greatly in substance, although up to the usual size. Mr. H. Eason had the best in the amateurs' class, and Messrs. H. Williams & Sons were first in the corresponding class for nurserymen. They also had the best twelve pots of Narcissus, and the best Lily of the Valley. Mr. J. Douglas took the first prize for Amaryllis. He was also first for hardy Primulas, consisting of European kinds, with the exception of P. rosea and P. Cashmeriana. Messrs. Paul & Son, Cheshunt, took the first prize for bulbous plants not otherwise specified. They consisted of Leucojum vernum, Iris reticulata, and others of that class. Mr. T. S. Ware, Tottenham, was second. Mr. J. Douglas had the best Crocuses in pots, and Mr. R. Scott, gardener to Miss Foster, Regent's Park, followed. Mr. T. S. Ware had the best collection of hardy herbaceous plants. In the miscellaneous class, a Silver Medal was awarded to Messrs. F. Sander & Co., St. Albans, for a group of Orchids, consisting of Cattleyas, Dendrobiums, Odontoglossums, &c. A small, but beautiful group of Amaryllis, Nepenthes Dicksoniana, Amorphophallus Rivieri, in bloom, &c., was also shown by Messrs. J. Veitch & Sons, Chelsea. Messrs. Wm. Paul & Son, Waltham Cross, showed twelve boxes of Camellia blooms, exhibiting great variety. Messrs. Barr & Son, Covent Garden, had a beautiful collection of Daffodils, species of Crocus, and other hardy bulbous plants. Mr. T. S. Ware also had a nicely-arranged group of Daffodils, cut and set up in stands. A large bank of Hyacinths and Tulips on a groundwork of moss was shown by Messrs. Cutbush & Son, Highgate, for which a small Silver Medal was awarded. A large Bronze Medal was awarded to Mr. J. James, Woodside, Slough, for a group of Cinerarias. Mr. J. Odell, Hillingdon, and the St. George's Nursery Company, Hanwell, had Bronze Medals each for Cyclamens ; Messrs. Paul & Son had a large one for Roses ; and Messrs. J. Carter & Co., High Holborn, secured another for Chinese Primulas. A large Silver Medal was awarded to Mr. B. S. Williams, Upper Holloway, for Clivias, Chinese Primulas, and Cyclamens. A small Silver Medal was awarded to Messrs. H. Williams and Sons, for a large collection of Hyacinths, Tulips, and Narcissi. Mr. T. Jannoch, Dersingham, Norfolk, showed Lily of the Valley growu in pyramidal masses, and was awarded a large Bronze Medal. A Bronze one was also awarded to Mr. R. Scott for Clivias and Azaleas.

Botanical Certificates were awarded to Messrs. J. Veitch & Sons, Chelsea, for Dendrobium Schneiderianum and Calanthe vestita oculata gigantea ; to Messrs. F. Sander & Co. St. Albans, for Cattleya Trianæ ampliata ; to Mr. J. Douglas, Great Gearies, Ilford, for Angræcum Sanderianum ; and to Mr. T. Jannoch, Lily Nursery, King's Lynn, for Adiantum Capillus-Veneris grande.

Floricultural Certificates were accorded to Mr. J. James, Woodside, Farnham Royal, for Cinerarias Advance, Wonder, and Sybil—and Cyclamen Faust ; to Messrs. J. Veitch & Sons for Amaryllis Lustrous, Mirabella and Optimus, Rhododendron Princess Beatrice and Nepeuthes Dicksoniana ; to Mr. J. Douglas for Auricula Marcus Aurelius, a velvety maroon self ; to Messrs. Barr & Son, Covent Garden, for Iris Rosenbachiana and Crocus vernus var. leucorhynchus ; to Mr. T. S. Ware for Iris Rosenbachiana ; to Messrs. Paul & Son, Cheshunt, for Amaryllis Dark Beauty ; and to Mr. J. Odell, Gould's Green, Hillingdon, for Cyclamen striatum.

Obituary.

WE regret to hear, as we go to press, of the death, on Sunday night last, of Mr. MURRAY, for many years the much respected and very successful Pine grower at the Royal Gardens, Frogmore.

QUESTIONS AND ANSWERS.

CYPRIPEDIUM CALCEOLUS.—*Orchid:* This species is a British plant, rather rare, of course, and your specimen is no doubt a continental one. The temperature of the house you grow it in, namely, from 60° to 70°, is therefore too high, causing a development of the leaf-buds before the roots. When started in strong heat they flower badly, or not at all. Give plenty of water when growing, and gradually withhold it as the leaves die down. The best place you can keep it in winter is a cold frame, plunged in ashes or coco-nut fibre, where the roots can never become thoroughly dry. We have seen roots of C. spectabile, after being planted, remain without starting the first summer at all. Both these species should be started in a greenhouse temperature, and kept well watered after they are fairly started into growth; but they should never be placed in a house where the temperature is higher than 50° at night before summer.

HEATING.—*Boiler:* One flow and return on each side of the house will be sufficient, with sharp firing in hard weather, but you would find it much easier to maintain the temperature at all times with two rows; less stoking would also be required, and the consumption of fuel would be more economical. At the present price of piping it pays to be liberal.

NAMES OF PLANTS.—*W. Barnett:* The Conifer is a vigorous piece of Cupressus Lawsoniana; the shrub is a Lonicera, but we want flowers to determine the species; the Orchid is Cattleya Trianæ delicata. *A. Cox:* Your Acacia appears to be a smooth or glabrous form of A. elongata. *P. Morris:* They are all varieties of Azalea mollis except the pink one, and we regret we cannot undertake to name them. Only a nurseryman who grows a good collection could do anything with them.

ORCHIDS.—*W. Hunter:* Mr. Castle informs us that his little book on Orchids *is* published at 171, Fleet Street, and that it can *now* be obtained. You had better write to the publisher again.

PALMS FOR EASTER DECORATIONS.—*Gardener:* They are the blanched leaves of Phœnix dactylifera—the Date Palm. Write to Mr. W. Denman, 7, Catherine Street, London, W.C.

ROSES, PELARGONIUMS, &c.—*Constant Reader:* The Rose leaves are of a poor and flimsy character, and the spotting is due to scalding—that is to say, they have been caught by bright sunshine while wet, the spots of water acting as a lens. The insect on the Pelargonium leaves is a species of aphis, but being crushed we cannot identify them. Fumigating with tobacco-paper or rag is the best way of getting rid of them. You are doing wrong in watering the Pelargoniums and Roses overhead every night. If it must be done at all, let it be earlier in the day, say about 3 p.m. Light sandy loam and leaf-soil will suit best for striking the Bouvardias. Put them under a bell-glass and they will readily root in the frame.

SAXIFRAGA.—*Omicron:* In Latin the g is sounded hard when it comes before a and o, and soft when before e and i, thus the pronunciation of Saxifraga is with the g hard. Saxifrage is the English rendering of the word, and the g would be soft in this instance, according to the English rule.

COMMUNICATIONS RECEIVED.—B. C. R.—G. P.—P. D. (many thanks)—A Constant Reader—W. B. H.—R. D.—W. B.—H. T.—A Cotswold Gardener—W. P.

THE WEATHER.

AT the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending March 16th, was 30·50 in.; the lowest reading was 29·52 in. at the beginning of the week, and the highest 30·42 on Friday evening. The mean temperature of the air was 38·8°, and 2·1° below the average in the corresponding weeks of the twenty years ending 1868. The mean showed an excess on Wednesday and Thursday, but was below the average on each of the other days of the week. The direction of the wind was variable, and the horizontal movement of the air averaged 10·8 miles per hour, which was 2·6 miles below the average in the corresponding weeks of sixteen years. Rain fell on Tuesday to the amount of 0·04 of an inch. The duration of registered bright sunshine in the week was 14·8 hours, against 16·4 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

March 18th.

Messrs. Hurst & Son, 152, Houndsditch, report a brisk sale for Agricultural Seeds. Supplies of English Red Clover and Cowgrass being almost exhausted, cause these articles to realise fancy prices. White Clover and Alsike offer freely at reasonable rates. Trefoil continues scarce and dear. Rye Grasses steady.

COVENT GARDEN MARKET.

March 20th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Cobs .. per 100 lbs.			Pine-apples, Eng., lb.	1 0	1 6
Grapes .....per lb.	1 6	4 6	Strawberries.. per lb.	8 0	12 0

Canadian and Nova Scotia Apples, per barrel, 7s. to 17s.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemone, French, per doz. bunches.	2 0	6 0	Pelargoniums, 12 spys.	1 0	1 6
Arum Lilies, 12 blms..	2 0	4 0	— scarlet ..12 sprays	0 6	0 9
Azaleas ....12 sprays	0 6	1 0	Paper White Narciss, French, doz. bunches	4 0	8 0
Bonvardias, per bun.	0 9	1 0	Primroses..doz. buns.	0 6	1 0
Camellias, white, doz.	2 0	4 0	Primula, double, bun.	0 9	1 0
— coloured..... ,,	0 6	1 6	Ranunculus, French, per doz. bnchs.	2 0	4 0
Carnations, 12 blooms	2 0	3 0	Roman Hyacinths, French, 12 bun.	1 0	3 0
Cyclamen..12 blooms	0 4	0 9	Roses, Tea, per dozen	1 0	3 0
Daffodil, dble., 12 bun.	4 0	6 0	— Red .....per doz.	4 0	8 0
— double.... ,,	4 0	9 0	— Red, French, dozen	2 0	3 0
— or Lent Lily ,,	3 0	6 0	— Saffrano ..per doz.	1 0	3 0
Eucharis ..per dozen	4 0	6 0	— Safrano, French per doz.	1 0	2 0
Gardenias, 12 blooms.	5 0	9 0	Tuberoses, per dozen.	2 0	3 0
Heliotropes, 12 sprays	0 6	1 0	Tulips ....12 blooms	0 8	1 0
Lapageria, 12 blooms	2 0	4 0	Violets ..12 bunches	1 0	1 6
Lilium longiflorum, 12 blooms	4 0	8 0	— Parme. French, bun.	3 0	4 0
Lily of the Valley, 12 sprays	0 6	1 0	— Czar, French ,,	1 6	2 0
Maidenhair Fern, 12 bns	6 0	9 0	— Dark ,, ,,	1 0	1 6
Marguerites, 12 bun.	3 0	6 0	Wallflowers, 12 bnchs,	4 0	8 0
Mignonette, 12 bun.	2 0	4 0	White Lilac, French, per bun.	4 0	6 0
Mimosa, French, per basket	4 0	6 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	6 0	18 0	Foliage Plants, various .....each	2 0	10 0
Arum Lilies..per doz.	9 0	18 0	Genista ....per dozen	9 0	12 0
Azalea.....per doz.	18 0	42 0	Hyacinths ..per doz.	6 0	9 0
Cineraria ..per dozen	6 0	10 0	Lilies of the Valley, per doz.	12 0	24 0
Cyclamen ..per doz,	9 0	18 0	Marguerites per doz.	6 0	12 0
Cyperus, ..per dozen	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz.	30 0	60 0	Pelargoniums, scarlet, Pinks, &c., per doz.	6 0	9 0
— viridis, per dozen	12 0	24 0	Primula sinensis, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Solanums....per doz.	6 0	12 0
Ferns, in var., per doz.	4 0	18 0	Tulips ..... per doz.	8 0	10 0
Ficus elastica ..each	1 6	7 0			

VEGETABLES.—No alteration from last week.

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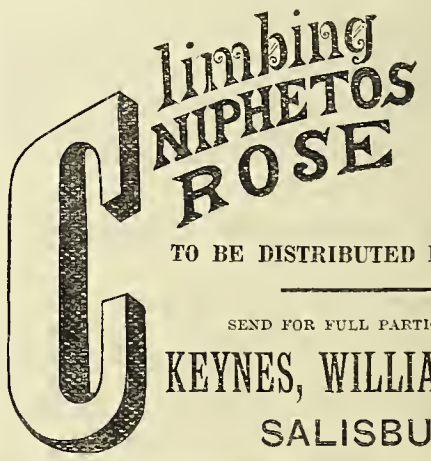

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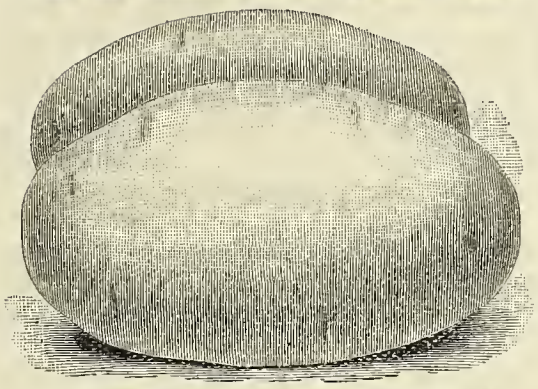

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Next Week's Engagements.

MONDAY, April 1st.—Sale of Lilies, Carnations, Hardy Plants, &c., at Protheroe & Morris's Rooms.

TUESDAY, April 2nd.—Sale of second portion of Major Lendy's collection of Orchids at Protheroe & Morris's Rooms.

WEDNESEAY, April 3rd.—Royal Caledonian Horticultural Society's Spring Show at Edinburgh. Sale of Lily, Bulbs, Roses, &c., at Steven's Rooms.

FRIDAY, April 5th.—Sale of Orchids at Protheroe & Morris's Rooms.

For Index to Contents & Advertisements, see p. 489.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MARCH 30, 1889.

CURRENT TOPICS.

ORCHID GROWING.—Does the frequent disposing of private Orchid collections indicate that growers are tiring of them, that they are too costly a burthen, or that in such occasional dispersal, through auction sales or otherwise, there is found pecuniary interest long deferred? Very probably many of those who have had, or still have, good collections of Orchids would object to the innuendo that, after all, they are in their cultural labours actuated by mercenary motives. And yet we do not see why they should feel annoyed at such suggestion, as, even if they sin—and we make no such suggestion—they sin in the best of company. How many of our wealthy connoisseurs in art are there who are not making costly collections of pictures or other valuable objects, as also libraries, which they know signify the laying up of treasure in a not too readily convertible form, for their successors?

Practically, collections of works of art have proved to be valuable investments, and we have sometimes had evidence that collections of Orchids have come into the same category.

But then, Orchids are living subjects, and not inanimate works of art. They need a heavy outlay, are indeed a costly burthen to maintain, and if maintained at all must be done well and with a generous hand if they are to be increased in value. Very often, however, it does happen that the owner, who loves these plants for the interest and beauty they afford him, becomes disgusted with them because he cannot get them properly grown for him, and in such a case it is not unwise to get rid of the burthen, and devote the houses to subjects requiring less ability to cultivate respectably. In some other cases it may happen that collectors get really tired of Orchids, and eventually disperse their stocks from a sheer sense of satiety. In any case, there always seems to be plenty of new purchasers, and thus for one falling out of the ranks, another is found willing to step in and fill his place. Beautiful and fascinating plants are Orchids, and all that is wanted to make them even more fashionable than they are at present is an increase in the number of men who can really grow them; and given greater skill in cultivating, with a reasonable limitation of the quantity imported, there is no reason either why they should not again rise in value.

Gold-laced Polyanthuses.—In the admirable note from Mr. Bolton concerning these spring flowers, which we published last week, there was much justification for some recent criticism on existing stocks, and the lack of success in extending the list of varieties that really come up to the florists' ideal. Mr. Bolton, who has caught the spirit of our recent observations more clearly than has our friend Mr. Thurstan, declares that even Cheshire Favourite rarely shows perfect lacing, and he writes with the knowledge of an experienced florist; and yet there are many lovers of Polyanthuses who have thought a fair pip of that variety gave perfection in form and marking. It is obvious that even in reference to the best of the existing kinds, there is much room for improvement, whilst as to variety, the need for variation in the ground colour is undeniably great. That sameness which characterises all existing gold-laced forms, however good, militates against the popularity of the section, whilst the undoubted lack of success that has followed raisers in their efforts to obtain high-class flowers, shows that better can hardly be hoped for.

Mr. Bolton refers to an assumed purple ground variety. What a charming addition to the section would be both mauve and purple grounds! But why not take bolder sweeps, and strive to create edged or laced flowers from out of some of the beautiful and very perfect selfs found in the garden or fancy strains? Pure whites, edged with yellow or red; yellow, edged with white; crimsons and reds, edged with white or gold—what a lovely strain would not these prove, and how much variety, as well as of beauty, would they not add to the laced section!

Will not raisers and growers of these gold-laced flowers now admit that we have been, in relation to them, working in a groove that is too narrow, and that the mine of beauty once found in it is exhausted? We believe that with careful selection, cross-breeding, and loving oversight, the stout, robust border varieties are capable of producing some remarkably striking florists' flowers.

Fruit Tree Stocks.—An erroneous idea prevails with reference to seedlings raised from the miscellaneous pips of good or indifferent Apples, that all are crab stocks, but that is altogether wrong, as true crab stocks, and on the whole the safest for the production of stout enduring trees, are raised from *bonâ fide* crabs only, and invariably come true to character. Stocks raised from Apple pips may be free stocks, more or less, but they will be found to vary as much in character as the sorts from which the seed pips were obtained. Some very good gardeners have run into this error, and have written about crab stocks with comparative ignorance of the fact that not one of the stocks have the true crab character.

Stocks so produced need a lot of sorting; the weakly ones should be destroyed, and those of fairly moderate growth should be reserved for working kinds of moderate habit, such as Lord Suffield, Cox's Orange Pippin, Margil, &c., whilst the strong-growing Apples should be apportioned to the strong-growing stocks. Were that the case, we should see fewer abortions in grafting Apples than now results. The Paradise and Doucin stocks usually propagated by layers or suckers are always true, assuming that at the outset the stocks are selected true to character. In the case of Pears, the Quince produces its progeny true to character, as also does the common wild Pyrus; but, still, numerous stocks are raised from ordinary fruit pips, with the inevitable result that no two carry heads exactly alike.

Did not our nurserymen take ample pains in the selection of stocks our fruits would soon become demoralised. Wherever we find breadths of young trees in nurseries of clean, even and kindly growth, there we may be assured that special care has been taken to ensure stocks of true and uniform character. If our forefathers had not been careful in that matter, we should hardly have had so many fine old fruit trees in the kingdom as may still be seen.

Jacks in the Green.—These quaint forms with their huge Elizabethan collars of green, are developing some wonderfully pretty things, with fine pips of striking colours and excellent form. Perhaps the very finest is Crimson Beauty, the flowers of which are of fine form, and of a deep self hue of colour. Seedlings from that are coming exceedingly good also, and by-and-bye we may hope to obtain some varied colours—white, mauve, purple, &c., as good as Crimson Beauty, which it may be worthy of mention has been honoured with a First Class Certificate. These forms, owing to the length of the tube, do not seed freely; but they come pretty true as seedlings. What many people simply term spring flowers constitute after all a considerable family with numerous branches, all very interesting and beautiful.

Potato Planting.—There is considerable anxiety being shown to take advantage of the open weather for the planting of early Potatos. That may be safely done in March in warm soils, and on walled or otherwise sheltered garden borders, but in cold soils it is decidedly unwise to commit early-shooting varieties too prematurely to the cold soil. It is far wiser to have the sets well sprouted, thus gaining fully three weeks, and to plant about the middle of April, after the sun has become a real power for heat production. The tubers may endure the cold soil well enough, but the young growths from them suffer so much, coming so weak and spindly. The late strong growers, where, as in market gardens, planting must be forwarded, should be planted first, as these will lie dormant in the soil for nearly six weeks. Early Potatos never crop better than where they make quick robust growth from the time of planting until the digging.

Distinguished Visitors.—More than once in the past the Council of the Royal Horticultural Society have been urged in the press to proffer some special courtesy to well-known horticulturists whenever they visit the society's meetings, and are not ordinary members of the committee. As for example, that very distinguished horticulturist, Mr. Bruce Findlay, of Manchester, a man who stands second to none in his profession, was on Tuesday last a visitor to the Westminster Drill Hall; but although the leading light of northern horticulture, we regret to state that officially no more attention was shown to Mr. Findlay than was offered to any other person. Here we think the Royal Horticultural Society loses appreciably, as whilst professedly so anxious to secure the goodwill and support of the provinces, yet the best men of the provinces find themselves at the Drill Hall treated with almost studied neglect. Why does not the Council of the Royal Horticultural Society give to its secretary or superintendent, or both conjointly, power to invite distinguished horticulturists to a seat on one or other of the committees, and thus exhibit that description of welcome and courtesy which would be freely accorded to them elsewhere? We hope the matter will soon—and especially before the Temple Show—receive proper attention.

Gardening Engagement.—Mr. Heims, gardener to F. A. Philbrick, Esq., Q.C., as gardener to Gerard Norman, Esq., Oakley, Bromley Common, Kent.

Watford Chrysanthemum Society.—At the annual meeting of this society, recently held, it was decided to hold the next exhibition on November 19th and 20th.

The Study of Geology.—The many friends, among our readers, of Mr. W. E. Badger, of Birmingham, will be pleased to hear that is son, Mr. Alfred Bernard Badger, B.A., New College, Oxford, was on the 20th inst. awarded a Burdett-Coutts Scholarship, of the value of about £115 per annum, tenable for two years. The Burdett-Contts Scholarships are given by the University of Oxford, "for the promotion of the study of Geology and of Natural Science as bearing on Geology."

The Covent Garden Floral Fete, in aid of the Gardeners' Orphan Fund, has been definitely fixed to take place on Wednesday, May 22nd, and in order to avoid the dreadful crush which took place on the last occasion, the committee have decided that 5*s.* each shall be charged for the admission tickets, the number of which will be limited to 2,000. H.R.H. Princess Marie Adelaide Duchess of Teck, the Duchess of Bedford, Lady Goldsmid, and Lady George Hamilton have consented to become lady patronesses of the fête; the stand-holders are again entering heartily into the spirit of the affair, and it is confidently anticipated that a handsome sum will be raised for the fund.

Cœlogyne cristata alba.—In vegetative growth the white variety seems quite different from any other form in cultivation. We see something of the same thing in the variety C. c. maxima, where some of the distinguishing features are said to be the elongated rhizome and the long, instead of round or oval, pseudo-bulb. The elongation of the rhizome in the albino form under notice seems to be carried to an extreme. It is about the thickness of a goose quill, often several inches in length, and furnished here and there with a pseudo-bulb. Some cultivators support them with stakes, especially when in flower, and when tied to upright stakes as we occasionally see them, the plants have a peculiar sub-arborescent appearance. The orange or yellow colour of the fringes has wholly disappeared, so that this variety is fully entitled to the varietal name C. c. alba.

Grevillea Preissi.—The genus Grevillea contains the largest number of species of any belonging to the order, and shows an immense amount of variation and modification, from G. robusta, which forms a stately tree attaining 100 ft. in height, to dwarf or pigmy bushes or procumbent shrubs. The species under notice is a diminutive but very pretty bush, suitable for a greenhouse or cool conservatory when the temperature does not fall below 40° to 45° at night in winter. It forms an erect but exceedingly graceful bush, all parts of which are well furnished with finely-divided foliage. The flowers are of a beautiful carmine or Poppy-red, and are borne in gracefully drooping heads at the ends of the branches much in the same way as in the better-known G. Thelemanniana.

The Tuberous Stachys.—According to *Le Jardin*, the tuberous Stachys, concerning which so much has been said recently, is Stachys affinis of Bunge, and described by that botanist in his enumeration of the plants of Northern China. It is also the S. Sieboldii of Miquel, and in this country the provisional name of S. tuberosa has been given it until such time as it flowers here and has its affinities determined. A figure

is given in the journal above mentioned, and it is said to be a reproduction of that mentioned in the great Chinese Encyclopædia, the name of which would be unintelligible to most readers. Although it has not yet bloomed in this country, a figure of a flowering plant is given in the catalogue of a well-known London firm. M. de Maximowicz, a Russian botanist, in a memoir published in the *Bulletin of the Imperial Society of Moscow*, has given a brief history of the native country and the synonymy of this remarkable Labiate. In addition to the names above given, he says it is a native of Northern China, and at Pekin it is cultivated under the name of Kan-lu, for the sake of its fleshy edible root. In Japan it has been observed at Yeddo, where it is cultivated but rarely under the name of Daima Gik. It also occurs in the principality of Nambu, so that the tuberous Stachys may be considered a native both of Japan and China.

THE FERNERY.

House for British and Half-hardy Ferns.

A pleasing and interesting display can be made with the British and half-hardy exotic Ferns in a house specially devoted to their culture. A most important point about Ferns of this class is that they can be grown without the aid of any artificial heat whatever. It is, however, advantageous to have some simple means of heating at command, so that in the event of severe weather, a little heat applied will enable the grower to keep a great many more kinds in an evergreen state than when no heat whatever is applied. It is also advantageous in that the temperature may be raised so as to dispel an excess of moisture whenever occasion may require it. Not only will the Ferns be benefited by such in the dullest periods of winter, but it will render the atmosphere more pleasant for those inspecting the Ferns.

There are several important points to bear in mind by those intending to construct a hardy Fern house. The site chosen will very much depend upon the convenience at command, but it should be borne in mind that more satisfactory results can always be obtained by selecting a northern or an eastern exposure for a cool fernery than a southern or western one, for the simple reason that the class under notice does not require direct sunlight as a rule, and in the majority of cases no sun need strike upon the plants at any time of the year. The north side of a dwelling-house or even a garden wall will suit admirably. If close to a dwelling-house or other high structure it will materially lessen the necessity for fire-heat, and the Ferns in such a place will be convenient and of easy access to the owner at any time. The house may be a lean-to, or of any other simple design, or tastefully built according to the fancy of the possessor. In such a position comparatively little ventilation will be required; but a means for it, both top and bottom, should be provided, so as to ventilate and sweeten the atmosphere whenever necessary. No shading will ever be required on a house in this position. The glass of the end facing the east may receive a thin coating of whitening in which a small quantity of size is mixed, so as to fix it. After it has been neatly painted on, the whole should be lightly daubed over with a painter's brush, so as to make the glass appear stained or covered with hoar frost. This will remove the objectionable appearance of white-washed glass.

The interior of the house may be variously arranged, according to size and the taste of the owner. Small lean-to houses should have a path down the centre, being in the most convenient position for visitors where the roof is low. A slate staging should be made along the back on a level with the shoulders, so that the plants may be conveniently inspected, and at the same time be brought near the glass for the sake of light. A lower bench will be sufficient along the front, but a pleasing variety may be secured by leaving this for the construction of rockeries and other conveniences for planting suitable Ferns directly in the soil.

A larger house may have a central bed for the construction of rockwork, and the two sides may be devoted to pot plants, so that the occupants may be re-arranged from time to time, according to the season. Deciduous ones, such as the Lady Ferns, could, of course, be put in the back-ground when their fronds decay. The shelves should be covered with clean sifted coal-ashes, fine sifted gravel, or shelly gravel, so as to be clean and retain the moisture about the plants. A neat and tasteful arrangement of rockwork containing pockets for Ferns should occupy the central area, or the whole may be laid out as a bed for the cultivation of tall and beautiful kinds.

FLOWERS OF SPRING.

Chionodoxa Luciliæ.

With me this plant is now at its best, and is growing in open borders where it was planted some four years ago. So much has been written concerning it in the horticultural papers from time to time, that it is difficult now to say anything original concerning it. My principal object in noting it now is to advise all lovers of early spring flowers who do not already possess it, to purchase a few bulbs and cultivate them in the open borders, for I feel sure they will consider themselves amply rewarded when it furnishes them with a few of its beautiful blue, star-shaped blooms. It associates well with Snowdrops, or rather, I should say, will be at its best in the same bed before the Snowdrops are over. July and August, after the bulbs have completed their growth, is the best time to plant, and it will be found to do very well in a light well-drained soil.—*J. H.*

Anemone blanda.

The finest of the early spring-flowering Anemones is A. blanda. The flowers are larger than those of A. apennina, which also forms a conspicuous feature in the early spring garden. A. blanda is a native of Asia Minor and South Europe, and when introduced proves rather variable in the depth of the colouring of the flowers, which may be described as deep sky-blue, fading to a much paler shade—the extreme being known as A. blanda pallida. Both kinds are admirably adapted for rockwork, and on account of their early-flowering character should be planted in a somewhat sheltered place where they will not be driven about by storms of wind and rain. The different forms commenced flowering some weeks ago in the grounds of Messrs. Barr & Son, Lower Tooting.

Azalea amœna Colvillei.

The size of the flowers in this variety has been greatly improved, while the petaloid calyx so characteristic of the typical form has been preserved, and, as well as the corolla, has undergone enlargement. The leaves are also somewhat larger, and apparently of a lighter green, judging from a large pyramidal specimen which we noted the other day in the nursery of Messrs. J. Veitch & Sons, Chelsea. Like the Carmichael strain of the same species, the variety under notice will prove useful as an early-flowering easily-forced kind.

Iris Rosenbachiana.

In general appearance this is comparable to I. persica with regard to stature and the form of the foliage. It may be described as stemless, seeing that the foliage springs up as it were from the soil. At blooming time the leaves are only a few inches long, deep green, flat, and investing the flower-stalk, which is itself about 3 ins. or 4 ins. in length, carrying a solitary bloom. The latter is of large size relatively to the bulk of the plant, and extremely pretty when grown as a pot subject in a frame or cool greenhouse, where it would enjoy plenty of light and air. The standards are spathulate, and pale blue or bluish lilac, as are the petaloid stigmas, but the falls are very much larger, and more ornamental in every way. Below the bend they are lilac or pale blue, and above that of a rich dark purple. Individuals, however, vary considerably in the depth of colour. We noted flowering specimens in the nursery of Messrs. Barr & Son, Lower Tooting.

Scilla bifolia.

In the earlier stages of its growth there is considerable resemblance between this Squill and Chionodoxa Luciliæ, and we frequently find the two kinds mixed. The period of flowering is also nearly the same; but notwithstanding this there can be no difficulty whatever in distinguishing them when in flower. The two-leaved Squill merits a more extended cultivation than it enjoys, on account of its hardiness and early flowering. The flowers are bright blue, and are borne with their face upwards, not suspended as in Scilla sibirica, which is admired for its bright blue flowers of an altogether different shade of colour, reminding one of an intense azure-blue. As in the English Blue Bell (Scilla nutans) so we have in S. bifolia a flesh-coloured or rose, and a pure white variety, all three being admirably adapted for growing in mixed clumps in the wild garden, as well as on the rockery. They are the earliest Squills that flower in the open border. The blue or typical kind is extensively grown by Messrs. Barr & Son, in their grounds at Lower Tooting.

CATALOGUE PLAGIARISMS.

I am interested only in a remote degree in the matter of debate raised in Messrs. A. Burpee & Co.'s note of last week, as honest people may well look on with indifference, whilst some other people quarrel. But with respect to these same plagiarised illustrations, I am tempted to ask whether the blocks from which they are printed are not sold by American houses freely to our seedsmen, and in that way become personal property over which they have the fullest rights of usage? Take the Potato illustration previously referred to. Who, unless he be an ass of the first water, believes that any such crops ever were lifted from any kind as the illustration shows? The picture is a gross exaggeration, and how can any firm honourably complain if what is such a gross exaggeration is appropriated by others who would strive to influence their customers with such misconceptions?

Supposing it were asked of the originator of these illustrations, "On your oath do these pictures truthfully represent the various products named?" The obvious reply must be, "They represent our ideal of the products." Therefore who can claim any monopoly in ideal products? But when American firms have parted with the blocks of these pictures, can they still claim to have authority over their future use? That would be an absurdity. By purchase they become the property of the new owner, and he can do as he likes with them. That they deceive no one I believe; rather people laugh over their exaggerated absurdities.

A really truthful illustration of any garden product is always to be welcomed, and if our American friends will be careful themselves in the production of such illustrations, our seed lists at home will be all the better for it.—*D.* [Blocks undoubtedly are sold by American houses to our seedsmen, and when disposed of without any stipulation as to how they shall be used the purchasers unquestionably have the fullest right of usage, but that right does not make it honest to publish an illustration as the portrait of Mr. Jones that was first issued and sold as a counterfeit presentment of Mr. Brown. As between English and American seedsmen such acts are no doubt legal, if not in accordance with the laws of morality; but as between tradesmen in this country they are not now legal. The new Fraudulent Marks Act provides a short and sharp remedy for wrong-doing in this and other directions, and all who issue trade catalogues would do well to make themselves acquainted with its provisions. —Ed.]

PROTECTING WALL FRUIT TREES.

I thank my old friend Mr. Nutting for reminding me of an accidental omission in my remarks on protecting wall fruit trees, but in the necessarily condensed form which we are obliged to take in offering contributions to your periodical, it was impossible to deal very fully with the subject. I quite agree with him in all he says about garden netting as a protective agent. My object in writing was to point out a few efficient, economical, and easily procurable methods of protection. Mr. Nutting is evidently, from the tenor of his remarks, in favour of glass copings for walls, and here I at once join issue with him. Several years ago they were very strongly advocated in garden periodicals, and adopted in many gardens, but I do not think they are so generally popular now. They may be useful for hanging protecting material upon, and for shedding the rain off the trees when the fruit is ripe in very showery weather, but at other times they do more harm than good.

Wall trees, as well as trees in open spaces, derive great benefit from showers of rain and night dews, and they cannot get the full benefit of these valuable stimulating agents where glass copings are used. The walls themselves will, to a great extent, keep off rain and dews, but how much more so under such a system! Besides, if we take an economic view of this matter, glass copings can only be put up at considerable expense, and for the money laid out we cannot expect anything like an adequate return. The same money would be more profitably expended in putting up a Peach and Nectarine house, where quality and quantity would secure corresponding returns. Also consider the vast amount of labour such a system entails; the trees must be constantly syringed and watered throughout a good part of the year, or they would suffer from drought and soon be ruined and destroyed by insects. Peaches and Nectarines, as every gardener knows, are very subject to the attacks of red-spider, and the syringe must be constantly kept going through the summer months to keep these pests under.

Most gardeners nowadays are not overstocked with labour; it is often a matter of serious consideration to him how best to economise the amount at his disposal, and he cannot afford to waste time upon profitless objects, as it takes a long time daily to syringe any extent of wall. Once more I thank Mr. Nutting for his courtesy, as it is by exchanging ideas that a greater knowledge can be gained.—*Alfred Gaut.*

HARDY HERBACEOUS PLANTS.

LETTERS FROM A LADY TO A FRIEND CONCERNING THE BEST FLOWERS TO GROW FOR CUTTING.—III.

"My Dear Mary,

"Let me advise you to sow in rotation plenty of French Poppies, Papaver Rheas, their colours are so lovely. I never gather them when full blown, in preference cutting those just showing colour, and then pinching the calyx of each after they are arranged in their glasses, which helps them to come out. Thus gathered, they last from two to four days instead of one, and expand beautifully crimped-looking. I have sent by post dozens of Poppies by gathering them in bud, standing their stalks in water for two or three hours before packing. My friends on receiving them carefully removed the greater part of the calyx of each, and wrote to me that the Poppies expanded perfectly, and lasted well. Pink ones are particularly pretty arranged quite by themselves, or with two or three crimson, not scarlet ones, to throw them up.

"Iceland Poppies should be gathered also not in full bloom, and the buds can stand being sent by post, and treated in the same manner as the French ones. We grow Barr's strain in orange, yellow, and white, and they are most lovely and uncommon-looking. As late as November I have gathered Poppy buds that would not have opened out of doors, but gathered as above came out beautifully indoors.

"A very old-fashioned flower that keeps well when cut is the double white Rocket. There is also a pale mauve variety, and both are worth having, as they keep well when cut, the white one being very useful for church decoration. Galega officinalis alba, or White Goat's Rue, is very little known, and you had better raise it from seed, as it is easily done, and you can then get a good supply at once. Its foliage is very graceful and Acacia-looking in form, its colour a clear brilliant green fading beautifully into yellow, and when cut it is ornamental till the leaves actually fall off. The flowers are pure white, in small Pea-shaped racemes. It grows from 4 ft. to 6 ft. high according to how the soil suits it, so you may imagine what a useful plant it is for very large vases and church decorations. There is a mauve variety, pretty enough, growing in the borders, but not so good to cut from, the colour not being so effective as the pure white.

"I said I did not intend mentioning any florists' flowers, but two I would like to name, as they give so little trouble and are so welcome in autumn. You know our hedges of the white Japanese autumn Anemone (Anemone japonica alba Honorine Joubert), and the common outdoor yellow Jardin des Plantes Chrysanthemum. We have a long row of the Anemones; for years they have not been touched, and are still flourishing. In front of them are the Chrysanthemums, which we dig up every second or third year, replacing them with young plants taken from cuttings off the old ones, but this is all the trouble they give. We are amply rewarded, as both plants begin to bloom in September, and go on doing so till well into November, giving us a constant supply of cut flowers that keep long.

"Aster lævis is a lovely pale mauve Michaelmas Daisy and an autumn plant well worth growing, as, unlike most of its species, its colour and form of growth are really good, and when cut it arranges nicely quite by itself and lasts well. As herbaceous single Sunflowers, Helianthus major and H. m. maximus are everything that could be desired, being very ornamental in the garden for any conspicuous position, and very suitable to cut from for large vases. The Aster looks well arranged in a dark red pot, and the Sunflowers in the tawny yellow ones so common nowadays.

"Do try and get some plants of the common Bryony introduced into your hedges, if you do not object to the berries being such a deadly poison. The trails, when the berries are all shades from yellow to red, are so lovely to twine round tall glasses. I also find the double lilac Colchicum a very useful addition to my list of favourite autumn blooms. Its colour is such an exquisite pinky mauve, and arranged with Grasses, Heuchera, or Dielytra eximea, it looks very delicate and *recherché*, and lasts in water for a long time.

"You were much puzzled with my spikes of red berries last April, arranged with the sprays of golden variegated Ivy. Now I will tell you what they were—only Asparagus berries. I had gathered a bunch in the autumn, and after dropping all their green, the berries still stuck on to their stems, keeping their colour all through the winter, so now you can try the experiment for yourself. Another dodge for winter is to gather a well-coloured bunch of quite ripe Oats, and keep them hanging up with their heads down till they are required. When flowers are scarce, they look so well arranged with sprays of pretty-coloured Ivy, the red leaves of the Berberis Darwinii, and Asparagus or Mountain Ash berries.

"I must now explain how we preserve these latter, as they are a great resource to supply a bright colour in winter. We have quantities gathered off the trees when they have reached their full colour, and we strip each bunch of its leaves. We then place them in a large barrel, pouring over them strong cold brine, sufficient in quantity to quite cover them. To keep them under we float two pieces of wood crossed over them, with a heavy brick on the middle of these two bits of wood, and when wanted we take out as many bunches as required, washing them in tepid water to rid them of the salt; indeed, I sometimes leave them overnight in the fresh water. Many of the berries will drop off in the process, but enough always remain to be very effective.

"We have had berries preserved thus, quite good after two years' keeping. When I have given them to friends in town, they have told me that after they shrivelled up and looked quite done for, they revived them by simply immersing in fresh water for twelve or fourteen hours, and could then use them again. A dinner-table arranged with them, mixed with Christmas Roses or Snowdrops and nicely-coloured golden Ivy leaves, is a very pretty window decoration. There is also an orange-berried variety of the Mountain Ash, and if you can get some berries of it in addition to the red it is a great gain.

"Thinking of your having to gather the above berries in September, has made me quite forget to tell you about that yellow flower you admired so much on our borders last autumn. It is Coreopsis Atkinsoni, and only a biennial, but worth the trouble of raising, as its duration of flowering is so long; and if sown in May and transplanted, will flower that autumn and the following year. Ours sometimes have flowered for three years, but to be safe and sure of having it, it is best treated as a biennial. As to its height, you may remember some plants were only 2 ft. high, and others nearer 4 ft., so I suppose it varies according to soil and situation.

"A very good perennial Coreopsis is C. grandiflora, which is much larger than the Atkinsoni one, but not nearly so floriferous. Both are good as cut flowers. You ask me also about Christmas Roses, but as in our soil they never succeed, I cannot say anything about them. I sometimes have had very large beautiful ones sent to me by friends, and one thing in regard to them I have observed is, that they object to heat very much, so if you have them, or get any sent to you, keep them well away from the fire if you wish to enjoy their beauty for any length of time. I have, I hope, given you some of the information you wanted, as, of course, you did not mean me to write about things like Mignonette, Sweet Peas, &c.; but I think you may be glad of some of my hints, and I have anyhow attended to your request not to bother you with forced stove or greenhouse plants or even the so-called florists' flowers.

"Believe me, yours truly,

"GLADYS WOOD."

GARDENERS IN AMERICA.

AS THE GARDENING WORLD is read by so many gardeners—old and young—I cannot pass over the remarks of Mr. C. L. Allen (p. 453) without expressing the hope that they will find a resting place in many a young beginner's heart. Having lived in bothies for some years, I know something of the social customs of young gardeners. The aim of nearly every young man is to get to the top of the tree, which means really into a head gardener's place, and when they get there how many there are who look back with regret to the hours wasted in card-playing and other frivolous pastimes that ought to have been devoted to thoughtful study! I hope to see the day when our American cousins will see that as a body we have banished all degrading social customs. I do not know of any class to whom temperate habits are of more consequence, or any body more temperate as a rule than gardeners. The gardener of to-day finds that he requires a clear brain and a steady hand, and that he can do better without intoxicating drinks than with them even in this country. The places in which a gardener has not enough to do to occupy his mind and busy hands, are few and far between now, thanks among other things to so many having been spoilt by men who have given way to the bad social customs. How many bright young gardeners there are whose careers have been cut short through contracting debasing habits of intemperance—how many jobbing gardeners there are in our large towns to-day who would have been holding honourable positions but for the same deplorable cause!

I hope every head gardener will find it incumbent upon him to impress upon his young men the valuable moral to be drawn from Mr. Allen's observations. As Englishmen we ought to be able to show our friends across the sea that we can export plenty of clever, sober, and industrious men.—*A Cotswold Gardener.*

HOLLYHOCKS.

IN addition to the list given in THE GARDENING WORLD, of February 16th, by "J. C. B.," of Kelso, the following varieties, many of which are of recent introduction, can be strongly recommended. They formed part of a fine collection which gained a special prize at one of the Royal Horticultural Society's shows, and were exhibited by Mr. James Blundell, of West Dulwich, London. At these Hollyheck grounds the hardy treatment has always been followed, the young plants being wintered in skeleton frames, with the result that the dreaded disease has never established itself amongst them. The soil is a mellow clay, well worked and manured.

A. F. Barron, fine scarlet.
Baroness Rothschild, same colour as the Rose of this name.
Bullion, deep lemon, fine form.
Charles Chater, crimson, excellent.
Crimson Queen, crimson.
Crown Prince, carmine-rose, good form.
David Lowe, light crimson, superb.
David Fowlis, white, tinted salmon, fine.
Empress of India, bright flesh, full size and form.
Florence Nightingale, light cream, good.
Fred. Chater, light canary-yellow, very good.
Golden Drop, good yellow.
Henry Irving, purple, very fine.
John Laing, rose.
J. M. Lindsay, deep crimson, fine and distinct.
Lady Middleton, bright pink, fine form.
Miss Roupell, golden yellow on deep orange.
Memoriam, white.
Mrs. A. F. Barron, rose.
Mrs. Sharman, maize colour; a striking flower.
Princess Beatrice, clear lemon, very full form.
Princess of Wales, clear salmon-pink, a great acquisition.
Primrose Gem, primrose, one of the best.
Purple Prince, deep purple, very fine.
Queen of Whites, white.
Shirley Hibberd, deep carmine, a perfect flower, and good constitution.
Standard Bearer, French-white, large, and good quality.
White Venus, white, and very pretty; useful for decorative purposes.
W. G. Head, crimson, large and fine.

—*W. R., Streatham Hill, March 25th,* 1889.

NOTES ON VEGETABLES.

POTATOS, THE PURITAN AND WHITE BEAUTY OF HEBRON.

The Puritan was introduced from America two years ago as distinct and new, whilst the White Beauty of Hebron, alias Duke of Albany, has been with us some half-a-dozen years. This latter variety seems to have sported from the original pink form in diverse places, hence its comparative abundance now. As to The Puritan, I found it to be distinct the two years I have grown it; but then fresh seed from America does not for the first, or even second year always give the true form of the variety. So far I have found tubers of The Puritan to be rounder and rather longer than those of the White Beauty of Hebron, but otherwise the variety is neither earlier nor more prolific. It has got some notoriety of late from wide notice, but I anticipate that the start the White Beauty of Hebron enjoys will serve to give that variety the precedence.—*A. D.*

I AM unable to answer "Amateur's" query, p. 468, whether the Early White Hebron Potato, now being advertised, is the same as Early Puritan. I should say it is not. Early Puritan was distributed for general cultivation in this country last season by Messrs.

Henderson, of New York, and is therefore a direct American importation. Early White Hebron is being advertised as a sport—whatever that may mean—from Beauty of Hebron, and if it is simply a change in the colour of its coat only from Beauty of Hebron, it will still have the inherent tendency to the disease which so badly characterises the latter variety. I would therefore advise "Amateur" to apply to a firm that can be depended on to supply him with the true stock of Early Puritan.—*J. Kipling.*

THE ROSE GARDEN.

TEA ROSES ON THEIR OWN ROOTS.—V.

Cool Treatment.

The Tea Rose may be cultivated in a house without any heating apparatus whatever attached to it, and many of the other kinds of Roses, such as Hybrid Perpetuals, &c., will thrive equally well with them. Roses grown in this manner cannot be expected to flower but a few weeks earlier than what they will do in the flower garden, though then you have the opportunity of growing such kinds under glass that do not succeed well outside, and by this means you may reap the advantages of not only having the flowers a little earlier than you otherwise would do outdoors, but by a little management considerably later, because they are protected from rough winds and storms, which is a great advantage to autumnal blooms under glass. Roses grown in a cool structure will not be so liable to the attack of mildew, provided the watering at the roots is properly looked after, and the ventilation seen to in a common-sense manner.

To cultivate the Rose in a cool house, they may be either planted out or grown in pots, at the option of the grower; but in this case I should recommend the climbers to be planted out, for the house cannot be of so much service for other purposes during the winter months as what a heated structure would be; but still, a house of this description need not be idle, as many things may be grown along with Roses in a cool house, of which more anon. When Roses are planted inside the house, they require more attention in the shape of watering at the roots than what they usually do if placed outside, with their tops brought inside the house through the wall to grow and flower. They will succeed either way, but whichever plan is adopted, give all the encouragement possible to keep their roots well up to the surface, so that they may be under control. This is to be done by frequent mulchings and soakings.

A usual thing is to give the surface of the borders in which they are planted a good forking over in the early part of the year, and then surface over with some good rich soil or good rotten manure, afterwards giving a good soaking of water to wash the goodness down to the roots, which will have a tendency to come up to the surface in search of the new material that has been placed on the border. In the case of Teas, pruning will have to be done in a sparing manner, only cutting away such wood as is exhausted or too weak to flower, laying in all the other for the production of blooms. In the case of H. P.'s grown in pots, they will require pruning about the same as what plants outside usually are, either surfacing at the same time, or else they should be potted if they require it. The potting should be done in the autumn if possible, which gives the plants a chance of making good healthy root action before winter sets in. If you want sweet-scented flowers you may indulge in them to your heart's content by growing the Rose, as it affords a flower pleasing to the eye, and at the same time perfumes the place—a flower that may be had to suit the most fastidious, both in form and colour. They may be grown to festoon the roof, or they may be grown as bushes, but whichever way, the flowers never come amiss.

Now, in the selection of sorts, tastes and opinions may differ, but none will object to a plant of Maréchal Niel, which should be one chosen for climbing purposes, and along with it should be Gloire de Dijon and Reine Marie Henriette—three very distinct kinds. If the Gloire de Dijon is considered too common, use Climbing Devoniensis, a splendid white Rose, with long well-shaped buds that are produced freely. When well established these kinds will yield an enormous lot of flowers. I have seen Reine Marie Henriette condemned because it does not flower freely. I cannot say what it may be when planted outside, but we have one growing inside, and covering a space of roof 4 yards by 2 yards, that yields hundreds of flowers; in fact, it seems more free than the Gloire itself, and is a capital sort to mix with buds of that good old Rose. Another very fine kind, rather stronger in growth, and perhaps a little fuller in petals, is Reine Marie Pia, a charming climbing Rose that is as free in producing blooms as Reine Marie Henriette, and of a similar colour.

For bush or pot kinds it is always as well to have a few of the semi-double or soft-budded kinds, the buds coming up so much quicker. In the bud state they make capital button-hole flowers, but they want cutting as soon as the bud is well formed, for if allowed to open they are of no further use. The kinds most useful in this class are Mrs. Bosanquet, Safrano, Madame Falcot, Isabella Sprunt, Socrates, Ducher, Duchess of Edinburgh, and W. F. Bennett. Of the other kinds more suitable for large and full buds it will be advisable to leave the selection to the individual grower, but let me say, always grow the following, and add others to suit afterwards:—Catherine Mermet, Etoile de Lyon, Homere, Madame Lambard, Madame Van Houtte, Niphetos, Perle des Jardins, Souvenir de la Malmaison, Souvenir d'un Ami, with a few hybrid perpetuals for variety.

Tea Roses may be grown to the highest state of perfection by the use of a glass covering, and there are many greenhouses in odd corners to-day that might be well used if they were filled with these Roses.

Plants to Grow with Tea Roses under Cool Treatment.

To give variety to such a house as I have just described I would suggest a small collection of British and hardy exotic Ferns—some of the evergreen kinds that would be fresh-looking through the winter; they could be grown in the shadiest part of the house, and are always useful plants towards making up any structure. The tuberous Begonia would be a capital plant to grow along with the Roses. The bulbs could be easily wintered in a dry cellar or store room in the dwelling-house. The bright and varied tints of the Begonia would be grand during the autumn. If the grower had a taste for Auriculas these would grow and thrive in such a house, and for variegation a few sorts of Spindle Tree (Euonymus) would lend a brightness to the place in the winter season.

The above, along with a nice lot of Roses, would form a collection of useful and interesting plants for an amateur gardener to pass his time with. Plenty of other plants would grow in such a house, but it is much easier to manage a few useful things, grown in sufficient quantity to give effect, than to crowd the place out with so many kinds, that none would be grown right. The only care necessary with such a house during the winter season, would be to give air freely on all favourable occasions, and should the plant want water—which they will do several times during the winter—select a fine day, and water early so that the place may become moderately dry again by evening.

The only calamity likely to happen through the winter will be the splitting of a few pots through severe frost, but this may be avoided by putting all the pots at one end, and plunging them overhead in coco-nut fibre refuse or fine ashes. This will check the effect of the frost greatly, and likewise save the plants from requiring the amount of water they would otherwise do if exposed to the influence of the atmosphere.—*W. G.*

LIME AS A MANURE.

The value of lime as a re-agent in the vegetable garden is seldom understood and appreciated as it deserves to be. Fresh or virgin soils do not, as a rule, require lime; and the same may be said of heavy staples, though a little quicklime applied to rough lumps of clay, when the ground is trenched, tends to break them down more surely and swiftly than anything else. But cases often occur in which an old garden has been cropped and manured, manured and cropped, for so many years that it has become utterly tired and unwholesome, so that nothing can be induced to grow in it satisfactorily. All kinds of Cabbage and other green stuff inevitably become clubbed, and perish; insects destroy the greater part of the seedlings in the seed beds as soon as they appear above the ground; grubs riddle the Carrots and Parsnips; Turnips are ruined by disease, and so forth; and the seedsman too often gets the blame for supplying poor seeds. Under these circumstances a good dressing of either gas-lime or such as is in a fresh condition, if not quick, can be applied with certain success. In such cases lime acts as a powerful purifier and sweetener, and in addition sets free the nutritive principles that, though already abundant in the soil, are so locked up that the roots of the various crops cannot assimilate or profit by them. The application of a moderate quantity of lime has a marvellous effect in renovating exhausted ground, more especially where it is of a stiff description. Nothing should be planted in the ground for some months subsequently; it will pay to allow it to lie fallow through the winter; and by the time the sowing period comes round in the spring, it will be found in first-class condition for being cropped.—*R. D.*

GARDENING NOTES FROM IRELAND.

Ireland as a Bulb Country.

I must certainly, on behalf of my countrymen in common with what I am sure many others feel warmly, thank you for specially drawing attention to this subject with the view of diverting to our much-favoured isle (climatically at least), a portion of the vast sums spent on bulbs and many other products, at present going to Holland and elsewhere. I shall not ask you to open your columns to anything savouring of politics further than to say that I am not sure if history presents a counterpart of any other period in which the vast majority of Englishmen and Scotchmen, including our friends of the Principality, felt more kindly disposed to the vast majority of Irishmen than the present. Evidently, then, this would be an excellent time to ventilate any feasible project that would be at all practicable and ultimately profitable. Mr. F. W. Burbidge, Trinity College, Botanic Gardens, Dublin, maintains in a contemporary that we can grow most of the Narcissi, if not all, as well as any country in the world, and Mr. Baylor Hartland, of Cork, has commercially proved the fact. Now that the cloud of prejudice you so sympathetically refer to is gradually lifting, let us hope that the two people will meet as men and brothers, to help each other, but still more, to foster and encourage any possible industry likely to be a success. I am busy erecting a greenhouse, but hope to return to the subject, my principal object at present being to say that never was there a better time for any commercial enterprise. — *W. J. Murphy, Clonmel.*

Daffodils from Ireland.

There can be little question as to the suitability of the climate of Ireland for the culture of this beautiful class of hardy plants. We again have evidence of this in a collection of Daffodils to hand from Mr. Hartland, of Cork. They were cut from the open ground, and included fine specimens of Narcissus bicolor Empress, with white segments and a great golden trumpet. A form which he calls Asariformis has also white segments and a light yellow trumpet, but is very much smaller than Empress, though pretty. Pallidus præcox was in fine form and of large size, with all parts of a soft sulphur-yellow. The Tenby Daffodil is also a very early kind, of a golden yellow colour, while Rugilobus is more nearly of the colour of the wild Daffodil. Ware's Golden Queen is notable for the width of its trumpet at the mouth. The gracefully-drooping creamy white Leda is delicately scented, and is a form of N. moschatus.

The double Cernuus is full in the centre, and a very good thing in its way, having the same colour as Leda, already mentioned, and, of course, belongs to the same species. Other double varieties included Rip Van Winkle and Capax, also known as Queen Anne's Daffodil or Eystettensis. It is of a pale sulphur-yellow, and is remarkable for the way in which the supernumerary segments overlap one another in six rows, tier above tier. Rip Van Winkle is as notably irregular, and seems to have been produced by the development of several successive sets of segments and trumpets, alternating with one another from the circumference to the centre of the flower. All are torn up into narrow pieces, and the two sets of organs are of different shades of yellow. The flowers were much better coloured than we frequently see them. A sweet-scented kind is Trewianus minor, bearing from two to four flowers on a scape with white segments and orange-yellow cup-like coronas, reminding us of a giant Polyanthus Narcissus. N. poeticus præcox is notable for the richness of its scarlet crown, approaching in that respect N. p. poetarum.

Accompanying the Daffodils were some Giant Yellow Polyanthus of different shades of yellow. There were also some double, flesh-coloured Hyacinths under the name of wild Italian Mountain Hyacinth. They were sweetly scented, and had been flowering at Cork for a month past; and on account of their small size would be very suitable for cut-flower purposes. Their wild nature, however, is very questionable, even although the anthers produce plenty of pollen.

FLORICULTURE.

Yellow Hyacinths.

THE remarks of "R. D." in THE GARDENING WORLD, p. 468, are quite right. In the first part of the present century double Hyacinths in general were preferred in Great Britain, but on the Continent there was at the same time a predilection for single ones. In Germany the single sorts fit for very early forcing were always sold in quantity. As for single yellows, at the time they were not very much valued in England there was, however, a good demand for them in France and south European countries, where many double yellows were sold as well. The old single yellow, La Pluie d'Or, was much used, ten or twelve being placed in plates filled with water, or in moss. During the last fifty years all this has changed, and now everywhere singles are preferred to doubles in all colours, the reason being that there has been obtained endless perfection in the single varieties, and in double ones only proportionately very few have proved worthy.

At the period when double Hyacinths were cultivated by amateurs in prepared beds in the open ground for their individual beauty, there was a demand for these fine late sorts, with large rosy coloured bells, which now are scarcely to be found. Among double yellows the present century has only brought very few good sorts. Among the best are Goëthe and William III., both obtained from seed by my father. His two double yellow seedlings, William II. and Thorwaldsen, are in the way of William III., but much finer, only too late-flowering for the wants of the present time. In a descriptive catalogue issued by my firm in 1874 there are offered thirty-three double and seventy-four single yellow varieties. In that publication is also given a list of rejected varieties, containing fifty singles and nine doubles. I remember this collection of 166 varieties, but several sorts that were cultivated in 1874 have been since rejected. On the other hand, several novelties have been added to the assortment.—*J. H. Krelage, Haarlem, March 23rd*, 1889.

Gold-laced Polyanthuses.

IN the editorial column of last week's issue (p. 464) allusion is made to my recent suggestion as to the way new varieties of the gold-laced Polyanthus may be obtained, and the following remarks appear:—"Mr. Thurstan so admirably points the way to the production of these finer and improved forms of gold-laced Polyanthuses—the paucity of which we recently lamented—that no one can but wish he would have gone farther, and intimated his intention to do what he shows others may do."

Now, if reference is made to p. 744 of this journal (July 24th, 1886), it will be found that I had then already done—and very successfully, too—what I advocated might be done by others. In that year I raised about 1,000 seedlings; but very unfortunately, my prospective "Polyanthus" views were most seriously checked, consequent on business necessitating my removal from Wolverhampton to Cardiff at the end of that year; and being unable, when I came here, to obtain garden ground in which I could grow my plants, I had no alternative but to distribute the whole stock of seedling Polyanthuses and Pinks, &c., &c. amongst kind Wolverhampton friends (not florists) who volunteered, in a time of need, garden accommodation, the result being that both stocks were eventually lost, excepting a few varieties of Pinks which Mr. Barlow had previously been growing for me.

Like most seaport towns, there is but a limited space of ground for gardening purposes allotted to dwelling-houses in Cardiff; the Rev. Mr. Horner experienced a similar difficulty during his gardening career at Liverpool. If I had garden-room I would lose no opportunity in trying to improve and increase the varieties of Polyanthus, but I have not sufficient accommodation for my Tulips, which number about 10,000 bulbs, big and little, and which compels me to grow or pack them together like common Daffodils.

The reason such little progress has been made in regard to the Polyanthus during the last 40 to 50 years is that they have, with the florists' laced Pink, been neglected. As Mr. Bolton truly says, in his article last week, it is only within the last few years that Gold-laced Polyanthuses have met with much support in the shape of prizes being offered at the shows. With regard to Mr. Bolton's general remarks as to difficulty in growing, and the disaster "a dry summer and the red-spider caused him," I ask all readers who may be Polyanthus growers, or intending cultivators of this old and beautiful variety of florists' flower, not to be in the least dismayed by this gentleman's discouraging experiences; the fact is, he must have neglected watering his plants and searching for the red-spider at an early period. If he had looked after these enemies as closely as he looked after the green-fly and white-bug, which naturally infest Auriculas, his report as to his success as a Polyanthus grower would have been of a different character. The truth is, Mr. Bolton's "fascinations" are all cemented to the Auricula.—*James Thurstan, Cardiff.*

I OBSERVE that Mr. Bolton, although writing from so cool a district as Warrington, mentions that he is unable to preserve gold-laced Polyanthuses in the open ground through the summer months. Very probably that is universally the case in relation to the most tender and refined of kinds; but even here in the south I have just now some twenty very strong plants of William IV. which have been out in the open ground for two years, and promise to flower very abundantly. John Bright is also fairly strong, but I have very few plants of it. It is not at all a good kind; an exhibitor must be hard driven who has to stage it. William IV., if a little rough at times, still seems to have a fairly good constitution, and may prove an excellent breeder. —*A. D.*

Floricultural Sinners.

MY uncle Richard and my grandfather had each of them gardens at Pike Fold, near Blackley. My grandfather was a very earnest and sincere Methodist, and my uncle Richard was about the reverse. He was the leader of the Blackley band, and associated occasionally with rough customers. They were both in the house when a storm occurred, and the old man came out and looked at Richard's garden in front of the house, and as it was in the summer time, the Gooseberries had many leaves damaged and knocked off, and the fruit was much injured. The old man said "Ah, Richard, this is sin; it's sin, lad." Richard replied, "I don't know about that, but it's a bad job at any rate; let's have a look at your garden, now." The old man's garden was at the back of the house, and had been exposed to the full force of the storm, and when they came to look at it the old man forgot himself and said, "Why, dear, dear me, Richard, mine is twice as bad as thine!" To which Richard replied, "Oh, that's because you are twice as great a sinner as me."—*From a paper on Garden Gossip, by S. Barlow.*

Auricula, Marcus Aurelius.

THE new Auricula shown under this name recently at the Royal Botanic Society's show by Mr. J. Douglas, Great Gearies, Ilford, was a deep maroon self, with a well-defined white paste, and a narrow yellow throat. The whole plant was only about 3 ins. high, and the truss bore numerous flowers which were exceedingly pretty but small. They may, however, get larger as the plant gains in strength. A Floricultural Certificate was awarded.

New Cinerarias.

ADVANCE.—Flower-heads very large, with broad overlapping ray-florets. The latter are magenta-purple, with a white zone at the base surrounding the purple disk. SYBIL.—The flower-heads in this case are of medium size compared with those of Advance, but of a bright blue with a white zone round the small blue disk. WONDER.—Flower-heads of a deep purple verging on violet-purple, with a white zone round the purple disk. It is quite distinct from Advance. All of them are of dwarf compact habit, and were shown by Mr. J. James, Woodside, Farnham Royal, Slough, at the Royal Botanic Society's spring show, and were awarded Floricultural Certificates.

"IMPERIAL" PRIMULAS.

UNDER the title of "The Imperial Strain" Mr. Robert Owen, of Maidenhead, has several times this season exhibited blooms of a rich and varied assortment of Chinese Primulas, and on one occasion so fine was the sample exhibited before the Floral Committee that an Award of Merit was voted to it. We have ourselves also been favoured with blooms of Mr. Owen's later seedlings, which showed rare quality, and also well illustrated the fact that in the hands of the skilful hybridist there seems to be practically no limit to the endless tints or shades of colour into which the Chinese Primula will break. We have selected a few of the most novel flowers for illustration, but unfortunately for our readers cannot give any pictorial idea of the richness and beautiful combination of the colours displayed in them.

None of the flowers being identified by name, for convenience of reference in these notes we must refer to them by letters, and first of all comes A, an exceedingly meritorious variety, of which we give a front and side view to show the depth of the flower, which seems semi-double, owing to the excessive widening and lobing of the imbricated and undulated segments, one of which overlapped two others with one of its halves. The flower was 2¼ ins. in diameter without being flattened, and from 1 in. to 1¼ in. in depth. The ground-colour was pure white, with a light mauve lacing round the margin, and the six-lobed eye was golden yellow. The second illustration (B) shows a pure white flower with a broad mauve margin, and a large yellow eye forking in a curious manner on to the base of the segments. The next block (C) illustrates an exceedingly pretty flower, with a pure white ground a broad sub-marginal lacing of delicate peach-pink, and white tips to the segments. The lacing was very definite in outline, giving the whole flower a charming appearance. In D we have a large and much undulated flower of a most agreeable rose colour, marked with numerous small white dots. Around the five-lobed yellow eye, the rose ground colour faded into a pale, almost white shade. The flower was of great substance, although it did not equal A in the former respect. The fifth flower (E) was a violet-purple self, and a very good type, large, flat, and of good substance. The five-angled yellow eye was surrounded by a broad crimson line. Several other self-coloured flowers showed very intense vermilion and salmon-red hues. Mr. Owen has evidently been fortunate in his crosses to obtain so much success as a raiser in so comparatively short a time, and we shall look forward with interest to his next generation of seedlings.

A

A FINE TYPE OF CHINESE PRIMULA.

ROYAL AGRICULTURAL SOCIETY.—On Tuesday the Prince of Wales presided on behalf of the Queen at a State Banquet given at St. James' Palace by command of Her Majesty, to celebrate the fiftieth anniversary of the Incorporation of this society, of which, this year, Her Majesty is president.

GARDENING MISCELLANY.

New Plants and Certificates.

JUDGING from late observations, the power of the press is very great in directing attention to accidental irregularity or initial neglect in respect to new plants staged for certificates; as an instance of this we quote the blue Primrose lately exhibited. At the Royal Botanic Society's show on Wednesday, the 20th, we staged a very fine basket of our new Cineraria, Emperor Frederick, the entire stock of which was purchased by us from the raiser under the name of Alexander Warwick. To our surprise, and the astonishment of a great many others who knew the plant, and also knew that it had never been at the Royal Botanic Society before, no notice was taken of it by the judges. It would be interesting to know how it was possible for a plant of such a distinctive character, and of such great commercial value, to have been overlooked. Perhaps one of these gentlemen can explain what at present appears to be an oversight. If the plants remain in sufficiently good condition, we shall send them to the next show, when, perhaps, like the blue Primrose, they will be more successful.—*James Carter & Co., High Holborn, W.C.*

B

C

D

E

TYPES OF THE CHINESE PRIMULA.

Rhododendron Early Gem.

AMONGST the early-flowering Rhododendrons none probably is more easily forced than Early Gem, an improvement upon R. præcox, which is perfectly hardy, and flowers early in spring in the shrubbery border. The flowers are of a soft purple, but are larger and darker than those of R. præcox. Both of them differ in the shape of the flowers from those of R. ponticum type, inasmuch as they are widely bell-shaped and open. The chief recommendation of Early Gem is that it readily responds to forcing, and may be had in flower with the use of comparatively little fire heat. It naturally forms small bushy plants from 12 ins. to 18 ins. in height, and therefore proves very convenient for conservatory work. We noticed numerous specimens of it in the flowering plant house of Messrs. J. Veitch & Sons, Chelsea.

Narcissus asturicus.

THIS name has been given by Messrs. Barr & Son, Lower Tooting, to a form of N. Pseudo-Narcissus, comparable to the well-known type, N. pallidus præcox, in its early-flowering character, and in being in this case of a soft canary-yellow. Both the segments and the crown are coloured almost precisely alike. The flowers, however, are altogether smaller than those of N. pallidus præcox; and the variety, together with many other closely allied kinds collected by Mr. Barr, in Spain, were flowering in the grounds at Tooting long before the commoner types expanded a flower.

Calamus ciliaris.

OF the feather-leaved Palms, this is certainly one of the prettiest and most graceful when in a young condition. The stem is slender and erect, and the leaves somewhat thinly arranged along it; but they arch over gracefully, and certainly have a singularly feather-like appearance owing to the fineness and close arrangement of the divisions or pinnæ. They are of a light green, and furnished with erect, brownish, and soft hairs, not only at the margins, suggesting the specific name, but also all over the surface. It is one of the dwarfest of the species of Calamus, and grows very slowly compared with its congeners, so that it is specially adapted for cultivation in any ordinary-sized stove, whereas other kinds are liable to rapidly outgrow the space at their command. It is a native of the East Indian Islands. We recently saw some beautiful and healthy specimens of it in the Victoria and Paradise Nurseries, Upper Holloway, where it was grown in the same house as other fine-foliaged stove plants.

Begonia manicata aurea maculata.

THE ordinary type of this old-fashioned plant is a familiar object in many stoves and conservatories, which it serves to keep gay with its spray-like cymes of small pink flowers. The petioles of the leaves are also furnished with curious clusters of large, brown, horizontal scales, in an irregularly whorled manner, and are so noticeable as to form a conspicuous feature of the plant. The leaves arise from short, thick and fleshy slow-growing stems, and are stout in substance, and evergreen. The variety under notice differs only in being irregularly blotched all over with yellow markings. These are of various sizes and of different shapes, but not infrequently oval or round, reminding one of the old-fashioned, half-hardy plant best known under the name of Farfugium grande. It is flowering in Mr. B. S. Williams' nursery, Upper Holloway.

Luculia gratissima.

GARDENERS find great difficulty in the propagation of this plant by means of cuttings, which take a long time to develop roots. We noticed a fine batch of young plants in Mr. B. S. Williams' nursery at Upper Holloway. Many of them have been grown from cuttings taken from seedlings raised in the nursery. All look strong and healthy. More interesting it is to see L. Pinceana, which although a fine thing is very rare in cultivation. In general appearance it resembles L. gratissima, but the leaves are smaller, more leathery, smooth, and of a deep green colour. The flowers are much larger than those of the better-known kind, pure white, and more strongly fragrant.

Licuala Veitchii.

THERE is apparently some affinity between this species and L. grandis, now well known as a handsome decorative subject for the stove or conservatory. It will be remembered that the leaves of the latter are somewhat orbicular, but owing to a greater luxuriance of growth near the margin than in the middle, they become concave. Many cultivators, taking advantage of this peculiarity, reverse the concavity so that moisture may not be retained by them, and probably from fancy that the leaves become more ornamental by being convex above. L. Veitchii has roundly fan-shaped leaves that are nearly flat, with the margin divided into very short segments, so short indeed that the margin might be described as merely scolloped. They are borne on short spiny petioles, so that the plant is very compact. It is extremely rare, and we noticed what is probably the only plant in Britain in the nursery of Messrs. J. Veitch & Sons, Chelsea. It was imported direct from Borneo, is now about 18 ins. or 24 ins. high, and is furnished with eight fine leaves.

Chorozema flava.

THE dark-coloured species of Chorozema are so frequent in collections of greenhouse plants that a distinct and pleasing shade of colour would be afforded by C. flava, the flowers of which afford two distinct shades of yellow, as the standard, which is the largest and most conspicuous part of the flower, is of a bright yellow, while the wings are of a pale creamy yellow, almost white. The leaves are lobed and spiny at the margin, similar to those of the Holly, only on a smaller scale. The flowers being freely produced in axillary racemes, they exhibit a fine effect against the dark background formed by the foliage. The plant is as easily grown as the dark-flowered kinds, and requires to be trained in a similar way when it attains a large size, to keep it within the limits assigned to it. For the cool conservatory it is highly suitable.

Rhododendron nilagericum.

THIS showy Rhododendron may be described as a geographical variety of R. arboreum, which is a native of the Himalayas, attaining the dimensions of a small tree. As the name implies, R. nilagericum is a native of the Neilgherry Mountains, which are situated near the southern part of India. The leaves are much shorter than those of the type, deep opaque green above, and densely felted with rusty red hairs beneath. The flowers are moderately large compared with many of the magnificent Himalayan types, but are equal to those of the parent form. They are produced in the greatest profusion in dense heads or clusters, terminating the shoots; they are bell-shaped, of a charming rosy pink colour, thickly dotted all over the interior with purple. A fine specimen of it has been flowering for some time in the temperate house at Kew. The typical R. arboreum is also in flower, and has deep blood-red or almost crimson flowers. In a wild state on the Himalayas it occurs with white, rose, pink, scarlet-red, and other shades. In this country it has been much used for hybridising with R. ponticum and R. Catawbiense, many early-flowering kinds being produced as a result of it.

Agapetes buxifolia.

IN this beautiful greenhouse shrub we have an Indian representative of what is best known as the Whortleberry family. The latter is distinguished from the Heath family, in which some botanists include it, by the fruit being inferior—that is, situated below the calyx and other parts of the flower. The fruit is also baccate—that is, fleshy or pulpy like a berry. For horticultural purposes, however, the value of the plant depends on its tubular, showy, scarlet flowers, which are produced in axillary clusters along the shoots of the previous year. The leaves are somewhat similar in shape to those of Box, as the name implies; but they

are much larger, more leathery, and evergreen. The plant is valuable for cool conservatory work, where it comes into bloom in early spring, and lasts a long time in perfection. It is a pity that such beautiful hard-wooded plants are not more generally cultivated throughout the country; they constitute such a contrast to the commoner and widely cultivated soft-wooded subjects.

New Cyclamens.

FAUST.—The leaves of this curious variety are of a deep bronzy green, with bronzy red petioles. The flowers are also peculiarly dark, and for the want of a better term may be described as of a deep velvety crimson or maroon; they are also short, with broad segments. STRIATUM.—In this we have a new strain, which, if it can be perpetuated, will be a valuable acquisition. The flowers are deep reddish purple, with a broad white band slightly suffused with rose down the centre of each segment, and are certainly pretty. Both were exhibited recently at the Royal Botanic Society's spring show, and received Floricultural Certificates. The former was shown by Mr. J. James, Farnham Royal, Slough, and the latter by Mr. John Odell, Gould's Green. EMPRESS OF INDIA.—The foliage of this variety is slightly marbled with grey, and the flower-stalks are of a deep red. The blooms are of a rich maroon-crimson, with rather elongated segments. It was exhibited at the Crystal Palace, on Saturday last, by Mr. J. Odell, Goulds Green, Hillingdon, and received a First Class Certificate. He also showed Striatum, noted above, which was certificated; and Cyclamen Faust, exhibited by Mr. J. James, was also certificated at the same time.

Crocus vernus leucorhynchus.

THE lower part of the limb of this variety is pale lavender, while there is a large deep blue blotch just below the apex, which is pure white. The flower has a pretty and distinct appearance even when closed in the absence of sunshine, and a mass of them is very effective. Being a variety of C. vernus, it is notable for the shortness of the scarlet stigmas. It was shown by Messrs. Barr & Son, Covent Garden, at the Royal Botanic Society's spring show, and was awarded a Floricultural Certificate.

Colchicum arenarium.

MOST of the species of Colchicum flower in autumn, at a period when their fragile blooms are liable to be destroyed by heavy rains. A few of them flower in winter or early in spring, according to the nature of the weather. C. arenarium has been blooming for some time past in the nursery of Messrs. Barr & Son, Lower Tooting. The flowers are pure white, and about twice the size of C. crociflorum and C. luteum, also flowering alongside of it.

Adiantum Capillus-Veneris grande.

A NUMBER of small plants of this Fern was exhibited by Mr. T. Jannoch, Lily Nursery, Dersingham, Norfolk, at the recent Royal Botanic Society's spring show. The fronds are very compact, with overlapping pinnæ and pinnules. The latter are broadly wedge or fan-shaped, crisped, and noticeable for the dark or black colour of the principal veins traversing them at their base. It would appear from the firmness of the fronds to have been grown under cool treatment. A Botanical Certificate was awarded to it.

New Amaryllis.

THE undermentioned kinds were exhibited at the Royal Botanic Society's spring show, and received Floricultural Certificates. LUSTROUS.—From one bulb of this variety arose two scapes, each about 15 ins. high, and carrying in the aggregate eight flowers of medium size, but of great regularity and handsome. They were of a dark crimson-scarlet. MIRABELLA.—The flowers of this new kind are altogether lighter in tone, and thinly striated with scarlet on a white ground. OPTIMA.—Being one of the largest types yet obtained, this is decidedly the best of the three. It measured 9 ins. across the segments, which are of a rich crimson-scarlet, with a six-rayed greenish star at the base of the flower. The whole bloom is so spread out that there is scarcely any tube. All three were shown by Messrs. J. Veitch & Sons, Chelsea. DARK BEAUTY.—Two moderate-sized bell-shaped flowers were borne on a scape by this fine form. They were of an intense crimson, with a six-rayed greenish star on the lower half. The plant was exhibited by Messrs. Paul & Son, Cheshunt.

THE AMATEURS' GARDEN.

WALLFLOWERS IN POTS.

It is a great advantage to be able to cut Wallflowers in bloom at various periods during winter, as has been the case in various parts of the kingdom during the past autumn and winter. Owing to the comparative mildness of the weather at different times, the flowers have expanded with a wonderfully fresh appearance; but supposing that a quantity of the best shaped plants had been lifted and transferred to a greenhouse or cold frame, where they could have been protected from rough weather, the flowers would have opened with almost the same freshness as in April. Then, instead of cutting the flowers and transferring them to glasses filled with water, the plants themselves could be taken to the windows of dwelling-rooms, where the fragrance of the flowers could not fail to be appreciated. Then, again, the flowers would never present that crowded and unnatural appearance that is but too frequently the case when the flowers are cut and placed in vessels filled with water. The double dwarf German and some of the dwarf single yellow kinds, such as Belvoir Castle Yellow and Bedfont Yellow, are dwarf, very compact, and in every way suitable for pot-work when they have been grow properly. For dwarf plants 48-sized pots are the best.

CYCLAMENS.

The Persian Cyclamen, or its numerous improved garden forms, are now plentiful everywhere, so that amateurs, even if they cannot raise them, may be able to obtain specimens for their greenhouses or windows of the dwelling-house. The season may be greatly prolonged if watering is well attended to. Give weak liquid manure occasionally, to assist in the development of flowers which at present can only be seen as buds. Cyclamens are very prolific and keep up a succession for many weeks together, according to the treatment they receive. Unless seed is required, pull out the young seed vessels or the flower stalks as the blooms decay. Keep the plants well exposed to light at all times, and should the house be moderately warm, and in the case of dwelling-rooms not too dry, Cyclamens can hardly fail to give satisfaction.

PHLOX DRUMMONDI.

With the modern improvements that have been effected in this hardy annual, a display can be produced equal to that of Verbenas, which are much more difficult to grow and require fire heat to preserve them for many months in the year. If sown in pans stood in a greenhouse, or what is better, on a hot-bed, and afterwards pricked off into boxes 1 in. or so apart, nice, healthy plants can be had ready to plant out in May. When so treated they come into flower much earlier than when sown at once in the open ground. Besides, there is this danger, that in nine cases out of ten the seeds are sown too thickly, so that by the time they come in flower they are too crowded, and last but a short time in bloom. Their true value can never be seen under such unfavourable conditions, as the plants are weak and spindly, producing only single trusses of bloom, that can last but a short time. In planting out already established plants, about 9 ins. or 10 ins. each way should be allowed between them. This will permit of a proper exposure to light on all sides, while at the same time each plant will be able to obtain a proper share of nourishment, all of which will induce the plants to branch freely. The extension of the plant laterally furnishes side branches that come into flower after the primary ones are over, thus keeping up a succession of bloom till late in the autumn. A naturally rather moist but not shaded position should be selected for them.

CHRYSANTHEMUM NOTES.

TREATMENT OF PLANTS FOR EXHIBITION.

Those intended for exhibition purposes ought to receive daily attention from this time onwards. Young plants that have been rooted and still remain in the houses should be moved into cold frames forthwith, for the purpose of being hardened off. It is useless to expect good blooms from plants which have been coddled in a young state, the object should be to obtain sturdy short-jointed growth. Admit air at the back of the frames daily, and as soon as it is considered safe to do so, remove the lights entirely on sunny days. Shift on into larger pots before they become pot-bound, using a compost of three parts loam, one of horse-droppings, and one of leaf-soil, with a little bone-meal added thereto. Avoid over-watering for some time after shifting, and fumigate occasionally to keep down green-fly.—*H. J.*

THE GARDENERS' CALENDAR.

THE STOVE.

MEDINILLA MAGNIFICA.—Assist this plant with liquid manure while the panicles of flowers are being developed. Close attention must be paid to the inroads of insects, particularly mealy-bug, which takes up its quarters among the bracts and branches of the panicle to the ultimate disfigurement of both. In the early stages of the inflorescence, a brush dipped in a solution of Gishurst Compound may be used to remove the pest.

STOPPING THE SHOOTS OF EXHIBITION PLANTS.—Those intending to exhibit such things as Allamandas, Bougainvilleas, and Ixoras, at certain set times during the summer, should stop the young shoots about twelve weeks before they are required to be in flower. By this means the shoots will be so regulated as to come all into flower together, so that a greater display will be ensured than if allowed to grow unchecked throughout. To flower in twelve weeks' time, Ixoras, however, require a high temperature; but instead of that they may be stopped fifteen or sixteen weeks previous to the time they are wanted.

SHADING.—The sun is now gaining in power—that is, in the absence of heavy clouds and rain. It will therefore be necessary to have the blinds on the stove in readiness to guard against a sudden outburst of sunshine. In order to avoid universal shading, such things as Crotons and flowering plants generally should be arranged as much as possible at one end of the house, or, at all events, on the front staging, so that they may enjoy as much sunshine as possible. Fine-foliaged things, such as Anthurium crystallinum, Alocasias, and others of that class require shading, and should be grouped by themselves.

THE GREENHOUSE.

FORCED SHRUBS.—As Deutzias, Forsythias, Prunus, Lilacs, Viburnum, and Staphylea colchica go out of flower, they must not be shot under the stages, nor stood out in the open air, because so sudden a check to the tender growing shoots would destroy the chance of a good set of flower buds next autumn. What necessary pruning is required should be given immediately after flowering is over, so as to divert the energies of the plants to the production of strong vigorous young wood. A heated pit or a Peach house at work would prove a suitable place for them, where they should be kept syringed to induce them to break. Any re-potting that may be necessary could be done after the buds commence to push away. The Forsythias, Prunus, Lilacs, and Viburnum may simply be placed in a cold pit or frame till the weather becomes somewhat warmer outdoors, when they could be planted out. Laurestine will set its flower-buds much better if growth be well forwarded in a little heat before they are put out of doors. It may be hard pruned back after flowering is over, so as to keep it in shape and of convenient size.

AZALEAS.—A warm vinery is the most suitable place to transfer these from the show house. Remove all seed vessels, and shorten back straggling shoots to maintain regularity of shape. Both Indian Azaleas and those of the A. mollis type may be treated in the same way. Re-pot those requiring it. See that they are thoroughly clean before taking them into vineries. Syringe the underside of the leaves, especially if they show traces of thrip, to which the Indian section is particularly liable. A little paraffin in the water will effect a certain cure.

THE FORCING HOUSES.

VINERIES.—The fruit in the earliest house will now make rapid progress, and may be encouraged on bright days. A night temperature of from 65° to 70° may be given according to the state of the external temperature, allowing it to rise to 80° early in the day. Close early to economise sun-heat, and keep the evaporating pans well filled with farm-yard manure water, or a quantity of guano may be used instead or on alternate days. Ventilate early in the day, if the weather is at all favourable, so as to avoid scalding. In later houses where the bunches are just coming into flower, tap the rods gently several times a day so as to distribute the pollen. The first half of the day is the best time to do this, and at that period the atmosphere of the house should be tolerably dry.

THE KITCHEN GARDEN.

FIGS.—Where these are grown on open walls the pruning cannot be longer delayed, otherwise bleeding is apt to ensue when warm weather induces fresh

growth. Where a covering of any kind has been used this must be removed at once. Where space can be afforded, nail in last year's growths, as the finest and earliest fruits may be expected from them. Where they go beyond the summit of the wall they must be cut back, as little or no fruit can be expected without the heat engendered by a wall, except in the most favoured parts of the country.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

Any plants of Lælia anceps, L. autumnalis, L. albida, or other Mexican Lælias, which require re-basketing, had better be seen to at once, now that the plants are commencing active growth, for if the operation is deferred much longer, the brittle young roots will be more liable to get damaged. Either pans, baskets, or rafts are suitable for growing them in, and the most important thing to remember is that they must be made secure, so that they do not rock about, or they will not quickly re-establish themselves. As this section of Lælias requires less shade than almost any other Orchid, they should be afforded a situation where they can be syringed at least once a day while growing, and where they may enjoy the sunlight except for a few hours in the middle of the day. They require very little compost to grow in, but if a small lump of good fibrous peat and a bit of sphagnum be put under a batch of new roots, it will be fully appreciated by the plants. As the season advances they will require an abundance of water.

Calanthes which have commenced growing should now be potted. C. Veitchii, C. vestita rubro-oculata and C. v. luteo-oculata will doubtless be ready by this time, while C. Regnieri, C. Turneri and other late-flowering kinds may be potted later on. Any plants of Cattleya Eldorado which require a shift may be re-potted now that they are pushing young roots, and in the case of any of the Miltonia vexillaria which were not potted in the autumn, a little fresh stuff placed under the young roots, which are now being emitted, will prove very beneficial.

Any Odontoglossums which were in flower at the time the bulk of the plants were re-potted, and which were in consequence passed over, should be attended to without delay if they require shifting, so as to get them established before the hot weather sets in; but never re-pot a plant simply for the sake of doing so, and remember that as a rule something will be in the right state for re-potting every week of the year, without doing what is unnecessary. Potting plants in very large pots has been the curse of many collections in days gone by, and in contrast to this practice it is a pleasure to see the fine healthy plants grown in the leading nurseries and private places of the present day in comparatively small pots.—*W.P.*

Cattleya Trianæ ampliata.

The sepals of this variety are blush, the petals somewhat darker and undulated at the margins. The very large labellum with a wide lamina is rose-coloured, and much undulated or crisped at the margin, and is furnished with a small yellow blotch in the throat. It will thus be seen to come nearest to C. T. delicata and C. T. Schroderæ, to both of which it bears considerable resemblance. From the latter it differs in the lip being darker than the petals, and from both in the large lip and small pale yellow blotch in the throat. It was exhibited by Messrs. F. Sander & Co., St. Albans, at the spring show of the Royal Botanic Society, Regent's Park, when it received a Botanical Certificate.

Calanthe vestita oculata gigantea.

The last two names describe the distinguishing peculiarities of this species. The flowers are of great size, pure white, with the column and the base of the lip of a deep red, thus suggesting the name oculata. A specimen exhibited by Messrs. J. Veitch & Sons, Chelsea, at the spring show of the Royal Botanic Society, Regent's Park, bore two strong spikes, each about 3½ ft. high. A Botanical Certificate was awarded.

Angræcum Sanderianum.

Amongst the medium-sized Angræcums, none is more handsome or neater than that under notice. The leaves are short, light green, forming a compact tuft, nestling close to the basket or raft on which it is grown. The flowers are comparatively large, pure white, and borne in arching racemes that are very attractive. It was exhibited recently at the Royal Botanic Society's spring show by Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford, and received a Botanical Certificate.

Dendrobium crassinode albiflorum.

The so-called white variety of D. crassinode was first described botanically in 1875. It does not seem to be by any means common even yet, although it occasionally turns up at exhibitions. The large orange-yellow blotch on the lip persists in the variety D. c. albiflorum, but with this exception, the other parts of the flower are pure white. A specimen was exhibited at the Crystal Palace on Saturday last by Messrs. John Laing & Sons, Forest Hill. The flowers were of large size, good substance, and the yellow blotch well defined. A First Class Certificate was granted.

Dendrobium Schneiderianum.

The female parent of this hybrid was D. Findlayanum, of which it has the pale yellow nodose stems. The sepals and petals are white, tipped with a pale purple spot, as is the lip. The latter organ is the most conspicuous part of the flower, and is characterised by a large yellow blotch on the lower half, furnished with a brownish purple one near the base. In being broadly expanded, it shows its affinity to D. Findlayanum; but in the markings we note its relation to D. aureum, the male parent. It was exhibited by Messrs. J. Veitch & Sons, Chelsea, at the spring show of the Royal Botanic Society, Regent's Park, when it was awarded a Botanical Certificate.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*March 26th.*

As the season advances, the meetings improve, both as regards the number of subjects exhibited and the attendance of visitors, though the latter is still very far below what it should be. On Tuesday, besides a better representation than usual of stove and greenhouse plants, and such specialties as Hyacinths, Amaryllis, Cyclamen, Daffodils, and hardy herbaceous plants, there was staged a greater number of Orchids than usual, sent to mark, we suppose, the establishment of the long-talked-of Orchid Committee.

A Silver-gilt Banksian Medal was awarded to Mr. George Phippin, Reading, for a large group of Hyacinths, Tulips, Lily of the Valley, Richardias, Palms, Narcissi, Primula obconica, and other subjects of that nature. A Silver Banksian Medal was awarded to Messrs. J. Veitch & Sons, Chelsea, for a fine group of Hyacinths, Amaryllis, Boronia heterophylla, &c. Messrs. J. Laing & Sons, Forest Hill, received a similar award for a group of Clivias, Palms, Dendrobiums, Cattleyas, Ferns, &c. A like award was also made to Messrs. Barr & Son, Covent Garden, for a large group of Daffodils, neatly arranged on wire stands; also Crocuses, Scillas, Anemones, and others. Messrs. Paul & Son, Cheshunt, had a fine group of Alpines, White Lilac, Marie Lemoine, and other subjects; and a large group of Cyclamen persicum came from Mr. W. Hibburt, gardener to W. Clay, Esq., Grove Road, Kingston.

Amongst the Orchids exhibited was a fine group from Sir Trevor Lawrence (gardener, Mr. Bickerstaff), Burford Lodge, Dorking. It contained Spathoglottis Kimballiana, Cymbidium Devonianum, Dendrobium melanodiscus and others. Mr. G. Cummins, gardener to A. H. Smee, Esq., The Grange, Wallington, exhibited Cattleya Schroderæ alba, Masdevallia Chestertoni, Cyrtopodium Saintlegerianum and others. Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham, had a grand spike of Odontoglossum crispum Stevensi with eighteen flowers. Messrs. F. Sander & Co., St. Albans, showed a beautiful piece of Oncidium bifolium majus in a basket. A fine piece of Oncidium macranthum was shown by the Rev. E. Handley, Bath. A large plant of Cymbidium eburneum Dayanum was shown by Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford.

Four bunches of Brunsfelsia grandiflora, and a bunch each of Brownia grandiceps, B. coccinea, and B. c. hybrida, were shown by Mr. F. Ross, gardener to Sir Geo. Macleay, Pendell Court, Bletchingley. Some Cineraria blooms, and a basket of Cineraria Emperor Frederick, were shown by Messrs. J. Carter & Co., High Holborn. A beautiful group of richly-coloured hardy Primulas was exhibited by Mr. R. Dean, Ealing. A very interesting exhibit was made by Mr. H. J. Elwes, Preston, Cirencester, in the shape of the extremely rare Shortia galacifolia, and a variety of Tulipa Kaufmanniana, which might be taken in hand by the florist. A branch of the old Fortune's Yellow Rose, in flower, was shown by Mr. R. B. Lowe, gardener to Earl Brownlow, Great Berkhamstead.

Plants Certificated by the Floral Committee.

Amaryllis Terentian.—We have nowhere seen a more regular or beautifully-formed flower than this, which was exhibited by Messrs. J. Veitch & Sons, Chelsea, and awarded a First Class Certificate. On the top of a scape about 15 ins. high were three flowers, one of which was expanded, drooping, as round as a trumpet, and of an uniform intense crimson all over.

Clivia, John Laing.—The flowers of this variety are large, of good substance, and borne in large compact trusses, thrown well above the leathery foliage. They are of a lively bright scarlet, giving place to white, more or less tinted with yellow in the throat, and are very effective. A specimen was exhibited by Messrs. John Laing & Sons, Forest Hill, and it received a First Class Certificate.

Saxifraga Malyi.—In general appearance this resembles a very much improved form of S. luteo-purpurea, better known in some gardens under the German name of S. Frederici Gulielmi. It is larger in all its parts, and the small rosettes of deep green leaves, bearing each about five pores form a dense cushion. The cymes of clear primrose-yellow flowers are borne on stalks about 3 ins. in height. It was exhibited by Messrs. Paul & Son, Cheshunt, and awarded a First Class Certificate.

Primrose, Mikado.—Great improvements are being effected amongst hardy Primroses. The flowers of this variety are of great size and substance, deep crimson-purple, with a five-lobed yellow eye surrounded by a pale almost white line. A distinctive feature of the variety, however, consists in numerous short white lines or markings that chequer the margin. It is very robust and floriferous. A plant in a pot was shown by Mr. R. Dean, Ealing, and received a First Class Certificate.

Shortia galacifolia.—Exceedingly great interest attaches to this plant on account of its rarity, although, seeing that it is a native of the mountains both of Carolina and Japan, there is reason to believe that it once occupied a much wider area than it now does, and that it is well on the way to extinction. It belongs to the Diapensiaceæ, a family of Alpine plants, and bears on the top of scapes from 2 ins. to 4 ins. in height, a large solitary drooping flower, which is white slightly tinted with blush, and has the segments of the corolla beautifully crenate at the edges. The calyx is salmon-red. The plant is well adapted for cultivation in pots, and forms a dense tuft of orbicular, toothed, leathery, evergreen leaves. It was exhibited by H. J. Elwes, Esq., Preston, Cirencester, and received a First Class Certificate.

Awards of the Orchid Committee.

Dendrobium micans.—The specific name of this hybrid means glittering. It has been derived from Dendrobium Wardianum crossed with D. lituiflorum, and in its long, rather flexuous stems of medium thickness it shows characters intermediate between the two parents. Its flowers, however, resemble those of a greatly enlarged and improved D. lituiflorum. The sepals are white with purple tips, while the latter colour is carried almost half way down the petals. The lip is very pretty, and has a large deep purple blotch in the throat, surrounded with a white band upwards, and tipped with purple. A specimen was shown by Messrs. J. Veitch & Sons, and received a First Class Certificate.

Oncidium superbiens.—This Orchid belongs to the group Microchila on account of the smallness of the lip, and in habit and other respects it is allied to O. macranthum, with long twining flower stems. The sepals are of great size and of a rich shining brown. The petals are roundish, rather shorter and broader, white, with numerous transverse brown bands on the basal half. The small brown lip has a purple and white crest. A fine plant was exhibited by Sir Trevor Lawrence (gardener, Mr. Bickerstaff), Burford Lodge, Dorking, and it received a First Class Certificate.

Cattleya Trianæ var.—An Award of Merit was granted to Mr. Bruce Findlay, Botanical Gardens, Old Trafford, Manchester, for a fine variety of Cattleya Trianæ in the way of C. Backhousiana.

At a meeting of the Fruit Committee, a Cultural Commendation was accorded to Mr. W. Palmer, gardener to W. F. Hume Dick, Esq., Thames Ditton. Mr. W. T. Brown, Peterborough, showed a dish of Shillaker's Seedling Apple.

Afternoon Meeting.

At the afternoon meeting, over which Mr. D. Morris, Kew, presided, a number of Fellows was elected, and papers were read by Mr. Kersten, of Haarlem; Mr. Banaart, of Vogelenzang; and Mr. James Douglas, on the subject of the Hyacinth, its history and cultivation

in Holland and at home. On the motion of Mr. R. P. Ker, of Liverpool, a hearty vote of thanks was given to the gentlemen named. At the next meeting Mr. F. W. Burbidge, Dublin, will lecture on the Daffodil.

Crystal Palace.—*March 23rd.*

THE spring show which took place on Saturday last, if not so large as on some previous occasions, was, in general, equal in quality to those of former years, with the exception of the leading classes of bulbs, such as Hyacinths, Tulips, and Narcissi, which are grown in the open air, and which are deficient in substance owing to the unfavourable nature of last season—circumstances beyond the grower's control.

Messrs. J. Laing & Sons, Forest Hill, had decidedly the best group of stove and greenhouse plants, having a fine batch of Palms, Aralias, and Orchids. Mr. H. James, West Norwood, was second; and Messrs. H. Williams & Sons, Fortis Green, Finchley, were third. Mr. C. Nunn, gardener to J. Soames, Esq., J.P., Maize Hill, Greenwich Park, had the best group of greenhouse Azaleas, which were globular, fairly well-flowered bushes; Mr. R. Wells, Longton Nursery, Sydenham, was second. In the nurserymen's classes, Messrs. H. Williams & Sons were the only competitors with Hyacinths, Tulips, and Narcissi. In the amateurs' classes, Mr. J. Rodbourne, gardener to Baroness Heath, Coombe House, Croydon, had the best Hyacinths, and Mr. W. Monk, gardener to G. R. Higgins, Esq., Eastlands, Dulwich, had the best Tulips and Narcissi. Messrs. Paul & Son, Cheshunt, were the only exhibitors of Amaryllis. Cyclamens were especially good, and Mr. D. Phillips, Langley Broom, Slough (whose plants were in 24-sized pots), took the first prizes both in the open and the amateurs' classes. Mr. J. Ford, gardener to Sir Charles Piggot, Bart, Wexham Park, Slough, took the first prize for Cinerarias in the open class. His plants were large and well flowered. Mr. A. Carter, gardener to Alderman Evans, Ewell Grove, Surrey, had the first prize in the amateurs' competition. Messrs. J. Laing & Sons took the first prize in the open class for Lily of the Valley with beautiful and dwarf specimens; but Messrs. H. Williams & Sons' pots were above the stated or regulation size, and although their plants were much taller they were placed second. Mr. T. N. Penfold, gardener to the Rev. Canon Bridges, Beddington House, took the first prize in the amateurs' class. Mr. D. Phillips had the best eighteen pots of Mignonette; and Mr. J. R. Bird, gardener to J. A. Causton, Esq., West Dulwich, had the prize for tree Mignonette.

In the miscellaneous class Mr. B. S. Williams exhibited a group of Palms, Clivias, Cyclamens, and Chinese Primulas. Messrs. Wm. Paul & Son, Waltham Cross, showed twelve boxes of cut blooms of a varied assortment of Camellias. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, had a large collection of Daffodils, neatly arranged on wire stands, besides Lilium longiflorum Harrisii and other herbaceous subjects. Messrs. Paul & Son, Cheshunt, had a collection of forced Roses, herbaceous and Alpine plants. The St. George's Nursery Company, Hanwell; Mr. J. Odell, Gould's Green, Hillingdon; and Mr. W. Hibburt, gardener to W. Clay, Esq., Kingston, exhibited groups of Cyclamens. Mr. J. Rodbourne had a group of Primula obconica and fine baskets of Lachenalia tricolor.

Manchester Royal Botanical.—*March 19th.*

A VERY large show and a great success was the annual spring exhibition of this society held on the above date in the Town Hall. The place of honour below the great organ was occupied by a superb collection of plants shown by Mr. Blair, gardener to the Duke of Sutherland, to whom the society's Gold Medal was awarded. It included a very fine selection of Orchids, very conspicuous among which was a number of Dendrobium Wardianum in full bloom. The flowers were set off to the best advantage amid a wealth of Ferns, Palms, and other plants. At the south side of the Duke's collection was a charming plant in full flower of Clerodendron Balfourianum, exhibited by Mrs. Shaw, of Rose Hill, and next to this was a stand of Messrs. Ryder & Son, the chief attraction of which was Skimmia Foremani, a new variety of the Japanese Skimmia, raised at Eskbank Nursery, Midlothian. The collection of Messrs. Dickson (Limited), Chester, adjoined this specimen, and a grand collection it was. The Daffodils were splendid, among them being Sir Watkin, Horsfieldii, Empress, Emperor, Triandrus, and others. Dividing this stand from the collection of the Liverpool Horticultural Company was an interesting display of flowers grown in the open at Sunny Hill, Llandudno, including Narcissus, Wallflowers, Snowdrops, Violets, and Polyanthus—altogether a fine collection. The display of the Liverpool Horticultural Company could not fail to strike the beholder with their bright and beautiful colours, betokening healthy conditions and a favourable light. Adjoining was a fine show of Hyacinths by Messrs. Dickson, Brown, & Tait. There were no fewer than sixty varieties on view, all well bloomed, and presenting an attractive appearance. The Royal Botanical Society staged some Azalea mollis, Hyacinths, Tulips, and Rhododendrons, also a few choice Orchids and some handsome ornamental plants. Messrs. W. Cutbush & Son received a Certificate of Merit for an excellent show of Cyclamens, Azaleas, Hyacinths, Lilies of the Valley, &c. Mr. Thomas Statter, of Stand Hall, Whitefield, also obtained a Certificate of Merit, for a collection which included some rare varieties of Orchids. Next to this table was another charming display from Llandudno, this time by Mr. Samuel Barlow, of Shimdda-hir, consisting for the most part of seedling Primroses grown in the open garden. Mr. James Mason, of Victoria Street, Manchester, had six very handsome specimens of Cœlogyne cristata in full bloom. They were greatly admired. Messrs. Richard Barker & Co., of Frampton, Boston, Lincolnshire, had a good collection of Daffodils; and Mr. James Marston, of Warrington, who obtained a First Class Certificate, had a noticeable display of Hyacinths and Primulas.

Preston and Fulwood.—*March 20th and 21st.*

THE eleventh spring show of this flourishing society was opened in the large Public Hall, Preston, on the 20th inst., by the president of the society, A. Tallis, Esq. Taken on the whole, the show was by far the best ever seen in Preston, and although the bulbs, as usual this season, were not so good as we have seen them, the slight falling off in that direction was amply compensated for by the superiority of the other productions, and the increased number of competitors. Without doubt, the great feature of the show was the group of Orchids and Ferns staged for the ladies' prize by Mr. G. Beddoes, gardener to E. G. Wrigley, Esq., Howick House, Preston, which occupied a space 21 ft. by 6 ft., and contained 104 Orchids, interspersed with Pteris and Adiantums of graceful forms. Cattleya Trianæ was shown in great variety, including C. T. alba. The same exhibitor was also first in the classes for stove Orchids, and for a single specimen with Dendrobium nobile, having from 400 to 500 flowers, Lycaste Skinneri with fifteen, Cattleya Trianæ with thirteen, and Dendrobium Wardianum. Mr. Parker, whose only glass accommodation is a greenhouse in his back yard in the town, was second in each of the two latter classes, his single specimen being Odontoglossum Rossii majus with seventy flowers. In the nurserymen's competition with groups staged for effect, in a space not to exceed 100 ft., there were three competitors, and the prizes went to Mr. Payne, Fulwood; Mr. Troughton, Walton; and Mr. Winwood, in the order named. In the corresponding class for amateurs, J. B. Dixon, Esq. (gardener, Mr. John Sharpes), was first; and J. Whitehead, Esq., Penwortham Priory (gardener, Mr. J. Williams), came second.

The best groups of twenty-four single and double Hyacinths staged by nurserymen came from Mr. Payne, Mr. Winwood being second in both competitions. In the amateurs' contest with the same number of plants Mr. Thomson, gardener to W. P. Sinclair, Esq., Liverpool, had the best doubles, and Mr. C. Waring, gardener to Mrs. Aiken, the finest singles, while Mr. Robinson, gardener to L. Rawstone, Esq., Penwortham, staged the best dozen single varieties. In other classes Mr. Robinson staged the finest Indian and Mr. Beddowes the best hardy Azaleas; the last-named exhibitor also securing a first prize for a dozen splendid cut Roses; J. B. Dixon, Esq., the highest award for Deutzias; and Mr. C. Lamb, gardener to R. Smith, Esq., Longridge, was similarly successful with dinner-table plants. The special prize for Narcissus was taken by Messrs. Barker & Co., Frampton, Boston, with the same collection as they had at Manchester. A special prize was awarded to Mr. G. Ramsbottom, Curator of the Preston Parks, for a fine group of plants; and a handsome wreath was contributed by Mr. Troughton. Mr. Frisby, gardener, Worden Hall, secured the highest award for six dishes of vegetables, Mr. P. Rigby, gardener to J. Smith, Esq., being second. Mr. Frisby also had the best sample of forced Rhubarb, M. B. Copland, Esq., coming in a good second. In the afternoon the president entertained the committee and a number of other gentlemen at luncheon.

THE NURSERY AND SEED TRADE.

FROM "THE LONDON GAZETTE."

PARTNERSHIP DISSOLVED.—B. Maller & Sons, Nurserymen, High Street, Lewisham, so far as regards T. J. Maller.

ADJUDICATION IN BANKRUPTCY.—Thomas Morrison, Seedsman, High Street, Carnarvon.

MEETINGS OF CREDITORS.—W. G. Clarke, trading as Grayson & Co., Bury St. Edmunds. Liabilities, £1,558 10*s.* 8*d.*; assets, £160. Meeting, 20th March, 1889. Offer 4*s.* in £.—Thos. Gretton, South Norwood. Liabilities, £162 12*s.* 4*d.*; assets estimated at £122 12*s.* 6*d.* Adjourned.—Benjamin Field, Paragon Road, London, S.E. Liabilities, £2,078 16*s.* 11*d.*; assets, £607 1*s.* 6*d.* At the first meeting of creditors, on the 27th inst., the Official Receiver was appointed trustee.—Henry Stringer, late in partnership with James William Abull, Aldrington, Sussex. Partnership: Liabilities, £696 14*s.* 11*d.*; assets, £10. Separate estate: Liabilities, nil; assets, £22. First meeting at Brighton, 29th March, 1889.

THE SEED TRADE.—*March 25th.*

Messrs. Hurst & Son, 152, Houndsditch, E., report no quotable change in Agricultural Seeds, with the exception of Trefoil, which has advanced 5*s.* per cwt. Thus all other Clovers are in good request. Rye Grasses unchanged. Tares easier. Bird Seed steady.

QUESTIONS AND ANSWERS.

ASPARAGUS.—*Omega:* Two year old plants are the strongest and best, and by planting them you will save twelve months of the time required to grow into cutting size. Your other question next week.

BOOKS.—*C. Leeson:* Burbidge's *Domestic Floriculture and Floral Decorations*, or Miss Hassard's *Floral Decorations for the Dwelling House.*

BOOK CANVASSERS.—*J. A.:* If your statement is correct, and when writing your name in the canvasser's book you did not sign an order form or undertaking to take more than the one number, as you may have done unwittingly, of course you need not take more than you have paid for. What you should do is to refuse delivery of any further numbers until you receive from the man or his employer a copy of the order you have given, if any. When you get this let us know, and we will advise you again.

BRUSSELS SPROUTS.—*Enquirer:* Plant the autumn-sown plants by all means for an early crop, but you must have spring-sown ones for the general and late supply.

ERRATUM.—At p 471, in the first column, twentieth line from the top, for "Dock" family read "Dogwood" family.

LAPAGERIA ROSEA.—I have a large specimen of this plant in a pot, and intend exhibiting it at a flower show in July. At the present time it is growing vigorously, and my intention is to top the shoots at a date prior to July, in order to cause a more rapid development of the flowers, so as to be in good condition by that time. Can any correspondent give me the desired information as to the exact date at which I should top the shoots? The plant is, of course, grown in a greenhouse.—*A. W.*

LATE CHRYSANTHEMUMS.—*Pickering:* It is not usual for such varieties as Lilac Christine and Julie Lagravère Chrysanthemums to be in flower at this (March 25th) period of the year, but the fact of your having one plant of each variety in bloom now proves that it is only a question of cultivation to get them so late.

MIGNONETTE.—*J. Wogan:* The most suitable size of pot in which to grow Mignonette is 5 ins. or 6 ins. as may be most convenient to you. Fill them with a compost consisting of loam two parts, well-rotted manure one part, old mortar rubbish one part, with some sand to keep the soil open. The latter may not be necessary, provided the mortar rubbish is pretty good, as Mignonette is partial to lime or chalk. Make the soil quite firm, sow the seeds thinly, and cover with a small quantity of the same material. After germination, and when the seedlings have commenced to show which are to be the strongest, thin them out, leaving from five to seven of the best to flower in the same pots in which they were sown. The plants may be grown to a much larger size individually, if thinned out to two or three as you suggest; but there would be more failures amongst the plants to fill the pots so well as when five or eight are retained. Do not pinch out the tops for the purpose of causing them to branch, as you will thereby lose the terminal and best spike of bloom. Give manure water when they begin to fill the pots. If the plants give promise of being particularly strong, you may reduce the number to three to allow them to branch freely.

ODONTOGLOSSUM HALLII.—*Alex. Chalmers:* The leaves you sent us of Odontoglossum Hallii are affected with black spot, such as is frequent amongst the Masdevallias. The leaves of the latter are much thicker and more fleshy than those of Odontoglossum, so that the spot becomes blacker. In both cases the evil commences on the under side of the leaf, and apparently originates at the stomata, which in the specimen you sent us are discoloured and wide open, as if their functions were deranged, which they no doubt are. From thence the evil progresses inwards, disorganising the protoplasm and destroying the starch and chlorophyll granules, so that the whole becomes of a deep brown. By examining a piece that is just commencing to turn

brown, you will see that small black but isolated punctures appear. This spreads till the whole surface is brown; the evil penetrates inwards until it shows itself on the upper side of the leaf, which is thinner in Odontoglossum than in Masdevallia. Even in the latter, the spot ultimately appears, but more sparingly, on the upper side of the leaf. All that we can suggest is that the atmosphere of the house in which your plants are grown was too cold, moist, and stagnant. Your statement that the disease spreads most rapidly during the dull winter months quite agrees with our idea of the origin and increase of the spot. The atmosphere of your house should be kept somewhat drier and more airy by the application of artificial heat and ventilation.

TOMATOS.—*Walter Shaw:* In order to preserve your Tomatos true to name, you must fertilise each variety with its own pollen, and the pollen from the self-same flower may be used, or that taken from another flower on the same plant, which will give the resulting seed the benefit of a cross. Use a camel's-hair brush to transfer the pollen. Some cultivators complain that the pollen is very scarce, but this is often the result of keeping the house too close and moist. During summer the house should always be well ventilated, and the atmosphere kept thoroughly dry. Under these conditions the pollen will be plentiful.

WAGES, &c.—*A Subscriber:* The rate of wages given to apprentices depends entirely upon circumstances, chiefly local, and may range from 5*s.* to 10*s.* per week, with or without bothy accommodation. Journeymen's wages are exceedingly variable, ranging from 12*s.* to 20*s.* according to the place and the liberality of the employer, but we do not know of many places where 20*s.* is paid, the average being about 15*s.* or 16*s.* In the nurseries, young men waiting for situations get less than in private places, but good men who stick to the nursery business command better terms.

COMMUNICATIONS RECEIVED.—W. B. G.—H. J. V.—R. D.—C. H. S.—W. A. A.—D. P. L.—E. J. H.—J. F.

TRADE CATALOGUES RECEIVED.

A. M. C. JONCKINDT CONNINCK, Dedemsvaart, near Zwolle, Holland.—Wholesale List of Conifers, Fruit Trees, Hardy Perennials, &c.

LITTLE & BALLANTYNE, Carlisle.—Farm Seeds.

CHARLES SHARPE & Co., Sleaford.—Farm Seeds and Seed Corn.

J. CHEAL & Sons, Lowfield Nurseries, Crawley, Sussex.—Spring List of Dahlias.

THE WEATHER.

AT the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending March 23rd was 29·58 in.; the lowest reading was 21·82 ins. on Wednesday afternoon, and the highest 30·13 ins. on Saturday morning. The mean temperature of the air was 42·5°, and 1·0° above the average in the corresponding weeks of the twenty years ending 1868. The mean was below the average on Thursday and Friday, but showed an excess on each of the other days of the week. The direction of the wind was variable, and the horizontal movement of the air averaged 13·4 miles per hour, which was 0·5 of a mile above the average in the corresponding weeks of sixteen years. Rain fell on three days of the week, to the aggregate amount of 0·46 of an inch. The duration of registered bright sunshine in the week was 18·4 hours, against 17·3 hours at Glynde Place, Lewes.

COVENT GARDEN MARKET.

March 27th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Cobs .. per 100 lbs.			Pine-apples, Eng., lb.	1 0	1 6
Grapes .....per lb.	1 6	5 0	Strawberries.. per lb.	8 0	12 0

Canadian and Nova Scotia Apples, per barrel, 7*s.* to 17*s.*

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus....per 100	14 0		Horse Radish, bnndle	3 0	5 0
Beans, French, per lb.	2 0		Lettuces ..per dozen	1 6	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages.... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes ..per dozen	1 6	
			Small salading, punnet	0 4	
Celery....per bundle	3 0		Spinach, per strike ..	2 0	
Cucumbers ....each	0 9	1 0	Tomatos ....per lb.	1 3	2 6
Endive, French, doz.	2 6	3 6	Turnips ....per bun.	0 6	

POTATOS.- Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemone, French, per doz. bunches.	2 0	4 0	Pelargoniums, 12 spys.	1 0	1 6
Arum Lilies, 12 blms..	2 0	4 0	— scarlet ..12 sprays	0 6	0 9
Azaleas ....12 sprays	0 6	1 0	Paper White Narciss, French, doz. bunches	4 0	8 0
Bonvardias, per bun.	0 9	1 0	Primroses..doz. buns.	0 6	1 0
Camellias, white, doz.	2 0	4 0	Primula, double, bun.	0 9	1 0
— coloured..... ,,	0 6	1 6	Ranunculus, French, per doz. bnchs.	2 0	4 0
Carnations, 12 blooms	2 0	3 0	Roman Hyacinths, French, 12 bun.	1 0	3 0
Cyclamen..12 blooms	0 4	0 9	Roses, Tea, per dozen	1 0	3 0
Daffodil, dble., 12 bun.	4 0	6 0	— Red .....per doz.	4 0	8 0
— single, various	4 0	9 0	— Red, French, dozen	2 0	3 0
— or Lent Lily ,,	3 0	6 0	— Saffrano ..per doz.	1 0	3 0
Encharis ..per dozen	4 0	6 0	— Safrano, French per doz.	1 0	2 0
Gardenias, 12 blooms.	5 0	9 0	Tuberoses, per dozen.	2 0	3 0
Heliotropes, 12 sprays	0 6	1 0	Tulips ....12 blooms	0 6	1 0
Lapageria, 12 blooms	2 0	4 0	Violets ..12 bunches	1 0	1 6
Lilium longiflorum, 12 blooms	4 0	6 0	— Parme. French, bun.	2 6	3 0
Lily of the Valley, 12 sprays	0 6	1 0	— Czar, French ,,	1 6	2 0
Maidenhair Fern, 12 bns	6 0	9 0	— Dark ,, ,,	1 0	1 6
Marguerites, 12 bun.	3 0	6 0	Wallflowers, 12 bnchs,	4 0	8 0
Mignonette, 12 bun.	4 0	6 0	White Lilac, French, per bun.	4 0	6 0
Mimosa, French, per basket	4 0	6 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	6 0	18 0	Foliage Plants, various .....each	2 0	10 0
Arum Lilies..per doz.	9 0	18 0	Genista ....per dozen	9 0	12 0
Azalea.....per doz.	18 0	42 0	Hyaciuths ..per doz.	6 0	9 0
Cineraria ..per dozen	6 0	10 0	Lilies of the Valley, per doz.	12 0	24 0
Cyclamen ..per doz,	9 0	18 0	Marguerites per doz.	6 0	12 0
Cyperus, ..per dozen	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz.	30 0	60 0	Pelargoniums, scarlet, Pinks, &c., per doz.	6 0	9 0
— viridis, per dozen	12 0	24 0	Primula sinensis, doz.	4 0	6 0
Erica, various ..doz.	9 0	24 0	Solanums....per doz.	6 0	12 0
Evergreens, in var., per dozen	6 0	24 0	Tulips ..... per doz.	6 0	9 0
Ferns, in var., per doz.	4 0	18 0			
Ficus elastica ..each	1 6	7 0			

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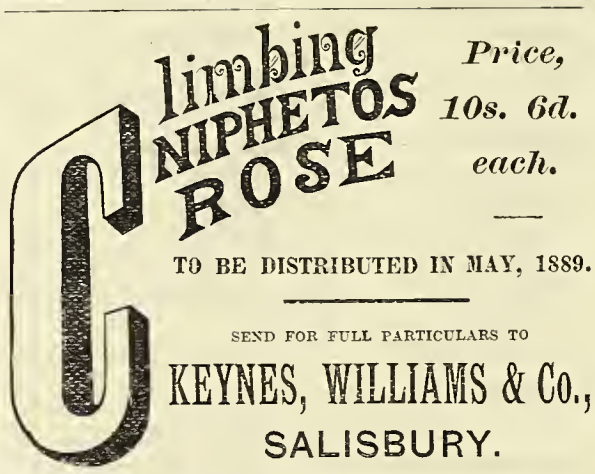

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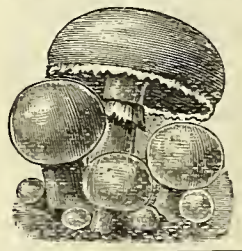

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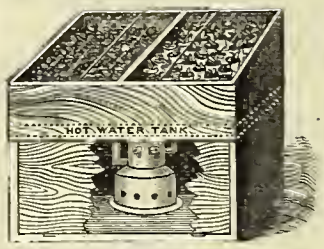

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TUESDAY, April 9th. — Royal Horticultural Society: Fruit and Floral Committees at 11 a.m.; General Meeting at 3 p.m. Sale of Mr. J. H. Bath's Orchids at Protheroe & Morris's Rooms.

WEDNESDAY, April 10th. — Royal Botanic Society: Second Spring Show. Sale of Ferns, Greenhouse Plants, &c., at Protheroe & Morris's Rooms. Sale of Mr. H. J. Buchan's Orchids at Stevens' Rooms.

THURSDAY, April 11th. — Flower Shows at Birmingham and Newcastle-upon-Tyne. Sale of Mr. Buchan's Orchids at Stevens' Rooms.

FRIDAY, April 12th.—Sale of Established Orchids from Clovenfords at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, APRIL 6, 1889.

CURRENT TOPICS.

ADVANCING SPRING.—We are now in April, practically the ancient month of spring, and with soil so far working admirably, there is every encouragement offered to work in all directions. Generally, the winter has left the soil in excellent condition. It is perhaps rather too stiff where clay enters largely into its composition, but clay always is a tough, obstinate element in soils, and must ever be looked for to exhibit an unkind aspect. But generally there is little to complain of, and therefore seeds are going in remarkably well. But in spite of all these favourable conditions, Nature herself moves very slowly. Possibly there may be a great burst presently, but on the whole we do not care for bursts, as they are, in our uncertain climate, seldom desirable. We want to see Nature unfolding her charms slowly, but still sensibly, so that growth, being gradual, may be all the more safe.

All who have watched the progress of hardy fruit trees and bushes must have realised the backwardness of movement which characterises the season, thereby have we seen less progress in any year for the date than now, and at the present rate, bloom will be very late indeed. It may be urged that the later the movement

the more likely to escape frosts; but on the other hand, bloom development too long restricted may act adversely on fertilisation, whilst it is certain that our summers are all too short to enable fruits to swell and mature effectually; and it is needful that an early start in mulching should be made, if the short summer is to be fully utilised. Of course Nature is waiting the development of her meteorological moods. They are erratic, but so far are also cold, and anything but helpful to vegetable growth. Ere the month is out we trust to see a great change in vegetable development, but of late, time seems to have flown fast, and the expected movement has been left all behind.

Pepper-box Gardening.—Our contemporary, the *Gardeners' Chronicle*, gave its readers last week an admirable illustration of a lovely scene in America defiled with a wretched piece of Dutch or Italian gardening. A series of grassy terraces, rising from the margin of a grand lake, are dotted in the most deplorable fashion with Yews, Spruces, Pinus, &c., clipped into numerous pepper-box, extinguisher, doll's-house, and other distorted shapes and outlines. The garden thus presented affords an admirable illustration of what to avoid in horticulture. Happily, in England, we have got a long way beyond that sort of thing. Some old places—Hatfield, Elvaston, and Levens, for instance—still show their Dutch origin; but all modern gardens exhibit a more refined taste—a higher appreciation for that which is graceful and natural.

Apart from the great amount of labour thus worse than wasted on the annual pruning or clipping of these trees, which could be so much better utilised, it is not possible to do other than deplore the existence of a taste that exhibits itself in deforming rather than in assisting the natural development of trees. With the exception of clipping hedges, which are planted specially to produce shelters or screens, there seems to be no more improper use to put the shears than to use them in destroying that graceful beauty in form and growth that Nature lavishes upon trees and shrubs.

If in any natural water scene, whether of lake or river, the product of Nature herself be studied, not only do we find neither stone balustrade, however handsome, nor regular turf terraces rising one above the other with painful precison, still less trees and shrubs dotted and individualised in any way, but rather we see bold masses of vegetation sweeping down to the water's edge, rich variety of form and habit in tree and undergrowth, and aquatic and terrestrial flowers in varied profusion and intermingling. To improve upon what Nature does so charmingly should be the aim of the true landscape gardener.

The Sugar Bounties. — No one interested in hardy fruit culture can view the grave politico-economical question involved in our trade in sugar with other than apprehension. As most of our readers are aware, a convention has recently been entered into between our own and certain foreign Governments with respect to bounty-aided sugar, and it is anticipated that should the convention be ratified by Parliament, the price of sugar may be considerably enhanced. That matter is not one of party politics, it is one of international trade, and very serious consequences may ensue to those trades which, using sugar largely, convert hardy fruits into wholesome and cheap preserves, if sugar be made dearer owing to the convention. Jams and similar fruit compounds depend for ready sale to the public on their cheapness, and even if the price be enhanced owing to any restriction on our sugar imports by but 20 per cent., very serious consequences both to the jam trade and hardy fruit growers will ensue.

The convention has grown out of complaints made by a few thousand of home refiners that so large a sum as £9,000,000 is paid by foreign Governments as bounties to their own growers and refiners, hence the bounty system has made sugar so exceptionally cheap, that it does not pay to refine it here. On the other hand, it is held that with improved methods of refining here, there is still good trade to be done, also that cheap sugar has encouraged the growth of other trades which employ double the number of persons injuriously affected by the bounties. That we get the full benefit of these foreign bounties, which none the less are very foolish, is undoubted; as sugar is so cheap that the consuming nation is literally saving millions yearly, whilst valuable trades have been encouraged. To refuse to accept bounty-aided sugar, whilst it can do refiners at home little good, must inflict a serious pecuniary loss upon the nation. Fruit growers ought to be alive to the importance of the matter. What do our Fruit Growers' Associations say, for this is worthy of deep consideration?

The Hyacinth Papers.—Had the Council of the Royal Horticultural Society adopted our recent suggestion as to having but one paper only read at their Drill Hall meetings, an almost veritable fiasco would have been saved them. At the recent meeting three long and very elaborate papers on Hyacinths were read, all covering the same ground, a result absolutely unavoidable unless some special understanding between the readers is arrived at beforehand. The first paper, that by Mr. Kersten, was, for a Dutchman, read in excellent style, and was also written in admirable English. It seemed to say all that was needful. It was clear and very well enunciated. Mr. Barnaart's delivery was unhappily deplorable, and not one word in twenty could be heard ten feet from the reader. His paper occupied some thirty minutes, and thoroughly wearied the audience. Mr. Douglas, who followed, necessarily did so under disadvantages, and the wearied audience, now wonderfully reduced, were all heartily glad when all was over. These are not quite the sort of reminiscences we wish to have of the gatherings, which should not be prolonged, and should be made as bright and lively, as well as instructive, as possible.

London Fog.—The Scientific Committee have a hard nut to crack in undertaking to inquire into the composition of London fog, and its effects upon tender flowers, especially Orchids, during the winter months. We hope that one of the products of this inquiry, which is of a most practical and valuable kind, will be a chemical analysis of metropolitan fog. We know that, to a certain extent, it consists of moisture, or a state of vapour, of smoke, and of solids held in suspension, though in a remarkably finite state, until settled upon the earth, on vegetation, or upon structures. Plants of many kinds out of doors exhibit the effects of fog constituents most adversely. Glasshouses also exhibit the effects of fog deposits deplorably; indeed, the glass becomes literally coated with a greasy sooty deposit which it is very difficult to remove. Unless some check be given to this fog development, we shall have to remove our glasshouses out of its injurious area.

Lawn Grass Seeding.—We met, a day or two since, with an advertisement in a provincial paper, in which a noted seed firm in the south of England specified the quantity of 2 lbs. of seed as sowing five square yards of ground. That seems a trifling quantity of seed, of course; and the fact may pass without question until it is tested at the rate per acre. Now an eminent London firm specifies three bushels of seed, in round figures about 70 lbs., we believe, as the required quantity of seed per acre to form a good lawn, and they would hardly err on the side of restriction. Thus the cost of seed per acre would be, at that rate, for a relatively good selection, about 70*s*. In the provincial case, the disproportion is so great as to lead to the inference that a grave mistake has been made. Five square yards is a little less than a single rod of ground, and as there are 160 rods to the acre, some 320 lbs. of seed would be required, at a cost of at least £15. As just now is the very best time for sowing Grass seeds for lawns, it would be interesting to have this matter made straight for the satisfaction of those who may purpose employing seed in lawn-making.

Bulbs on Lawns.—The practice of planting clumps of bulbs on, or rather beneath lawns is still favoured in some gardens, and when done in a legitimate way leaves little to find fault with. We term it legitimate, plainly, when the clumps of bulbs are on the margins of lawns, or beneath or close to the overhanging branches of trees, or margins of large beds of shrubs, &c. But when these groups of Snowdrops, Crocuses, Daffodils, Scillas or what not are stuck in here and there all over a lawn like the spots in a carpet, we think the effect tawdry and the flowers out of place. When grass is left unmown, flowers of any kind look very charming in it, and the more irregularly disposed the better. A clump of bulbs on a well-kept lawn, however, is not only out of place, but gives to the verdure an untidy look. Still, our chief objection lies in the fact, that bulb groups are better placed near dense backgrounds than they are on an open expanse of mown grass.

Chrysanthemum Shows.—The Borough of Croydon Chrysanthemum Society's annual show will be held on November 13th and 14th.

The Highgate Horticultural Society's Summer Show will be held in the grounds of Caen Wood Towers on Thursday, July 11th.

Fruit Growing for Profit in the open air in England was the subject of a paper read at the ordinary meeting of the Society of Arts, on Wednesday evening, by Mr. William Paul, Waltham Cross.

The Trentham and Hanford Horticultural Society's second exhibition will be held in Trentham Gardens, by permission of the Duke of Sutherland, on July 25th.

Gardening Engagements.—Mr. Woolford, late gardener to W. Lee, Esq., Downside, has been engaged by the Right Hon. J. Chamberlain, M.P., to take charge of his Orchid collection at Highbury; Mr. Cooper still having charge of all other departments, the farm, &c. Mr. C. Davis, foreman at Hall Place, Tonbridge, as gardener to S. Hope Morley, Esq., in succession to the late Mr. John Berry.

The Tomato, its Culture and Uses, a cheap, thoroughly practical and valuable guide to the successful cultivation of this much-esteemed esculent, by Mr. W. Iggulden, Marston House Gardens, Frome, has, we are pleased to see, reached a second edition, which the author has enlarged.

Rose Culture.—We understand that Mr. James Harkness, of Bedale, who has proved his ability to grow Roses and win prizes, has in the press a book of some seventy to eighty pages on Rose culture, which promises to be a cheap and useful practical guide to amateurs.

The Whitsuntide Show at Manchester.—For the Grand National Horticultural Exhibition, to be opened at Old Trafford on June 7th, the Council of the Manchester Botanical and Horticultural Society have just issued a schedule of prizes on the usual liberal scale. There are eighty-two classes in all, the leading ones in the amateurs' and nurserymen's sections being for collections of Orchids, &c., arranged for effect, in which the prizes offered are £25, £20 and £15.

Honour to a Ghent Nurseryman. — By a Royal order of the 11th of March last, the Belgian Agricultural Decoration of the First Class has been conferred on Mr. F. Burvenich, Senior, one of the editors of the *Bulletin d'Arboriculture*, and a much-respected member of the small band of earnest workers who take the lead in all horticultural movements in Ghent.

Gardeners' Orphan Fund.—At the monthly meeting of the committee on the 29th ult. it was reported that the amount received in donations during the month was £83 17*s.* 11*d.*, and that another investment of £500 would be made at an early date. Special votes of thanks for valued services rendered were accorded to Mr. H. B. May and his friends, Mrs. Ford, and Mrs. W. G. Head. Mr. Lawton, The Gardens, Welton House, Brough, was appointed local secretary for that district of East Yorkshire. It was decided to again have a dinner in connection with the annual meeting, over which Sir Julian Goldsmid, Bart., M.P., the president, has promised to preside.

Autumn Fruit Show at Ghent.—A strong committee has been formed in Ghent—with the Comte de Kerchove as president, Mr. Pynaert as chairman of the committee, and Messrs. Rodigas and Burvenich as secretaries—to organise a fruit show, to be opened on September 28th next, in celebration of the 25th anniversary of the Belgian Arboricultural Society. Pomological, horticultural, agricultural, and botanical societies, as well as private and trade growers, are all invited to send collections, and at the close of the show it is proposed to make up a representative collection to send to the Paris Exhibition. With pleasant recollections of the last exhibition of a similar character, held in Ghent in 1875, we heartily wish our friends success, and hope that English fruit culture may be adequately represented on the occasion.

Trial of Hyacinths.—The usual trial of Hyacinths, bought from several different cultivators in Holland, is being conducted by Messrs. J. Carter & Co., at their Forest Hill Nursery. Both single and double kinds are grown, the former being the more numerous, as they are the most esteemed in this country. There is the usual variety in all the leading colours, such as blue, red, pink, white, yellow and other intermediate shades. All the leading types are represented, and would be interesting to those desirous of making a selection of the most ornamental kinds for home use. We noticed also a collection of small bulbs, such as are sold for the children's gardens. Independently of these, the number of samples of different varieties, or from different growers, now to be seen amounts to 641. As we have already remarked on several occasions in previous numbers, last season was very unfavourable to the ripening of the Hyacinth bulbs, and the quality is therefore not equal to that of the last or several previous years.

Chiswick Gardeners' Mutual Improvement Association.—The annual dinner of this association was held at "The Pilot," Gunnersbury, on Friday, March 30th, when about forty sat down. After dinner, Mr. Geo. Gordon, who occupied the chair, commented upon the objects of the association, and afterwards distributed the prizes that had been generously offered by Mrs. S. A. Lee, Chiswick, for competition by members of the association in writing essays. Six prizes in three classes were offered, and a sum amounting to £13 being at the disposal of the judges, some extra prizes were awarded. Mr. S. Summers, of the R. H. S. Gardens, was the only competitor, with a paper on the arrangement of the fruit garden, and he was deservedly awarded the first prize. In the class for papers describing the best means of obtaining a regular supply of vegetables Mr. T. Bones had the best essay, and Mr. J. Addison was a good second. Extra prizes in this class were awarded to Mr. R. Wood and Mr. R. Aitken. The first prize for a similar essay on the maintenance of a continuous display of flowers in the conservatory was awarded to Mr. Reed, foreman at Possingworth, Sussex, and Mr. J. Barry secured second honours. Extra prizes were awarded to Mr. A. Wright and Mr. George Beaton.

SAXIFRAGA AIZOON.

Of all the Saxifrages that produce their leaves in small rosette-like tufts, none are, perhaps, more variable in the foliage and flowers, but particularly the former than this. On this account a number of names have been applied to these forms in gardens until their specific identity is lost sight of. It requires a botanist of wide experience to unravel the confusion which has been created by horticulturists not only with regard to this, but several other species and their forms. Our illustration represents one of the commonest types of S. Aizoon. To this, or a slightly stronger-growing form, the name S. intacta is frequently applied in gardens. A small form is distinct enough to merit the varietal name of S. A. minor; and another with broad, blunt-pointed, somewhat incurved leaves is known under the name of S. A. rosularis. Any or all of these are very suitable for rockwork, which their white flowers, spotted with red, render gay during the month of June. In northern counties the rosettes of leaves are often used with good effect in carpet bedding. All of those here mentioned may yet be planted or transplanted with safety.

FLOWERS OF SPRING.

Hepaticas.

The Hepaticas come in with the Snowdrop and Crocus, and they are among our earliest spring flowers. All the varieties upon which I have been able to lay my hands I have planted out under a wall having a west aspect, on which the sun shines very warmly during a good portion of the day; but they do well there, and especially the single blue, single white, and double red varieties. These are the strongest growers, in addition to being the most common, and they illustrate the Darwinian theory of the survival of the fittest. Hepaticas are so bright and pleasant, and have such a winsome beauty, that they deserve a place in every garden where flowers are cherished for their sweet sakes. The double blue and the single red do not thrive so well when planted out as the others, and I think they lack their robust constitution.

The foregoing are all varieties of H. triloba. H. angulosa is a very strong-growing species. In Mr. Barlow's garden at Stakehill, Manchester, there can be seen a bed of large clumps of this form that do not appear to mind the rigours of a Lancashire winter, and an atmosphere in which it appears difficult for some vegetation to exist at all. H. angulosa is one of the earliest to flower, and its pretty soft sky-blue blossoms

Saxifraga Aizoon.

are always welcome. It possesses a peculiarity I do not perceive in any other variety—viz., that of throwing out its flowering shoots in an irregular and kind of zig-zag fashion; and while the others take a compact habit of growth, H. angulosa throws up shoots a little distance from the parent roots. But the best form of angulosa I have seen lacks the fine build and symmetry of flower of the single white, blue, and red varieties.

I am somewhat disappointed in not getting seedlings. The flowers appear to form seed vessels, and I always adopt the precaution of sprinkling a little fine soil about the plants for the seeds to drop into when they become ripe; but no traces of progeny are presented to view. Seedlings are interesting because they vary in the form of the flower, some being more symmetrical than others, and they differ also in the colour of the stamens and in other small ways. I have three of the single white which might be regarded as distinct, though the differences are very small indeed.

I also grow a collection in pots for convenience of sale, and these are plunged in a bed of coco-nut fibre all the year round. The advantage of this is that it keeps the soil about the roots cool and moist in summer, and serves as a protection from frost in winter. Plants grown in small-sized pots soon make a mass of roots, and the plant can be turned out of the pot, packed and sent a long way without fear of injury.

The plants are divided when they have gone out of flower—that is, if they are large enough to admit of increase by means of division. The smaller pieces are placed round the sides of pots, and when large enough potted singly in a convenient size.—*R. D.*

These charming spring flowers ought to be cultivated in gardens where space can be afforded. Just now they are amongst the prettiest of our border flowers, the varieties being double pink and single blue of Hepatica triloba. Our best and most showy plants are those which have been left undisturbed for four or five years. Many of these are 1 ft. or more across, each of which in itself is a perfect mass of bloom, and they are such conspicuous objects that one may easily tell what they are from a considerable distance away. Immediately after flowering—if seed is not required—they may be divided and replanted in fresh soil, which should consist of light sandy loam with a little leaf-soil added thereto. Care should be taken that they do not suffer for want of water after being replanted till they become established again.—*J. H.*

Anemone ranunculoides and A. apennina.

For planting along the sides of woodland walks and such-like places, I do not know of any spring-flowering plants that will surpass these two species. They grow from 9 ins. to 12 ins. high, and are exceedingly floriferous; the first-named is of a deep golden yellow in colour, and the latter of a beautiful pale blue. Comparatively speaking, both of them may be said to be rarities—at least to the extent of not being often seen in private gardens—but this, I am constrained to say, is only for the want of being better known, and not from lack of merit in the plants themselves. They do not appear to be at all fastidious as to soil or situation, but are perhaps most at home under large trees. Wherever they may be grown, I would say plant a large patch of our native species, Anemone nemorosa. All three do well together, and form a very picturesque appearance when in flower.—*J. H.*

PRIMROSE, "BLUE GEM."

Such, at last, seems to be my accepted name by the great masters of ceremonies at the Drill Hall, Westminster. Under the collective designation of the Floral Committee, these masters seem a very fastidious body, and would not grant me a First Class Certificate under the name of "True Blue," because I am not what everyone would call a true blue, although they made mention of me under that name in the last-published part of the Society's journal.

Now I have received the coveted award under the name of "Blue Gem," I may proceed to tell you my history. I claim to be a direct descendant of what is generally known in gardens as Primula altaica. My ancestor was picked up on the Asiatic side of the Bosphorus, near the mouth of the Black Sea, in the neighbourhood of Karak, by one Mr. Darbishire, when on a visit to Constantinople. My relative, of noteworthy memory, was believed by that gentleman to be merely the common yellow Primrose, now made such a fuss of on "Primrose Day"; but when it flowered in its garb of purple and gold with a narrow white lacing, it was hailed with a flourish of trumpets, and the Knightian Medal was awarded to Mr. Darbishire for the same. If you doubt this, refer to the *Journal of the Horticultural Society* for 1849, vol. iv., Proceedings, p. 11. Not only in this journal, but also in Paxton's *Magazine of Botany*, vol. xvi., p. 194, my ancient relative was sanctioned by Dr. Lindley as the Primula altaica of the Russian botanists.

As to what is in a name, you may judge from the fact that Sibthorp, in his *Flora Græca*, vol. ii., p. 70, t. 184, described the same Primrose under the name of Primula vulgaris var. rubra, and said that the Turks called it the "Snow Flower." Now the colour was neither red nor white, nor rose, although botanists now say that the accepted name should be Primula acaulis var. rosea, on the authority of Boissier. See his *Flora orientalis*, iv., p. 24. But Grisebach, in his *Spicilegium Floræ Rumeliæ*, ii., p. 2, named it P. acaulis forma rosea.

After all, Boissier and Grisebach were quite correct in considering my noble ancestor a form of the common Primrose; but the two parted company ages ago, and that form of which I am legally a lineal descendant, has, during a prosperous sojourn in the east, altogether altered in form, substance and colour especially. The long, narrow, flimsy segments and pale yellow of the British wilding, the much-belauded Primrose, is nowhere in comparison with those of my deep purple, golden-eyed, broad-petalled relative.

Under the benign influence of the fog, smoke, snow, wind, and rain of the British climate, but especially about London and its neighbourhood, a numerous progeny has arisen showing the vigorous constitution of our race. Primrose Scot Wilson, Proserpine, the Mikado and numerous others, I consider my first cousins. The last named has also obtained the coveted certificate. Although I failed to get a certificate as a "true blue," some of my children may be deemed worthy of such, just as Solomon was considered a fit

man to build the temple at Jerusalem, although his father was not.

Now it passes my comprehension to understand why I should not be considered a "true blue" Primrose, when older people were satisfied with Primula elatior cœrulea as the blue Polyanthus, a very watery blue indeed. My distant relative, the blue Primula, or Holborn Blue if you like, in its garb of slaty mauve and purple staining, and whose ancestors hailed from China, is nowhere in it. I lay no claim to the blue of the Gentian, the Bluebell, the prostrate Gromwell (Lithospermum prostratum), sky-blue or what not, as I have no desire to sail under false colours; but as a blue Primrose I am more blue than any blue-eyed Saxon—Anglican or continental—and a blue Primrose is not now such a myth as the blue Dahlia or the blue Rose.—*Blue Gem.*

TUBEROUS BEGONIAS.

Where large numbers of Begonias are grown, either for planting out or for conservatory decoration, all will now be busy in this department. The two leading points calling for attention are the raising of seedlings and the starting of last year's or older tubers, so as to have batches at different stages to come in for use in prime condition at different times.

It is not at all necessary to make different sowings of seeds, because if a good batch is sown about the middle of January, the seedlings may be pricked off singly in boxes as soon as they become fit to handle. The pans in which they were sown should still be kept in the propagating pit, and will afford several more batches of seedlings from time to time for a period of several weeks, as the seeds germinate very unequally. As in the case of other flowers so with the Begonia, the smaller and less vigorous seedlings often afford a large percentage of really first-class flowering kinds. Therefore, nothing is lost by waiting till these slowly vegetating sorts develop into flowering specimens. If the intention is to plant out these seedlings for late flowering, they should be pricked off into boxes in lines about 1 in. or 1½ in. apart each way. Water them immediately to settle the soil, which should be light but rich, consisting largely of leaf-soil, with a small proportion of loam and plenty of sand. Leave the boxes in the propagating pit or other warm-house till they are fairly established and growing, after which they may be removed to cooler quarters. In all cases keep them near the light to preserve a dwarf, sturdy habit, otherwise if neglected in this respect they will become drawn and spindly at the very outset, and can never give satisfaction during the rest of the season. A quantity may be potted up for flowering in pots, and they will come in useful after the old tubers are getting leggy and useless for decorative purposes.

The first batch of tubers may be introduced to heat during January or February to commence flowering during April and May; and later batches may be treated similarly as spring advances. The old tubers may be placed in moist coco-nut fibre in the propagating pit till they sprout, after which they should be potted up singly in small pots, according to the size of the tubers. If they have been wintered in the pots in which they were grown last year it is a good plan to start them into fresh growth before re-potting. The earliest batch will now be showing their first flowers, while later batches should be growing slowly on shelves near the light, to be followed by those now being started in a warm house. A larger quantity of loam together with some well-rotted cow-dung should be used in the compost in which old tubers are grown.

NOTES ON VEGETABLES.

Mushrooms in a Vinery.

At Amberley Court, the residence of Major Turnor, Mr. Wagstaff, the gardener, has an excellent crop of Mushrooms growing in a vinery. A well-prepared border was made eighteen months ago, and young Vines planted out at the back and front of the house, a space of 4 ft. being left along the centre of the house, to be filled in with suitable soil when the Vines require it. This space Mr. Wagstaff has utilised for growing Mushrooms, and just now the beds are smothered with "buttons" and "grillers." I thought it a novel and most useful way of procuring a crop of this delicious edible.—*W. Driver, Longfords.*

Sutton's Duke of Connaught Cucumber.

This is really a good and serviceable variety. I saw the other day at Amberley Court a capital crop of fruits growing in a small house. Telegraph and other kinds were sown on the same day, and planted out with the Duke, but they are not ready, while of the Duke of Connaught, Mr. Wagstaff, the gardener, informed me he had been cutting fine handsome fruit, and good in quality, for a fortnight. I should think, by its fine appearance and early and free-bearing habit, it would become a useful variety for market purposes.—*W. Driver, Longfords.*

CINERARIAS AT FOREST HILL.

A large quantity of Cinerarias is annually grown by Messrs. J. Carter & Co., at their Forest Hill nursery, for the purpose of seed saving. Four houses are at present occupied with seedling plants, which will be at their best in a week or two; they exhibit great range of variety as far as colour goes, and a special feature to be noted is their dwarf habit, which ranges from 6 ins. to 8 ins. or 12 ins.

The self and two-coloured flowers are pretty evenly distributed, without a marked preponderance of either. The two colours of course refer to the rays, exclusive of the disc or central portion, which frequently differs in colour from the rays, giving the flowers a characteristic appearance, as occurs in a pure white variety with a prominent blue disc. Other self-coloured kinds have dark crimson, dark purple, rose, violet-purple, reddish crimson, dark plum-purple, and blue rays, in various shades, and white with a purple disc. All these colours are also exhibited by flower-heads where the rays are white for a greater or less part at the base, giving the whole head a zoned appearance.

Greatest value is laid upon those kinds having broad overlapping rays, instead of narrow ones which stand free of each other and give the head a starry appearance. All growers of Cinerarias experience great difficulty in keeping the strain up to a high standard, a circumstance owing, no doubt, to the liking which bees have for the pollen, which is globular, spiny, and easily carried about in large quantities on their hairy bodies. During fine days it is impossible to keep them out of the houses without going to great trouble in covering the ventilators with something to exclude them. There is little doubt that Cinerarias are, with the present high system of cultivation, largely inclined to sport into different colours when raised from seeds. But it is impossible to overlook the effects of interference from the bees which visit them for the sake of pollen.

Last year the seed from marked plants was sown, and the results are indeed surprising. From a plant with white rays tipped with blue, this year's seedlings exhibit deep rose, blue with a white zone, deep blue, purple and several other shades. From another kind has arisen varieties with plum-purple, blue, white with blue tip, and rose with a white zone. A plant made its appearance amongst last year's seedlings, having the rays striped with purple on a white ground, and giving rise to hope of a new break or strain amongst Cinerarias. But "the best laid schemes of mice and men gang aft agley," as in this instance, where seedlings of one plant are now in flower exhibiting plum-purple, deep blue, crimson, rose, violet-purple, white with a purple tip, deep purple with a white zone, and other shades of colour. The quality is, however, generally good, and all the rogues are by this time, no doubt, vigorously weeded out. Many of them are very pretty, but not coming up to the florists' standard, will be utilised for cut-flower purposes.

Only a few double kinds and Emperor Frederick are perpetuated by cuttings. Of the latter there is a good stock of healthy plants now in flower with its crimson-maroon heads. A peculiarity of the variety is that it produces no pollen so far as can be ascertained, but the bees would seem to have found some, or sports have occurred amongst other kinds showing rose-coloured rays with a white claw, and purple with a white claw, the latter organ being the most striking and characteristic feature of Emperor Frederick. A blue kind with the rays involute in the middle was very pretty, but there is great doubt whether it will prove constant.

THE FOREST HILL NURSERIES.

Among many excellent things seen in flower in the Messrs. Laing's establishment besides the Clivias are some of the best kinds of Orchids, and the large plant of Clematis indivisa lobata, trained under the roof of one of the greenhouses, is worth a journey to see. There are literally thousands of blooms on it, and as an early-flowering greenhouse plant there is nothing to equal it. Where cut flowers are in demand, too, it is invaluable. Another grand feature in this nursery is the collection of Caladiums, for which it has been long famous. It is questionable whether a similar display can at the present time be found elsewhere. The diversity of marking and colouration of foliage are simply marvellous.

As is well known to many of your readers, Begonias are grown not only well, but in immense quantities, and looking at the preparations being made for the coming season, it would seem as if they are fully determined to maintain their ground against all comers. Some of the plants are already in bloom, looking remarkably bright and healthy, and many thousands of seedlings are pricked off into boxes. To those unacquainted with the Begonia trade, the thousands seen here in all stages of growth are simply marvellous, and the stock grown during the coming summer will in all probability amount to 100,000.—*W. B. G.*

THE ATMOSPHERIC CONDITIONS OF PLANT HOUSES.*

In treating of this subject I shall deal chiefly with three of the more important factors influencing the well-being of plant life in plant houses, and, therefore, under artificial conditions. These agencies are temperature, moisture, and air, in the consideration of which it will be seen that they are all intimately connected with one another, as their combined effects determine the results, either good or bad, according to their influence on the different classes of subjects grown. The degree of heat and moisture best suited to any plant or class of plants can only be determined in each specific case by a close study of the plants themselves in a state of nature, or what is more important, in the case of those grown in plant houses by direct experiment. In a house of mixed plants from various parts of the globe it would be impossible to give each species its optimum requirements with regard to heat and moisture, even if these had been scientifically determined; therefore we must always content ourselves with approximately the best conditions. Ventilation is merely a secondary factor used to modify the former two on certain occasions, because, seeing that glass structures are not air-tight, we can often dispense with ventilation altogether, particularly when the temperature of the external air is considerably lower than that internally. Under these conditions the discrepancy on the two sides of the glass roof will induce an exchange of air. Ventilation, however, in the hands of a skilful plantsman is an important factor in the proper development of plant growth and structure, and we shall therefore require to make frequent reference to it.

The Psychrometer.

Various instruments have been invented from time to time for the purpose of ascertaining the exact degree of humidity in the atmosphere at any given temperature. The primitive ones have been improved upon until resulting in the production of a very perfect, although, at the same time, a very simple instrument. This is the psychrometer, better known, perhaps, under the name of the hygrometer, or dry and wet bulb thermometer. It consists of two thermometers, which should be exactly alike in construction, graduated to degrees and tenths of a degree, in order that the readings may be precisely accurate. These should be mounted on one stand in close proximity to each other, and on the same level. The bulb of one should be left uncovered, that of the other being wrapped in a piece of muslin. A small glass vessel should be stood about 3 ins. away from the latter, and kept replenished from time to time with soft rain or distilled water. A cotton wick, loosely coiled round the muslin-covered bulb, should dip into the glass vessel for the purpose of supplying the muslin covering with moisture. This will constitute the wet-bulb thermometer, which will, or should generally, stand at a somewhat lower degree of temperature than that indicated by the dry bulb thermometer, and in xerophyllous or drought-loving plant houses should always exhibit a considerably lower temperature. Unfortunately, the plant houses in this country are rarely provided with this useful instrument.

The difference between the two thermometers indicates the degree of humidity of the atmosphere in the house or the open air where the experiment is being conducted, or, in other words, it indicates the rapidity of evaporation going on from the wet bulb. This may sound paradoxical when it is stated that moisture at the same temperature as the atmosphere of a house should cause the thermometer with which it is in contact to indicate a lower temperature than another

*A paper read by Mr. John Fraser, at the last meeting of the Chiswick Gardeners' Mutual Improvement Association.

one close by in contact with the air only. But the physical properties of water explain this seeming incongruity. There is what is called the "elastic force or tension of aqueous vapour," that is, water has a tendency to pass off into vapour at all known natural temperatures, at least, at a rate dependent upon the degree of temperature and the degree of humidity of the atmosphere, as well as the superincumbent pressure of the atmosphere itself upon water or ice. Before water can pass into vapour it must absorb a certain amount of heat, and in the case of the wet bulb thermometer this is extracted from the bulb of the instrument, and from the atmosphere immediately surrounding it; consequently the lower the temperature of the wet bulb thermometer compared with that of the dry one, it indicates the greater rapidity of evaporation which is a measure of the dryness of the atmosphere at any given temperature.

Should both the dry and wet bulb thermometer indicate the same degree of temperature, it is a sure sign that the atmosphere is saturated with moisture, and totally incapable of retaining any more in the form of vapour; consequently, if the temperature were allowed to fall but one degree, or part of one, there would be a deposition of moisture in the form of dew upon the thermometers. This is what is spoken of as the dew point, a very important fact to remember in plant cultivation. The higher the temperature of the atmosphere of a house the more moisture it will retain in solution, so that it takes much more moisture to saturate the atmosphere of a stove than that of a greenhouse. It would, therefore, be important to ascertain the percentage of moisture in the atmosphere of different plant houses under one's care, relative to the maximum necessary to saturate it at any given temperature. This can be readily ascertained by means of a set of hygrometrical tables adapted to the use of the dry and wet bulb thermometer, prepared by James Glaisher, F.R.S. No calculations are required of the plant grower, as these have already been worked out on mathematical or scientific principles, and given in the form of tables ranging from 10° to 100° Fah.

Stoves.

Under this heading may be included all such houses as are kept at a high temperature, ranging from 60° at night in winter to 75° or 80° in summer; this would include plant stoves proper, warm conservatories, East-Indian Orchid houses, tropical ferneries, Pine-Apple, Melon, Cucumber and propagating pits. The atmosphere of these houses is more generally saturated with moisture than those kept at a lower temperature. For human beings the atmosphere is most agreeable and conducive to health when it contains from fifty to seventy per cent. of that amount of moisture necessary to saturate it; but it is often not only agreeable, but conducive to the well-being of plant life that the atmosphere in which they are grown should contain a much greater percentage of moisture. This is particularly evident in the case of propagating pits, plant stoves, and tropical epiphytical Orchids, when the plants are making their growth. A saturated atmosphere is conducive to growth or the extension of tissue, by reducing the amount of transpiration and evaporation from the surface of the leaves and other exposed parts, thus allowing the tissues to become gorged with water and the cells to be in a state of tension. Without this no growth at all could take place.

Excessive atmospheric humidity, however, must not be permitted for an unlimited space of time even in these warm houses, otherwise evil results will follow. Phalænopsis, for instance, if constantly grown in an atmosphere like that described, will suffer considerable injury if afterwards removed to a house with a drier atmosphere. The same evil is noticeable in Caladiums at plant exhibitions, where the broad, limp, thin leaves become half shrivelled up before the day is half over, provided they have been constantly grown in a warm, humid atmosphere for some time previous to their being exhibited. This is also seen in the case of all other stove plants, but particularly so in those having large leaves. Nowhere, perhaps, are the evil effects more noticeable than in the case of tropical Ferns, especially the finer-leaved kinds, such as the Adiantums. By the maintenance of a close humid atmosphere and the use of shading while making their growth in summer, we obtain an ample leafage; but if this is closely examined it will be seen to be thin, membraneous and devoid of substance. Adiantums particularly are affected in this way, and before the winter is half through instead of exhibiting their wonted lively shades of green, they become brown, disfigured and quite worthless for decorative purposes. Instances might be multiplied, but this will serve to show a state of matters that should be avoided by all good cultivators.

This state of matters is best remedied by less shading and more ventilation. The latter will modify not only the conditions of heat and moisture, but will bring more fresh air in contact with the leaves, and by the use of less shading we greatly increase the power of the plant to produce more solid material for the building up of its internal tissues and the thickening of the same, so that instead of broad flabby leaves they will be more leathery, and thickened to a degree which will enable them to endure for a much longer period of time even in dry atmospheres, such as that of a dwelling-house when required for decorative purposes. In the case of forcing houses the evil effects of bad ventilation are of common occurrence, when the cultivator is sometimes least able to help himself owing to the severity of the weather, which necessitates keeping the ventilators closed. Stems and leaves become drawn, feeble, and devoid of stability. Seeing that the whole of the carbonaceous material utilised by the plant is directly derived from the atmosphere, a good supply of fresh air is indispensable to firm and stable growth. Plenty of sunlight is also an absolute necessity to enable the plant to fix the carbon. Heat and moisture alone would be productive of growth similar to the work of a building contractor, who rapidly builds up a house that is a mere skeleton, of no stability.

The psychrometer in these houses would prove a most useful instrument in the hands of observant cultivators, because by its use they could regulate the humidity of the atmosphere to that amount which is most conducive to the welfare of the different plants grown. Some, no doubt, to whom the idea is a novel one, will be inclined to pooh-pooh it as of no practical value or use; but the same might be said of the thermometer itself, which many growers dispense with altogether. This, moreover, is not indicative of progress in gardening, and is altogether unworthy of the present age of advancement. The practical man has an excellent opportunity of adding to the store of useful knowledge concerning plant life, by being constantly amongst the plants themselves, whose requirements and the means of supplying them should always be uppermost in his mind. The scientific man labours under a great disadvantage in this respect, in that the scene of his labours is generally at a distance from the plants.

(To be continued.)

THE FERNERY.

Potting Hardy and Half-hardy Ferns.

In the case of Ferns that are kept in warm houses, they must needs be potted before this time, as growth commences earlier. In the cool house, however, and especially if that is situated behind a north wall or where it is shaded from direct sunlight, few if any of the Ferns will have yet commenced to grow; therefore the present will be a suitable time for re-potting the great bulk of them. A good general compost may consist of fibrous loam one part, good peat not bog-soil one part, and half a part consisting of broken pot-sherds and sand. Chopped sphagnum is also an excellent material for mixing with Fern compost, and may be employed with advantage if obtainable.

Not only do the smaller British Ferns form choice and interesting subjects for pot culture, but many of the more ornamental crested kinds, such as the varieties of Aspidium angulare, the crested forms of the Lady Fern (Asplenium Filix-fœmina), and even those of the common male Fern, including Nephrodium Filix-mas cristata angustata, with its long, narrow, arching fronds. The fronds of the Lady Ferns die down early in autumn, but during their prime are almost indispensable in a roomy house on account of their feathery gracefulness and light green colour. All of these may be grown in pots proportionate to the size of the ball of roots. Some of them are well adapted for basket culture, such as the drooping forms of Aspidium angulare, that are strictly evergreen and extremely ornamental in a large state. When turning the plants out of the pots the crocks and a quantity of the old soil may be removed, if it is desirable to use the same size again. With a little care this can easily be effected with the fingers or a blunt-pointed piece of wood, without injury to the Ferns themselves. Except in the case of rapidly increasing kinds, Ferns grown under cool treatment had best be kept in pots that are rather small than otherwise. The roots can then more easily take possession of the whole ball of soil and prevent it from getting sour, which is liable to be the case owing to the quantity of water required as a rule during the summer months.

The Aspleniums and other rock-loving Ferns should have the addition of some porous pieces of sandstone, either red or white, mixed with the compost used for the general batch. Some growers might advise pieces of granite, but sandstone is more retentive of moisture, and therefore more encouraging to the roots. The common Maidenhair (Adiantum Capillus-Veneris) delights in some pieces of porous material worked in amongst the roots, and so does Asplenium germanicum, A. septentrionale, A. Ceterach, Woodsia ilvensis, W. hyperborea, and others. The Killarney Fern (Trichomanes radicans) and the other British filmy Ferns—namely, the two species of Hymenophyllum, may even be planted on a slab of some porous stone; but to give satisfaction they should also be grown under a bell-glass to keep the fronds properly moist, without having to saturate the atmosphere to the disadvantage of other kinds, as well as to the discomfort of people inspecting the Ferns. All these small species, with the exception of the filmy Ferns, should have their crowns distinctly above the surrounding soil (but not so as to expose the roots) to prevent them from being water-logged or otherwise injured by excessive damp during winter.

Where space can be afforded a number of half-hardy exotic as well as British Ferns may be grown to perfection in the same house, and under the same treatment. Amongst the neater kinds we have Osmunda regalis palustris, Asplenium Ceterach aureum, Nephrodium erythrosora, Aspidium munitum, A. falcatum, A. f. Fortunei, Pellæa rotundifolia, and numerous other very pretty kinds. The last is very suitable for basketwork.

NOTES FROM SCOTLAND.

Dogs *v.* Flowers.—In the Aberdeen Sheriff's Court, on Thursday, the 28th ult., before Sheriff Dove Wilson, William Bisset, gardener, Pitmuxton House, Aberdeenshire, sued William Slora, gardener, Bloomfield, for £12 in name of loss and damage sustained by him in consequence of the defender having destroyed two of his dogs by poisoning them. Some few weeks ago (to let readers understand the case aright) Slora was punished in the Aberdeen Criminal Court for poisoning the dogs. On Thursday he lodged a counter-claim for damages done by Bisset's dogs, his bill being as follows:—

120 Pansies (named), at 3*s.* per dozen ...	£1	10	0
120 ,, ,, ,, ,, ...	1	10	0
50 ,, (unnamed), at 2*s.* ,, ...	0	8	4
36 ,, ,, ,, ,, ...	0	6	0
96 dozen Calceolarias, at 1*s.* 6*d.* per dozen	7	4	0
35 Stocks (All the Year Round), at 6*d.* each	0	17	6
1 bed of white Lilies	0	5	0
53 square feet of glass, at 1*s.* per square foot	2	13	0
	£14	13	10

Restricted to £12.

The evidence led for Bisset's action was on the same lines as that given at the trial of Slora for poisoning the dogs, and was to the effect that because Bisset's dogs had broken some of the glass of Slora's greenhouses, Slora threatened to poison the dogs. He had shown some of the witnesses a packet which he said contained strychnine, remarking that he would give the dogs a dose of something that would keep them at home. On the day after Slora made that threat, Bisset's dogs were taken ill, one of them dying that day, and the other some days afterwards. Several pieces of meat containing strychnine were found on Slora's ground. The ground, it was explained to the court, was not enclosed, so that any dog could wander on to it. For Slora's defence, several witnesses were examined to prove that Bisset's dogs had done a great amount of damage by breaking glass and destroying plants, and that Slora used poison for vermin. The evidence as to the value of the dogs was very conflicting, one witness declaring he would not take them as a present. Sheriff Wilson, in giving judgment, held it proved that Slora had poisoned the dogs, and remarked that people who poisoned dogs had to pay fancy prices for them, having to reckon with the injury to feelings which their actions caused. £3 would be a fair sum for each dog. As to the counter-claim by Slora, it was surely rather extravagant, for ninety-six dozen of Calceolarias represented a tremendous amount of scraping by two dogs. It was not likely, however, his lordship added, that Slora would be so wicked as to poison the dogs without some excuse, and he allowed him, in name of damages for plants destroyed, £1; he, however, must pay the expenses. If he had any complaint against the dogs, he should have sued the owner for damages instead of poisoning them.—*Cor.*

FLORICULTURE.

The "National"-isation of the Pink.

WHAT we most sorely need to know is, who does or will take up the Pink? for growers would surely contribute both flowers and funds towards its re-appearance in public as one of the true old florists' flowers.

In all our national florist societies there are some subscribing members who contribute, although they do not grow all or perhaps any of these special flowers, and such purely disinterested goodwill is most sweet and welcome help. I hope the Pink, in her turn, may find some friends such as these.

Talking the other day with Mr. Ben Simonite, who had come to see the Auriculas and other plants, his fear was that, just now, growers of the Pink might be more difficult to find than prize money for it. This, however, is past knowing until those who could and would help, come forward and report themselves. So far, I have had uo communication from anybody, save Mr. Thurstan, upon whom we can rely for all-round help, and Mr. Barlow, who has a good collection of florist Pinks, and would certainly do all in his power, which would be much.

For a northern show, I can think of nothing better than seeking the auspices of the Manchester Botanical Council, who grant us such substantial and valuable aid in the National Auricula, Tulip, and Carnation exhibitions of our northern section; and we need no better representative before the Council than Mr. Barlow, who is himself a member of it, and skilled in all needful knowledge and advocacy.

Northern officers and committee of a national Pink society could, I think, best be enrolled from among the many members of the national florist societies who are within easy reach of Manchester, and could therefore most quickly and conveniently meet together. Florists generally know something of more than just the flowers they grow as special favourites; and though I do not speak for any one, I think some would volunteer to help the Pink.

There may be some exhibition of the Manchester Botanical Society that would catch the blooming season of the Pink, and if the great advantage could be gained of bringing the Pink as one floral element in such a show, there would be more public attention drawn to the flower in this way than any other, while risks would be avoided which experience a few years ago has shown it would not be safe to run.

But nothing can be done without a vote of supply—of flowers and funds. We are very much in the bud, *i.e.*, in the dark, till we know who has the Pink, and who will help to bring it to the light again. I have no authority to speak either for the Manchester Botanical Council or for Mr. Barlow, but the Botanical Council have for many years fairly assisted the national florist societies in many kinds of help, both in ways and means, and Mr. Barlow's heart is with every good old florists' flower and the lovers thereof.

For myself, I can only say that I will gladly be a gninea subscriber to a national Pink society, thongh I shall not be able to grow more than the few florists' Pinks I have long had for the sake of seeing a sweet old face from year to year.

I have sought out a still more forgotten flower, the florists' Ranunculus, with the hope of working from seed towards the lost beauties that, in *fac simile*, will never be seen again.

Where is "Naxara," Queen of Black, and all Ranunculuses, and which my father used to grow by the row at home? Where is she, that I may give her weight in gold for her, in the tuber yet undried?

Alas! I fear she is a rarity as great as Mr. Puuch's unique old bit of furniture—"the chair in which *verbum sat!*"—*F. D. Horner, Burton-in-Lonsdale.*

Carnations.

A GREAT many orders for Carnations and Picotees will, no doubt, be sent to dealers during the next month. Those who grow Carnations for sale make a point of issuing their lists early in the autumn, as this gives lovers of these plants an opportunity to make their selections, get in their plants, and pot them up for wintering. By doing this the plants become well rooted during the winter, and are then ready for re-potting in early spring. If plants are had in March, and they are sent out of pots, precious time is lost, and unless they are carefully packed, with good balls of soil about the roots, can scarcely be expected to produce early blooms of fine quality; and yet I have known Carnations to be ordered in May, when they have begun to put up their flowering stems.

The other day I took off some late-layered plants, and they had only just begun to put forth their roots. They were at once potted, two plants in a small pot, one on either side, with some fine sandy soil and coco-nut fibre placed about the roots. They are now in a close frame, and I shall have to wait until the end of April before they can be got into their blooming-pots, which will have to be of smaller size than those used for plants that are potted now. In potting, I would strongly advise getting plants that are taken up out of the pots in which they were layered, bnt be careful to put them in pots not so large but what they will have a chance of filling them with roots. As Mr. Joseph Lakin once said, it is much better to have pots filled with roots, than merely soil without roots.

Let me impress upon intending young growers who may contemplate getting together a collection of named Carnations and Picotees, to order a few good sorts only, such as may be expected to produce good flowers that will be of service on the exhibition table. It is much better to have twenty-four plants of six good sorts than the same number of different varieties. It is better to have sixty plants each of, say, twenty good sorts of Carnations, and the same number of Picotees, if showing is contemplated. Here is a good selection of twenty-four varieties of Carnations:—Scarlet bizarres: Admiral Curzon, Robert Lord, Edward Adams, and George. Crimson bizarres; Duc d'Aumale, Harrison Weir, Master Fred, and Rifleman. Pink and purple bizarres: William Skirving, Thomas Anstiss, Mrs. Gorton, and Sarah Payne. Scarlet flakes: Henry Cannell, John Ball, Sportsman, and Matador. Purple flakes: James Douglas, George Melville, Florence Nightingale, and Squire Whitbourn. Rose flakes: Miss Erskine Wemyss, Thalia, James Merryweather, and Sybil. Eighteen varieties of Picotees:—Heavy red edge: Brunette and J. B. Bryant. Light rose edge: Mrs. Gorton and Thomas William. Heavy purple edge: Zerlina, Baroness B. Coutts and Juliette. Light purple edge: Clara Penson and Ann Lord. Heavy rose edge: Edith D'Ombrain and Mrs. Payne. Light rose edge: Miss Gorton and Nellie. Heavy scarlet edge; Constance Heron, Mrs. Rudd and Mrs. Sharpe. Light scarlet edge: Favourite and Mrs. Geggie.

Mr. Robert Sydenham informs me that he uses small shells—such as are used for spreading over the surfaces of paths—with his Carnation soil, and finds it advantageous to do so. Pounded oyster shells have long been recommended as a valuable ingredient. Mr. Dodwell places a layer or two of oyster shells over the drainage in his pots, and states that it has a very beneficial effect.—*R. D.*

David Jackson and his Tulips.

DAVID JACKSON, who is still liviug, has raised some exceedingly fine Tulips, and among them one which approaches to the black more nearly than any other; iu fact, the feathering (the body of the Tulip is a white ground) is as black as a raven's wing, and it is a most beautiful flower. He has also raised others from the same seed-pod. This one, which he called Mrs. Jackson, has really the advantage of the others in depth of colour, but all of them are very dark. I saw in *The Garden* that there had been a controversy upon the subject of the black Tulip. Mr. Krelage, of Haarlem, says he has got it. Well, if he has, I wish him joy of it, because I cannot imagine any great beauty in one perfectly black, but I do not think any of them is a perfect black. However, that is only a little divergence. This Mrs. Jackson bloomed in the rectified or broken state (it was never a breeder or self)—that is to say, perfect feathered character. I went to see, and was very much pleased with it, and asked him if he sold it to give me a chance to buy. I saw it bloom for two years, and as he was willing to sell I asked him what was the price. "What do you want for it, David?" said I. "Ten pound," said he. I said, "That's a big price, but I'll tell yo' what I'll do. I'll gi' yo' th' weight o'th' bulbs in gold for it." He replied, "Dunno thou begin to come ony nonsense wi' me. I tell thi' I'll have ten pounds or nowt, and thou can either take it or leave it." Well, of course, I had to pay him, and Mr. William Lea, of Leigh, who was at that time perhaps the best grower we had iu England, went halves with me for it.

It turned out to be stained and comparatively worthless, but I am glad to say that during the last three years it has gone back again to its own pure form. I attribute that stain on the top of the stamens entirely to its being very rich in pollen. The anthers are overloaded if anything with pollen, and now it has got to be less vigorous there is rather less pollen on the anthers. A stained Tulip with a stained base is always stained, but one that is stained on the top of the stamen by a little of the pollen has not a permanent stain. I mention this because it is undoubtedly the very finest flower of its class when it comes in a pnre state. It is not always straightforward sailing with florists, and it was not so with David and his Tulips. On one occasion when some of them were just opening there came a terrible blizzard in the month of May, which knocked his garden all to pieces. He left his loom as soon as the storm was over, went to his garden, and as he looked around he gradnally got more highly charged with electricity. He had no means of giving vent to it, because there was no one there bnt himself, but as he came near the honse his poor wife furnished him with a conductor. She said to him—"Well, David, and how are they looking?" "Looking," he replied, "like thee, withered." Well, he was rather singular, and not a very pleasant chap at the best, bnt, of course, under these circnmstances, although it was a very ungallant remark to have made, perhaps some excuse may be found for him.—*From a paper on Garden Gossip, by Mr. S. Barlow.*

The Pansy and How to Grow it.*

UNDER this title, Mr. James Simkins, a well-known Pansy grower in Birmingham, has just published a nicely got-up book, which treats of the show and fancy Pansy thoroughly, its history, cultnre in beds and frames, suitable soils and manures, propagation, properties, hybridisation, the enemies of the Pansy, with other valuable information, and giving a list of the best Pansies of the day. It is a book of 112 pages, bound in stiff covers, and with several colonred illustrations. Two of these represent the Pansies of fifty years ago, with their names, the plates being reprodnced from Harrison's *Floricultural Cabinet.* The other two represent some of the first fancy Pansies raisep in England and introduced in 1866, and which are reproduced from the *Floral Magazine.* Some woodcnts are also given to illustrate some of the subjects in the book. To amateur Pansy growers the book is a valuable guide, treating fully on all points, and with full instructions as to exhibiting. A small quantity, about a dozen copies hurried forward by the printers, unfortunately contain a few errors which are puzzling, but these have we hear been rectified in all the other copies.

AURICULA GOSSIP.

IN my cold house these are coming along merrily, incited thereto by the mild weather, with occasional outbursts of warm sunshine. March has departed in lamb-like fashion; let us hope that April will revive all the old traditions of that month, and be indeed spring-like—warm showers, and times of sunshine alternating. I have been carefully going through my Auriculas, top-dressing a few, and turning out of pots for the purpose of examining the roots of some of the more weakly-looking ones. Rot will sometimes set in at the base of the main root or carrot, and then it gradually travels up its length until it reaches the plant, and if not checked in time, the loss of the plant is inevitable. Therefore, in March, when activity commences, if a plant should chance to take on a stunted appearance, and not make headway, it is a sure sign that it needs the attention of the cultivator; it should be turned out of the pot, the soil be shaken from the roots, and then examined. It will be almost certain to be found that the rot has got hold of it. I shake all the soil from the roots, carefully remove all trace of decay up to the sound part, then I dip it in some powdered charcoal, and re-pot it, placing it at the side of a small pot, with a little light sandy soil among the roots; I then plnnge the pot in a bed of coco-nut fibre in a tiny frame, cover it up close and shade it, aud in this way many a plant, otherwise doomed to decay, can be saved. But it should be looked to in time, directly the first signs of arrest of growth appear. The best-managed collections are not exempt from rot—it is peculiar to the Auricula, but it is a foe that has to be carefully guarded against. I find it to be a good plan to pot all weakly-rooted plants against the side of the pot, as the probabilities of their making headway are thereby augmented.

In reference to the order of flowering, the selfs lead the way; and, as in old days, the maidens led the way of the triumphant army, dancing and singing the praises of the warriors; so it is bringing on the army of flowering plants. Hetty Dean, the pure yellow self, leads the way. This is always the earliest to bloom,

* THE PANSY AND HOW TO GROW IT. By James Simkins. Birmingham: Cornish Brothers, 37, New Street. London: Simpkin, Marshall, & Co.

and may be said to come on with a rush, for as soon as it is truss-bare, the advance is rapid. Not so with Prince of Greens. My plant of this laid its truss bare early in February, but since then the progress has been solemn and stately, like the slow and solemn march of the funeral of a great warrior ; and assist development as I will, it is doubtful if I shall get the plant in flower by April 23rd. If the weather keep mild and sunny I have hope, but if piercing winds come from the north, then the task is made much more difficult. Acme, with white edge, is one of the earliest to flower. I have three or four plants of this pretty variety unfolding their pips. It is one of the most useful and reliable of the white edges, a good grower, very free, and always to be depended upon.

The peculiar fascination of Auricula-growing is the flowering of seedlings. I have some show Alpine and double varieties of good blood, that are beginning to flower. Some seedling green edges of excellent parentage show, as is usual, many selfs among them. Surely the self form must have been the original type, as the Auricula when raised from seed seems always to be striving to hark back to it. I have two or three yellow seedlings from Hetty Dean, that I am hopeful will give me something good, but all, like that variety, are early to flower. Why should not the yellow self be restored to its original position among the self class, and not be relegated to that *olla podrida*, the fancy class—a hodge-podge of burlesque Auriculas, in very many cases the rejected ones of collections? Gorton's Stadtholder, a yellow self, found its appropriate place ; and why not the modern yellow selfs that are good enough for the position ? Is Stadtholder still in cultivation ? I had it once, but it was wholly beyond my power to keep it.

Some time ago Mr. James Thurstan gave me a batch of tiny plants of seedling Alpine Auriculas ; the main of these bloomed last season, and I marked about a dozen to flower again. Some were very pretty indeed, but taking Turner's Unique as a model Alpine Auricula, it seems difficult to get beyond it. Size has come into the flower of late to such an extent, that I am afraid it is at the expense of refinement. Mr. Turner's greatest triumphs in Alpine Auriculas have been with golden-centred, edged and self flowers. I want to see the delicate white-centred varieties—the soft and gentler sex among the Auricula family—extended and improved. I have one among Mr. Thurstan's seedlings, a clear white centre that does not die away into the deadness of creamy brown, but keeps its life and expression to almost the last, and the marginal colours, as they mature, rise into ascending scales of shaded blue in the gamut of perfection. The pip is large, flat and solid, but it is pin-eyed. It will make an excellent seed parent, and I am hopeful of obtaining from it a progeny of seedling white centres that may enrich this somewhat restricted class. I do not know what varieties Mr. Thurstan took as seed parents, but I am bound to state that the seedlings, with but few exceptions, show good blood, and therefore the pedigree is commendable.

Double Auriculas are coming on apace also, but they are always later in blooming than the other classes, and so I have been unable to show them at the meeting of the National Auricula Society in London. I am doing my best to get a representative collection in flower by the 23rd, and I hope I may succeed.—*R. D.*

CLIVIAS.

Of the three species of Clivia known to science, namely, C. nobilis, C. Gardeni, and C. miniata, the latter has now been thoroughly taken in hand by the hybridist, and its improvement is as assuredly being effected as is that of Amaryllis, another group of the same family. The size and colour of the flower, even in the typical form, so far excel those of the other species that their influence in moulding the improved sorts is not considered desirable. Much greater variety, however, would have been obtained by crossing C. miniata with C. Gardeni, with its yellow, scarlet and green-tipped flowers. The want of variety in colour amongst the Clivias is their chief drawback; but on inspecting the great number of seedlings now coming into flower in the nursery of Messrs. John Laing & Sons, Forest Hill, there seems to be some indication of the typical orange-scarlet giving rise to other shades of colour ; and by intensifying these tints by seed sowing and selection, some distinct and very desirable colours may yet be obtained.

Clivia miniata var. Lady Wolverton.

Seedlings Flowering for the First Time.

A considerable number of seedlings have now reached the flowering stage, and many of them are of the same grand type as John Laing, which recently received a First Class Certificate from two different societies. The flowers, of which there were twenty-two on a truss, are of an intense orange-scarlet, of great substance and breadth of segments. Another seedling named Salmonea has orange flowers tinted with salmon, and as they fade they exhibit a certain amount of cerise. The truss is large, and stands about 18 ins. high, while the whole plant is of good habit. Delicatissima and Purity are of the same large type as above, and their special features are that they have a broad white band on either side of a median yellow one in the wide open throat. In this respect Purity is the most decided in tone. Another valuable character from a horticultural point of view is the dwarf habit exhibited by many of the seedlings with large flowers, against which the old types with their narrow segments are nowhere by comparison. Brilliant does not exceed 14 ins. in height to the top of the truss. The flowers of Glow are widely expanded, and the scape stands about 16 ins. high, while that of Vivid has the segments distinctly recurved and the scapes slightly taller. The flowers of all the three varieties are of a rich glowing colour. An unnamed seedling, in a half-expanded state, showed a very intense shade of orange, distinctly tinted with bronzy purple.

Older Varieties.

A considerable number of kinds were in flower when we examined the collection the other day, but the greater number including even continental named sorts are so inferior to the Messrs. Laing's seedlings, that we only noted the best. Sulphurea and Mrs. Laing are excellent and distinct kinds, with very broad segments ; the former is notable for its pale yellow colour, suffused with a thin shade of orange, and the latter is well known for the huge size of its trusses. A distinct-looking variety is Mr. Poë, a seedling raised by that gentleman, and having orange-scarlet flowers, suffused with a bronzy tint. As far as colour is concerned, Orange Perfection is very rich, but the segments are narrow compared with the best forms now grown. It, however, received a certificate some years ago.

Three or four years are required to raise seedlings to flowering size, and during this period they must receive liberal shifts to encourage rapid growth, after which they should remain two, three or more years in the same pot, as they flower best when the pots get crowded with roots. We noticed a seedling which has been in the same pot for the last three years, and it now bears nine spikes of bloom.

Lady Wolverton.

Our illustration of this noble variety shows what is being effected in this handsome decorative class of plants. The variety was raised by Mr. P. Davidson, of Iwerne Minster, Shaftesbury, and exhibited at a meeting of the Floral Committee of the Royal Horticultural Society on March 12th, when it was unanimously awarded a First Class Certificate. The breadth of the great thong-shaped leaves, the huge trusses of flowers, and the individual size and substance of the latter elicited the admiration of all who saw them. We have seen much darker colours amongst other kinds, both old and new, but the orange-scarlet with the yellowish white throat was only of secondary importance to the breadth of the segments, their substance, and the widely expanded or even recurved form which they took. Given size, breadth of segment and substance and colour can be got by seed-sowing and selection. The widening of the flowers will have the effect of shortening the tube of the flower, as is being done in the case of the Amaryllis, but the effect cannot be ignored from a horticultural point of view.

CLAYE HOUSE, HALIFAX.

When on a recent tour in the uorth I had the pleasure of visiting one of the most picturesque places in the neighbourhood of Halifax, Yorkshire, viz., that of Claye House, the residence of J. G. Wheelwright, Esq. Some parts of the mansion were built in the year 1400, and others later on. The antique structure stands on an eminence overlooking the splendid Calder Vale, and having the old town of Elland in full view. The object of my visit was to inspect the horticultural part of the establishment, which is in charge of Mr. S. Heaton, a sound, practical, aud scientific gardener who frequently gives lectures and essays in the district in furtherance of the cause of horticulture. The gardens are not very extensive, comprising two small kitchen gardens and a beautiful flower garden, which lies very low and is well seen from the terraces which lead to the mansion.

In going through the houses I was first shown a small one used in the season for Cucumber-growing, and in the winter for bedding plants. Then came a huge stove well filled with exhibition specimens, such as Allamandas, Rondeletias, Stephanotis, and notably some fine specimens of Anthurium Scherzerianum and A. Andreanum, the finest piece I have ever seen. The next is a small but beautiful fernery. Then adjoining is an Azalea house, which is becoming gay with bloom from large and well-grown plants. The conservatory was nicely filled with bloom of Spiræas, Calla æthiopica, Primulas (which are well grown), Tulips, Hyacinths, &c., and a splendid plant of Habrothamnus elegans covers a large portion of the roof. The next two houses are occupied with Roses Maréchal Niel and Gloire de Dijon, which have hundreds of blooms and buds.

Leaving this range we pass to the Orchid houses, which are three in number, the Cattleyas being magnificent, some large, healthy plants, with good blooms, in size, substance, and colour; there were other good varieties coming on which will keep the house gay for some time. The next house contains a large collection of Cypripediums, Vandas, Lælias, Aërides, Dendrobiums, Saccolabiums, &c.; and following this is the Odontoglossum house, which has a nice show of O. Alexandræ, O. Harryanum, O. sarcodes, and numerous others. The plants are in nice condition, and altogether I was pleased with what I saw at this quaint old place.—*F. H. Illingworth.*

LAWNS FROM SEED.

Now that the season for sowing Grass seeds is close at hand, a few remarks may not be out of place. Assuming that the preparation of the ground to be laid down was commenced in autumn, by having it dug evenly over, and any draining which may have been required done at the same time, it should now be made thoroughly firm and level, if not already done. Having also been raked over, it should be allowed to lie in such a condition for two or three weeks before sowing the seeds, when it will be found that a large quantity of weeds have made their appearance. Select a good drying day, and have the ground carefully hoed over. By attending to this little extra labour, mauy weeds are got rid of which would otherwise have come up amongst the Grasses, and most probably the seedsman who supplied the seeds would get credit for their appearance.

The following kinds are most suitable for lawns, aud the quantities given are sufficient to sow an acre :—

Names of Grasses.	Light Soil. lbs.	Heavy Soil. lbs.	Shady Places. lbs.
Agrostis vulgaris ...	6 ...	0 ...	12
Cynosurus cristatus ...	10 ...	16 ...	12
Trisetum flavescens ...	4 ...	0 ...	0
Festuca duriuscula ...	8 ...	10 ...	0
,, ovina tenuifolia ...	6 ...	0 ...	0
Poa nemoralis	4 ...	5 ...	10
,, ,, sempervirens..	4 ...	8 ...	10
,, trivialis	2 ...	4 ...	0
Trifolium reptans ...	6 ...	7 ...	6
,, filiforme	3 ...	0 ...	0
	53	50	50

Those who object to the Clovers being included in the mixture, may include a larger proportion of any of the above Grasses they find to do naturally well in the district. Rye Grass, so strongly recommended by some, I have kept out, as I think it of too strong a growth for a well-kept lawn. The second or third week in April will be early enough to sow the seeds, but a few days earlier or later is of little importance should the soil be in a suitable condition.—*J. C. B., Kelso.*

THE AMATEURS' GARDEN.

Crocuses.

Those who have an opportunity of seeing the London parks at the present time will be able to glean something of the habit of Crocuses in their native homes. In the wild state they are scattered about on the short grass in irregular clumps, patches, or in sheets covering a great extent of ground. To see little clumps of them in the well-tilled and kept borders of the garden can give no idea of their natural beauty, nor will they do so in the form of broad bands round the edges of beds in which Tulips and Hyacinths are planted in the spring garden. The Crocuses flowering so much earlier than those subjects, must inevitably be out of bloom long before them, so that there is nothing in such an association. The Crocuses have been flowering for some time past, whereas the leaves of Tulips and Hyacinths are only just appearing above ground. Planting Crocuses in large, scattered, and irregular patches on the grass is only a return to a system practised to a considerable extent by our forefathers. Not only may the endless varieties of the vernal Crocus (C. vernus) be planted, but also C. luteus, or Dutch Yellow, which is only a garden form of C. aureus, as well as C. Susianus, an early yellow, with a rich brown band on the three outer segments, and the charming C. biflorus, beautifully striped with purple on a pale, or grey, or white ground.

Fuchsias.

If not already done, Fuchsias may now be re-potted for the season. Plants that have been kept in a greenhouse through the winter, and where a little fire-heat has been used to keep out frost, are now pushing their buds, being just in that happy condition to take readily to the fresh soil when re-potted. Soil most suitable to Fuchsias should be light and rich; therefore use a compost of mellow or friable but fibrous loam, to which a quantity of leaf-soil and well-decayed manure has been added. Unless the loam employed is of a sandy nature, it is advisable to mix with it a good quantity of silver-sand, or, in the absence of that, clean, sharp, river sand will do just as well. Crock the pots well, and over the drainage lay some moss or lumpy pieces of turf to keep the soil from washing down, thereby stopping up the bottom of the pot and preventing the exit of water. During the growing season Fuchsias delight in a liberal supply of moisture, both at the root and overhead, and must be supplied if good results are expected. After the operation of potting is completed replace the plants in the greenhouse, but do not give them any water for a week, unless the soil should become excessively dry, or the young buds are considerably advanced.

Zonal Pelargoniums.

Before re-potting these for summer decoration, they should be pruned and kept dry for a week or ten days previous to the operation—that is, if they have been kept in an active growing condition up till now. On the other hand, if they have simply been resting, and in a tolerably dry state, they may be re-potted at once. Attend to the matter of pruning, however, as this is either badly neglected or misunderstood, as a rule, by amateurs. Before being started into fresh growth, Pelargoniums of most kinds should be hard cut back to a bud or two at the base of last year's wood. It may not, however, be convenient to cut all the young shoots back to this point, because the shape of the plant must be considered in order to get it as round and regular as possible. Plants in small greenhouses are too often seen with two or three long, straggling, naked stems, simply for the want of a little timely pruning in the earlier stages, and attention to light and ventilation afterwards. The compost need not be so light as that used for Fuchsias, as Pelargoniums like something substantial in which to grow. Press the soil down pretty firmly with the fingers, and the plants will flower all the better for it.

Tuberous Begonias.

Those fortunate enough in possessing a few old tubers, or those even which were raised from seeds last year, should now see in what condition they are. If they have been wintered in the pots in which they were grown last year, and kept in a moderately warm greenhouse, most or all of the tubers will now be sprouting. If such is the case they may be re-potted at once, shaking away the old soil as carefully as possible. The operation of removing the old soil may be facilitated by watering it some time before removing it. Should the tubers not yet have sprouted, they had better be examined to see if they are fresh; and if so, the soil should be moistened and the pots placed in the warmest part of the greenhouse to induce fresh growth, after which re-potting may be accomplished. A compost, consisting of loam, with a quantity of leaf-soil, well-rotted cow dung, and sand, will suit these Begonias admirably. Do not give any water for some time after potting, unless the soil is very dry or growth is active. After they have fairly started keep the plants in a light position near the glass to maintain a dwarf and sturdy habit.

Scarlet Lobelias.

What grand subjects these are for the amateur's garden! In brilliancy of colour they rival some of the finest tropical plants that require much artificial heat and professional skill to grow them. They are so nearly hardy that they may be kept in a greenhouse, or even in a frame, that is not artificially heated in any way. When bedding plants are lifted in autumn the stems of Lobelias should be cut down, and the roots lifted in mass and planted out in a cold frame. About this time they may be lifted and the soil shaken away, so that the whole piece may be separated into as many bits as there are crowns, which may be placed singly in small pots or simply planted in lines to make some growth before being planted outside about the end of May. There are many hybrids in cultivation presenting other shades of colour than scarlet, but none of them surpass that known as Queen Victoria, which is simply Lobelia splendens atrosanguinea, having deep bronzy red foliage and brilliant scarlet flowers. L. fulgens is a closely allied species with equally large flowers, but rather paler foliage. L. cardinalis has scarlet flowers, but they are much inferior in size to those of the other two, and the foliage is green.

GARDENING MISCELLANY.

Mitriostigma axillare.

In its native country, Natal, this deliciously fragrant shrub forms a compact spreading bush about 5 ft. in height. When grown, however, as a stove plant in this country, compact busby subjects, from 6 ins. to 12 ins. in height, flower very freely during the winter months. The annual increment of growth is very small, and in order to have a stock of small plants for dotting about in the conservatory, cuttings should occasionally be taken and rooted in the same way as a Gardenia. The genus is, in fact, closely allied to the latter, and we noted it the other day in the nursery of Messrs. J. Veitch & Sons, Chelsea, under the name of G. citriodora. We have elsewhere seen it under the title of Mitriostigma citriodora. The specific name in these cases refers to the lemon-like odour of the flowers, which are white, and nestle in clusters in the axils of the leathery evergreen leaves.

Lachenalia tricolor as a Basket Plant.

Amongst bulbous plants few are more suitable for basket work than Lachenalia tricolor, together with its nearest allies, such as L. t. lutea, L. t. Nelsoni, L. t. quadricolor, with its large purple lamina, and other free-growing kinds. All that is required to be done is simply to get a wire basket at the usual potting time in autumn, and place a layer of moss over the wire to keep in the soil. Then pick out a quantity of good even-sized bulbs, and insert them at regular distances round the sides, at the same time filling up the basket tier after tier as the bulbs are inserted. Press the soil firm and place some bulbs all over the upper surface, so that when the plants are in flower the whole basket may be covered. The basket used may be a hanging one, or it may be mounted on some sort of stand, so that both foliage and flower-stems, by being better exposed to the light, may properly develop on all sides alike, and the beauty of the flowers themselves in this position will then be displayed to the best advantage.

Erica perspicua nana.

Comparatively few of the beautiful Heaths which have been introduced from time to time are now in cultivation. The greater number have been lost, or have retreated into a few establishments from whence, it is to be hoped, they will again become disseminated through the country. The typical form of the plant under notice in general appearance may be compared to E. hyemalis, but the variety E. nana is dwarfer, more compact, and bears quite a profusion of very attractive

flowers, having a pink tube and a pure white limb. It is admirably adapted for the cool conservatory at this season of the year, and owing to its dwarf habit, may be accommodated in the front row. We noticed some neat flowering specimens in the nursery of Messrs. J. Veitch & Sons, Chelsea.

Drosera cistiflora.

MANY of the exotic species of Drosera, both from the Cape and from Australia, are notable for the size and often rich colouring of the flowers. The species under notice is flowering in one of the pits at Kew for the first time probably in Europe. Seeds were communicated by Miss North, who has been instrumental in introducing many fine things. The stem rises to a height of about 6 ins., and terminates in a solitary flower of a brilliant poppy-red or almost crimson-scarlet. The flower is large for the genus, and during sunshine forms a widely expanded cup, which may not inaptly be compared to a Poppy of that colour. At the base of the flower is a curious green disk, and the five styles, each with numerous radiating stigmas, arrange themselves against the petals and outside the group of five yellow anthers. The leaves are linear, densely covered with the customary glands, and arranged singly along the stems.

Hops for Ornament.

WHEN Hops are introduced to the garden for ornamental purposes, care might be taken to obtain some of the improved and cultivated sorts, which are far more ornamental when in fruit than the ordinary wild kind. The male and female flowers are borne on different plants, the latter being by far the more ornamental. Male plants, except out of curiosity, need not be grown. Being so uncommon, however, compared with the catkin-bearing kind, there is frequently a desire to grow both for the sake of contrast. There are numerous improved kinds under cultivation, which vary in the size, number, and colour of the catkins, and are certainly very effective when grown as a covering to pillars, trellises, arbours, summer-houses, and similar things. Some of these are known as Grapes, White Bines, Goldings, and other names. In order that the best effect may be obtained, they should be well manured in autumn, while at all times the soil about them should be rich and well loosened up, so as to take in rain and what other moisture may be applied to them artificially. The old Vines should now be cut down to a strong bud at the surface of the ground, after which they will throw up vigorous young shoots. The present is also a good time to plant rooted young suckers.

Emperor Frederick Cineraria.

MESSRS. JAS. CARTER & CO. kindly draw attention to the fact that persistency in presenting the plant eventuated in getting a Certificate of Merit awarded to my Blue Primrose. But they overlook the fact that the certificating body in my case was the R. H. S. Floral Committee, and not two or three judges at the Royal Botanic Society's show in Regent's Park. So far as my judgment went when I saw the basket of their Cineraria at the Westminster Drill Hall, on the 26th ult., I thought yet another fortnight was needed to enable the blooms to be fully expanded. As to whether then it may merit the coveted honour I will offer no opinion, for I have no voice in the matter. If, however, the plant marks so remarkable a break in Cinerarias as my blue Primrose does amongst its fellows, then it is meritorious indeed.—*A. Dean.*

Azalea obtusa alba.

CONSIDERABLE attention has recently been given to the improvement of the smaller-flowered forms of Azalea, both for the decoration of the conservatory and for the sake of cut flowers, as they generally respond more readily to forcing than the larger-flowered forms of A. indica. As evidence of the tendency, we need only refer to the improvements in A. amœna—to wit, A. s. Colvillei and a race known as the Carmichael strain. As long ago at least as 1878 Messrs. James Veitch & Sons grew A. obtusa, a form intermediate in the size of its orange-crimson flowers between A. indica and A. amœna, with the habit and hardiness of the latter. Since then one of their travellers—namely, Mr. Maries—picked up the white form in Japan, and good-sized specimens of it may be seen at present at Chelsea, where it has been in flower for some time past. The great majority of the flowers are pure white, but some of them show a tendency to become striped with red, and occasionally a flower appears that is wholly of a red colour. It is easily grown, and is very floriferous.

Shirley Poppies.

To the gardener or amateur who wishes to be in the fashion and abreast with the times, one may say, if you do not grow a few Shirley Poppies this season you will be out of the running entirely. They are of diverse colours, and wherever cultivated are sure to gain admirers. Seed may be sown now, either in drills or broadcast; when large enough thin out the plants to about a foot apart, and keep free from weeds afterwards. A somewhat poor soil, rather than the contrary, will suit them best.—*J. H.*

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

HEATHS AND AZALEAS.—Notwithstanding the great amount of work on hand at present, no better time could be selected for the re-potting of such hard-wooded subjects as require it. Before turning any of the plants out, see that they have been watered a short time previously, and that the ball of soil is thoroughly moistened. The soil that is to be used for potting should be in the same happy condition, so that no watering may be required for some time after the operation has been accomplished. Watering such things immediately after potting tends to render the soil sodden and pasty, thereby preventing the young roots from permeating it. In preparing peat for Heaths and Azaleas, the finer portions had better be sifted out and used for some other purpose. Very large shifts should not be given; but the soil should be firmly rammed down between the pot and the old ball, so as to prevent water from percolating away by the new material without entering the old ball.

EPACRIS.—Almost the same remarks apply to this class of plants as to the Heaths; but it is best to pot them after the shoots have been cut down, and the young buds have again begun to push. Before this takes place it is necessary to put them in strong heat for a time. Where a large quantity is grown in successive batches, they will require to be pruned and placed in heat at different times as they go out of flower.

CALCEOLARIAS.—Great care must now be exercised with these soft-wooded subjects, as they are extremely liable to the attacks of green-fly, and their foliage to get drawn, unless plenty of space is allowed between each plant, and are kept close to the glass in a well-ventilated house. A low pit or cold frame is the best place for the plants at present. Plenty of ventilation can be given at all times, and by a close attention to these necessary requirements, the foliage can be preserved in fresh and healthy condition—a matter of no small importance when the plants come into flower. Should green-fly put in an appearance, fumigate lightly on successive occasions till the pest is thoroughly subdued.

PRIMULAS AND CINERARIAS.—Now is a good time to sow the main batches of these useful subjects. The semi-double strains of Primula sinensis are amenable to the same system of cultural treatment as the singles, and are propagated in the same way. Those that are perfectly double must be propagated by division or cuttings. A simple and excellent plan is to prepare a quantity of light rich soil in which well-rotted leaves are largely incorporated. Remove all the old foliage from the base of the plant, and pack firmly a layer of the compost round the collar of the same so as to surround the base of the offshoots. Place in a warm, moist atmosphere for some weeks, after which it will be found that the side branches have rooted into the compost. They may then be severed from the old rootstock with a sharp knife, and may be potted up as rooted plants immediately. It will be necessary to keep them close and moist for a time.

THE FORCING HOUSES.

VINERIES.—Attend to the stopping of the shoots of Black Hamburgh and Muscats in the late houses. Tie down the shoots before they touch the glass, and where the semi-extension is adopted the laterals may be allowed to grow to the second or third leaf beyond the bunch, or as far as there is space to fully accommodate and allow of a proper development of the leaves, so that all may be fully exposed to the light. Assist Muscats in flower to set their berries by the maintenance of a dry atmosphere during the early and middle part of the day. Also tap the rods occasionally to distribute the pollen, or some of the many artificial means of effecting the same. The temperature of the house at this time may be kept at 70°, or 65° on cold nights. Inside borders should occasionally receive a good soaking with tepid water.

MELONS.—With the lengthening of the days and the increase of solar heat these are now making rapid progress. Stopping and tying must be regularly attended to so as to economise their vigour as much as possible. When the roots have well permeated the mounds of soil and are showing themselves outside of it, additions of fresh and substantial material must be made to them. It is beneficial to the tender and rapidly extending roots that the freshly added soil should be of the same temperature as the house, otherwise they may suffer a check.

THE KITCHEN GARDEN.

FRUIT TREES.—If not already done, all recently transplanted trees in the open should be securely staked. Trees against walls that were left unfastened until the ground should have subsided, carrying the trees with it, must now be nailed up without further delay. Owing to the cold, drying, north-east winds very little growth is made, but the flower buds of Pears, and especially the earlier kinds, have now made a decided move, and it may be necessary to protect the blooms of very early kinds from late spring frosts. This cannot be carried to any extent in the case of standards in the open; but wall trees may easily be protected by arranging a few Spruce or Evergreen branches over the parts of the tree that are rich with flower buds. The branches should be a little above the blossom, so that removal of the protection will not be necessary until all danger is past. Peaches, Apricots, and Cherries that flower early are those to which most attention should be given.

ORCHID NOTES AND GLEANINGS.

SPATHOGLOTTIS KIMBALLIANA.

THE habit of this species is precisely similar to that of S. angustorum, and the two may be described as the giants of the genus, as far as those in cultivation are concerned. The narrowly lance-shaped plaited leaves vary from 1½ ft. to 3 ft. in length, according to the strength of the plant; they assume an arching habit, so that the strong erect scapes surmount them. The flowers in both of the species named are borne in short dense racemes at the top of the scape, are of large size, and to a casual observer bear a considerable resemblance to those of a Phalænopsis, as far as shape is concerned. The inner surface is of a deep yellow, while the outer is more or less stained with bronzy red. It was recently exhibited by Sir Trevor Lawrence, Bart. (gardener, Mr. Bickerstaff), Burford Lodge, Dorking, with whom it has flowered much earlier in the season than it did last year.

ODONTOGLOSSUMS AT EASTWOOD PARK, THORNLIEBANK, NEAR GLASGOW.

THE Odontoglossum houses belonging to D. Tod, Esq., are at the present time quite ablaze with flower, and it is probable that the collection is second to none in cultivation at the present time. I have seen many good examples of high cultivation, but never anything approaching what I witnessed in Mr. Tod's houses the other day. The first that attracted attention was a very fine variety of O. Andersonianum, which had two spikes from one bulb freely branched, and in the aggregate carried the enormous quantity of ninety-eight large flowers. Another plant of the same variety had four spikes, with an aggregate of 142 flowers, the bulbs being from 8 ins. to 10 ins. in circumference. Of the O. crispum section there were dozens of spikes from 1 ft. to 3 ft. in length, and all of sterling quality; indeed, as Mr. Tod remarked, "they are the pickings of thousands." One variety struck me very much, as instead of the usual chocolate-brown markings it was densely spotted with mauve-purple, similar to O. Pescatorei Veitchianum and others of that section. O. Edwardii was represented by two plants carrying hundreds of its sweet-scented violet-purple flowers. O. Hallii occupied the centre stage, and the crop of spikes could only be compared to a field of Willows, many of them being 4 ft. in length, with forty to fifty flower-buds. These will be a glorious sight in a short time. A fine plant of O. tripudians had twelve spikes, and fine varieties of O. luteo-purpureum, including Sceptrum, were also in flower. O. Prionopetalum was very distinct, the sepals and petals being of a rich shade of canary-yellow, heavily marked with brown spots. In the same house Oncidium macranthum had spikes

from 12 ft. to 15 ft. long, still growing, and will be worth seeing when in flower. Mr. Ewart, the gardener, is to be congratulated on growing the plants to such a high state of perfection.—*R. C. Fraser.*

Cyrtopodium Saintlegerianum.

In the genus to which this belongs, this species is notable for the wonderful development of the bracts all along the much-branched panicle of flowers, and which are as highly coloured as the flowers themselves, being in fact of the same colour. Something of the same thing is seen in C. punctatum, but not by any means to the same extent as in the species under notice, a fine specimen of which was exhibited by Mr. G. W. Cummins, gardener to A. H. Smee, Esq., The Grange, Wallington, Surrey, at a recent meeting of the Royal Horticultural Society. He has on former occasions exhibited equally well-grown specimens. The sepals, petals and bracts are yellow, transversely barred with brown, which varies in intensity in different individual plants. The lip is also coloured in the same way, but the markings differ in shape. The number of flowers produced on a well-grown plant is something remarkable, and must constitute a great strain on its energies if allowed to remain uncut for any length of time.

Miltonia cuneata.

The fine bold contrast between the lip and the other parts of the flower of this species should secure it a place more frequently in collections than it is at present. The flower spikes are erect or nearly so, with the flowers arranged in racemes. Both sepals and petals are of a rich, shining, chocolate-brown, tipped with yellow, and have a few slender transverse streaks of the same colour lower down. The lip is proportionately very large, obovate, wedge-shaped, and white, with the exception of the two-ridged crest, which is yellow spotted with purple, and a faint violet blotch on each side of this. There are several others similar in habit, such as M. candida, M. Clowesii and others, but that here noticed is as showy as any. A specimen is flowering in the warm Orchid house at Kew.

Pleione humilis.

The colour of the markings on this beautiful species are very variable, and all are extremely pretty. The sepals and petals, as well as the ground colour of the lip, are white. The latter organ is also rendered curious and beautiful by the long fringes of the edges, as well as those along the centre of the same, forming several distinct lines of long white processes. On the side lobes, and also forming lines between the fringes, is a close arrangement of spots, which may be wholly of a tawny brown, wholly of a violet-purple or pale purple, or they may be partly one and partly the other in the same flower. The greater proportion of the spots on the plants we noted recently in the nursery of Messrs. Hugh Low & Co., Clapton, were tawny brown, but very pretty.

Two Fine Dendrobiums.

We have recently received some flowers of D. nobile Cooksonianum and D. Ainsworthii Leechianum, from Mr. Blair, gardener to the Duke of Sutherland, at Trentham Gardens, Stoke-on-Trent. The first mentioned, as is now well known, shows peloria of the three inner segments of the perianth, that is, the two petals have become metamorphosed into lips—different indeed from the true one in not being so deeply hooded, but at the same time remarkable in showing the same amount and the same kind of colouring as the normal lip. They are also covered on the upper surface with a dense pubescence, but less conspicuously on the under surface, whereas the primary lip is distinctly pubescent on both surfaces. D. Ainsworthii Leechianum differs from the type in being larger in all its parts. The specimen sent bore evidence of Mr. Blair's good cultural treatment, inasmuch as the cluster carried four large and equally well-developed flowers. The number of flowers borne in a cluster by plants belonging to this section of the genus, varies from one to three, therefore four is quite unusual. The lip is furnished with a large maroon-purple blotch, while the rest of the flower is white tinted with rose at the tips of the segments.

The Priory, Isle of Wight.

In the collection of Orchids formed by H. G. Smith, Esq., are many noteworthy subjects—viz., Vanda suavis, V. tricolor, V. Sanderiana, and V. gigantea, the latter being a splendid specimen with nine pairs of leaves and two fine racemes, one of which has fourteen flowers fully expanded, the other having nine. In the Odontoglossum section are many plants of superior merit, viz., O. Alexandræ, O. Pescatorei, O. Cervantesii, O. triumphans, O. cordatum, and O. Uro-Skinneri. The last named is an immense specimen, with thirty-one extraordinary large bulbs and two strong flower-spikes, carrying upwards of fifty large flowers of great size and substance. It may be interesting to know that this plant has not been without bloom for the past seven years. Amongst the Oncidiums were noted O. concolor, O. crispum, O. Forbesii, O. dasytyle, O. ampliatum in spike, and O. Marshallianum, in quantity, and which are now pushing up numerous spikes. The Dendrobe section is a very interesting one. There were emerging into bloom some fine examples of D. nobile over 4 ft. in diameter, and having hundreds of flowers—truly a glorious sight. A fine specimen of D. densiflorum is coming into bloom with thirty-two racemes. The Cattleyas in bloom were limited to a few C. Trianæ, their season being past. There were numbers of Miltonias, Adas, and Sophronites, arranged very effectively, and adding a lustre to the whole. Cypripediums, the most popular of Orchids, are not grown extensively; but it is only fair to say that what few there are look exceedingly well and do credit to Mr. John Earl, the enthusiastic gardener.—*J. McNab.*

Ada aurantiaca.

How is it that this very useful winter-flowering Orchid is so seldom seen in any quantity in collections? Some years ago, large specimens were to be found in several collections, but now it is rarely met with otherwise than in small pieces. It is of easy culture when treated properly, but many plants have been killed by being subjected to too high a temperature. It resents heat even more so than the cool-loving Odontoglossum crispum, in company with which it should be grown. In its native home it is found at an elevation of from 8,000 ft. to 9,000 ft. I recently saw a fine plant in the collection of G. Gair, Esq., The Kilns, Falkirk, bearing twenty-four spikes. Evidently Mr. Fairbairn, the head gardener, gives it the proper treatment.—*R. C. Fraser.*

Phalænopsis Schilleriana.

When grown and flowered well, this Orchid is a conspicuous object during the winter months; but when one has seen the wonderful examples of it grown by Mr. Searing, at Heaton House, Cheshunt, it takes something good to attract special attention. In the collection of Mr. Wilson, at Bantaskin, Falkirk, the other week, I saw some plants admirably grown, with spikes of from forty to sixty flowers. Instead of having them all together, as is usually done, Mr. Mitchell, the gardener, has them placed all over a Cattleya house, where a quantity of C. Trianæ was in bloom, and the effect was very pretty.—*R. C. Fraser, Arddaroch.*

Lycaste Skinneri alba.

We are in receipt of a fine specimen of this popular and desirable variety from Mr. Robert Twiss, Bird Hill House, Limerick. Having been in flower for a long period, it was somewhat past its best and had lost its pristine freshness, by the time we received it, but was nevertheless in fairly presentable condition. It measured somewhat over 5 ins. across the lateral sepals, and was therefore above the average for the white variety. All parts were of good size, and not only were the lip and the column white, except at the very base, but the tongue or crest was of a pale lemon-yellow. It might have been white on first expanding, but showed off the beard of hairs covering it to great advantage. In the coloured forms this is not readily discernible.

Oncidium sarcodes.

A plant of this showy Orchid is now in bloom at Broomhall Field, Sheffield, with two branching spikes, the largest of which is 6 ft. long, and bears sixty flowers. Is not this unusually fine?—*J. W.* [Yes.—Ed.]

Obituary.

With great regret we have to record the death, on the morning of the 28th ult., of Mr. J. Ridout, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate. Mr. Ridout, who was one of the best all-round gardeners of the day, a most successful cultivator of Orchids, Roses, Chrysanthemums and Carnations, as specialties, and who did everything else well that he took in hand, had been suffering for some time from kidney disease, and latterly from loss of sight in one eye. The previous evening, about eight o'clock, he slipped from his chair, remarking that he had lost the use of one side; medical aid was at once summoned, but he never rallied, and died at 4 p.m. on Thursday morning.

At Kennington, S.E., on the 1st inst., Margaret, relict of the late Mr. George Wynne, gardener, The Mount, Shrewsbury. Aged 76 years.

THE NURSERY AND SEED TRADE.

A Deal in Dracænas.

In the March number of the *Bulletin d'Arboriculture* some particulars are given of an interesting point of law that came up for decision recently before the Ghent Tribunal of Commerce. The question arose over a deal in Dracænas between two Ghent nurserymen. One of them saw, in a plant house belonging to the other, a batch of plants of Dracæna neo-caledonica which were planted out, and bought a lot of them to the value of 500 francs. The vendor, in accordance with what was described as the custom of the trade, detached the offsets from the plants before despatching them to their destination. Perceiving that this had been done the buyer refused to accept the plants, hence the action before the Tribunal of Commerce. Evidence having been given on both sides the court gave judgment in favour of the buyer, reducing the claim from 500 francs to 300 francs, and ordering the vendor, whose good faith was not questioned, to pay the costs.

The Board of Trade and Railway Rates.

The president of the Nottingham Chamber of Commerce has received a letter from the Board of Trade, in reply to resolutions passed by that and kindred bodies in the town on the subject of railway rates, stating that the Board have decided it to be practically impossible to require railway companies to submit schedules of rates at present charged. Those rates, continued the letter, appeared to include rates charged for every article in a railway company's classification of merchandise, from every station to every other station on the system of each company, and in the case of the larger companies such rates would number several millions.

The Nursery and Seed Trade Association, Limited.

At the special meeting held on Monday last, the resolution altering the date of the annual meeting to May instead of January was confirmed. A meeting of the committee of management was subsequently held, at which the officers were elected for the current year.

Judgments.—March 28th, against H. May, Bedale, £2 9*s.* 2*d.* March 27th, against A. Fairall, Westerham, Kent, £2 5*s.* 6*d.* A. Meikle, Bloomfield Road, Maida Hill, £1 13*s.* March 29th, Mrs. Wildey, Cosham, Hants, £61 16*s.* 5*d.*

Bankruptcy Proceedings.—At a meeting of the creditors of Mr. H. Stringer, at Brighton, Mr. Goodchild represented the principal creditors, but as the proofs of all the other creditors present were informal, the meeting was adjourned, there being no quorum.

QUESTIONS AND ANSWERS.

Special attention is paid in the columns of The Gardening World to the answering of questions on all subjects connected with practical horticulture, and the naming of Plants (other than Florists' Flowers) and Fruits, in which department the Editor is assisted by gardeners and specialists of great experience.

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's *bonâ fides.* No notice whatever will be taken of anonymous letters.

Address Wanted.—*J. T. F.:* The address you require is 16, Brook Street, Hanover Square, W.

Antigonon leptopus.—*Ponica:* A stove climber, with rose-coloured flowers. It belongs to the natural order Polygonaceæ, and derives its name from *Anti*, against or opposite, and *Gonia*, an angle.

Artificial Manures.—*H. Benson:* The chief ingredients of all good artificial manures are nitrates and phosphates, but to give you the information you require, if we understand your question rightly, would take up more space than we can devote to the subject. You had better get such a book as Warrington's *Chemistry of the Farm* (Bradbury, Agnew & Co.), or Johnson's *How Crops Grow* (Macmillan & Co.).

Blue Primrose.—*W. Caudwell:* The bloom you sent us is certainly an uncommon one, both from the fact of its being of the hose-in-hose kind, and from its peculiar colour. The calyx segments were nearly of the same size and colour as those of the corolla. There is a certain amount of blue in the flower, but it is more nearly akin to that seen in a double, dark-coloured violet. We think by a little improvement, which can be effected by seed sowing and selection, varieties might be derived from it that would be of considerable horticultural value. The upper surface of the flower, as we received it, was tinted with a slaty grey, except around the eye, which was very pretty. The under surface, as well as the calyx, showed a good deal of purple, so that we should describe the flower as a dark violet-purple, and hope you will improve upon it.

CROPPING.—*Omega:* Potatos should follow Cabbages or some other crop not of a kindred nature to themselves, and Cabbages and the Brassica tribe generally, including Turnips, should follow Peas, Onions, Celery, Potatos, or any other crop belonging to other families. The object of changing the rotation in this way is to prevent the soil from becoming exhausted of any one constituent of plant food, through always growing the same kind of crop on the same ground.

NAMES OF PLANTS.—*Mrs. Leadbetter:* 1, Dendrobium aggregatum; 2, D. cariniferum; 3, D. crassinode; 4, D. Devonianum. *J. Grandfield:* Violet, Victoria. *W. Little:* Hardenbergia monophylla. *J. E. D.:* Begonia manicata.

ODONTOGLOSSUM ALEXANDRÆ.—*G. W. B.:* There are many worse flowers in cultivation than the specimen you sent us. It was nearly pure white, and in that respect left little to find fault with; but we must regard it only as a second-rate flower, from the fact that the segments were too narrow to overlap one another, so that the flower presented a star-like shape rather than the round flowers so much to be desired in this popular Orchid.

PLANT NAMES.—*Omega:* The generic name should always commence with a capital letter, and the specific with a smaller one, except when it is a native name, as for instance, Jonesia Asoca; an old generic name, such as Veronica Chamædrys; or a commemorative name, such as Berberis Darwinii.

SELECT DAHLIAS.—*Omega:* A dozen first-rate sorts to grow for cutting would be:—Bedding or pompon varieties: Gem, scarlet; Golden Gem, yellow; Isabel, orange-scarlet; Lady Blanche, white; White Aster, white; Carl Mendel, crimson; Drap d'Or, yellow; Ronstapand, yellow. Cactus varieties: Cochineal, crimson; Constance, white; Henry Patrick, white; Juarezii, crimson.

COMMUNICATIONS RECEIVED.—W. D.—R. S.—J. A.—F. R.—R. J. H.—B. L.—A. D.—F. H.—J. W.—R. Y.—S. A. O.—F. H. J.—J. L. G.—F. R. S.

TRADE CATALOGUES RECEIVED.

W. & J. BIRKENHEAD, Sale, Manchester.—Ferns and Selaginellas.

CHARLES TURNER, Slough.—Soft-wooded and Stove and Greenhouse Plants.

THE WEATHER.

AT the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending March 30th was 30·02 in.; the lowest reading was 29·73 ins. on Monday afternoon, and the highest 30·31 ins. on Thursday morning. The mean temperature of the air was 45·6°, and 2·5° above the average in the corresponding weeks of the twenty years ending 1868. The mean was below the average on Tuesday, Wednesday and Thursday, but showed an excess on each of the other days of the week. The general direction of the wind was westerly, and the horizontal movement of the air averaged 14·9 miles per hour, which was 2·4 miles above the average in the corresponding weeks of sixteen years. Rain fell on five days of the week, to the aggregate amount of 0·11 of an inch. The duration of registered bright sunshine in the week was 14.3 hours, and corresponded with that recorded at Glynde Place, Lewes.

COVENT GARDEN MARKET.

April 3rd.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Cobs .. per 100 lbs.			Pine-apples, Eng., lb.	1 0	1 6
Grapes .....per lb.	1 6	5 0	Strawberries.. per lb.	4 0	10 0

Canadian and Nova Scotia Apples, per barrel, 7s. to 17s.

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus....per 100	14 0		Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	2 0		Lettuces ..per dozen	1 6	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages.... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes ..per dozen	1 6	
			Small salading, punnet	0 4	
Celery ....per bundle	3 0		Spinach, per strike ..	2 0	
Cucumbers ....each	0 9	1 0	Tomatos ....per lb.	1 3	2 6
Endive, French, doz.	2 6	3 6	Turnips ....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemone, French, per doz. bunches.	1 0	4 0	Pelargoniums, 12 spys.	1 0	1 6
Arum Lilies, 12 blms..	2 0	4 0	— scarlet ..12 sprays	0 4	0 6
Azaleas ....12 sprays	0 6	1 0	Paper White Narciss, French, doz. bunches	3 0	6 0
Bouvardias, per bun.	0 9	1 0	Primroses..doz. buns.	0 6	1 0
Camellias, white, doz.	2 0	4 0	Primula, double, bun.	0 9	1 0
— coloured..... ,,	0 6	1 6	Ranunculus, French, per doz. bnchs.	2 0	4 0
Carnations, 12 blooms	2 0	3 0	Roman Hyacinths, French, 12 bun.	1 0	2 0
Cyclamen..12 blooms	0 4	0 9	Roses, Tea, per dozen	1 0	3 0
Daffodil, dble., 12 bun.	2 0	4 0	— Red .....per doz.	3 0	6 0
— single, various	4 0	9 0	— Red, French, dozen	1 6	2 0
— or Lent Lily ,,	1 6	3 0	— Saffrano ..per doz.	1 0	2 0
Encharis ..per dozen	4 0	6 0	— Safrano, French per doz.	1 0	2 0
Gardenias, 12 blooms.	3 0	6 0	Tuberoses, per dozen.	2 0	3 0
Heliotropes, 12 sprays	0 6	1 0	Tulips ....12 blooms	0 6	1 0
Lapageria, 12 blooms	2 0	4 0	Violets ..12 bunches	0 9	1 3
Lilium longiflorum, 12 blooms	4 0	6 0	— Parme, French, bun.	2 6	3 0
Lily of the Valley, 12 sprays	0 6	1 0	— Czar, French ,,	1 6	2 0
Maidenhair Fern, 12 bns	6 0	9 0	— Dark ,, ,,	1 0	1 6
Marguerites, 12 bun.	3 0	6 0	Wallflowers, 12 bnchs,	4 0	8 0
Mignonette, 12 bnn.	4 0	6 0	White Lilac, French, per bun.	4 0	6 0
Mimosa, French, per bunch	1 0	1 6			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	6 0	18 0	Genista ....per dozen	9 0	12 0
Arum Lilies..per doz.	9 0	18 0	Hyacinths ..per doz.	6 0	9 0
Azalea.....per doz.	18 0	42 0	Lilies of the Valley, per doz.	12 0	24 0
Cineraria ..per dozen	6 0	10 0	Marguerites per doz.	6 0	12 0
Cyclamen ..per doz,	9 0	18 0	Mignonette, doz. pots	6 0	12 0
Cyperus, ..per dozen	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz.	30 0	60 0	Pelargoniums, scarlet, Pinks, &c., per doz.	6 0	9 0
— viridis, per dozen	12 0	24 0	Pelargoniums, per doz.	15 0	21 0
Erica, various ..doz.	9 0	24 0	Primula sinensis, doz.	4 0	6 0
Evergreens, in var., per dozen	6 0	24 0	Solanums....per doz.	6 0	12 0
Ferns, in var., per doz.	4 0	18 0	Spiræa .....per doz.	9 0	15 0
Ficus elastica ..each	1 6	7 0	Tulips ..... per doz.	6 0	9 0
Foliage Plants, various .....each	2 0	10 0			

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POLYANTHUS and PRIMROSE (Hybrids).—Jack-in-the-Green, Hose-in-Hose, and other rare and curious forms, splendid mixed colours, finest strain grown. 12 for 1*s.* 6*d.*; 25, 2*s.* 6*d.*; 100, 9*s.*, all good blooming plants. Also seed from above, 6*d.* and 1*s.* per packet.

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The beautiful pure white and pink **MALVA MOSCHATA**, one of the best hardy border plants in cultivation. Strong two-year old plants, 12 for 1*s.* 6*d.*; 25, 2*s.* 6*d.*

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PRIMULA CORTUSOIDES.—A grand spring flower (hardy). Gardening papers say it would be difficult to find a more beautiful plant for the rockery, greenhouse or window than this. 4 for 1*s.*; 12, 2*s.*

HOLLYHOCKS.—Double named varieties, 6 for 2*s.* 6*d.*; 12, 4*s.* free. Also seed from above, 1*s.* and 2*s.* 6*d.* per packet.

FANCY PANSIES, unnamed, 6 for 1*s.*; 12, 1*s.* 9*d.*; 25, 3*s.*; 100, 10*s.*, all different and first-class sorts.

AQUILEGIAS.—Three splendid varieties of this deservedly popular hardy border plant—Siberica, double blue; Glandulosa (Grigor's), blue sepals, white corolla; and Grandiflora, the largest pure white. 1 each, 1*s.*; 3 each, 2*s.*, good blooming plants.

HOLLYHOCKS.—Warranted double. Chater's fine select strain, 12 varieties, 2*s.* 6*d.*; 6, 1*s.* 6*d.*

CARNATIONS, PICOTEES, & CLOVES.—Strong plants from finest varieties only, including many new sorts, will give a mass of bloom, 12 beautiful varieties, 2*s.* 6*d.*; 6, 1*s.* 6*d.*; 100, 15*s.*

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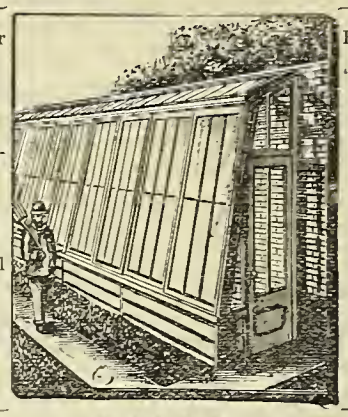

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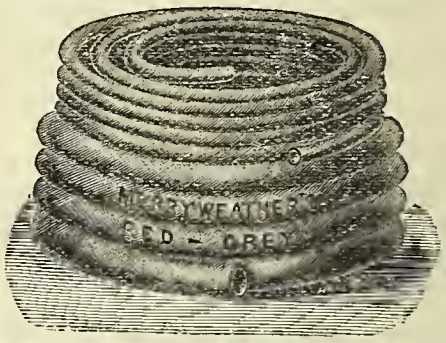

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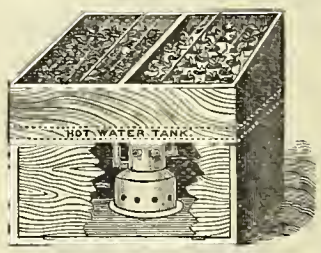

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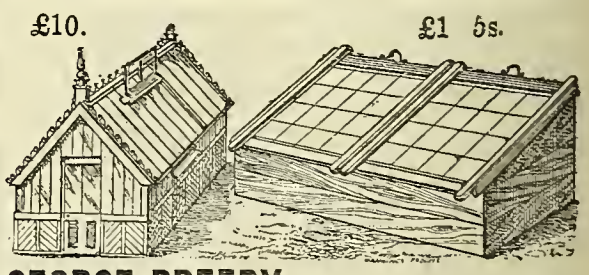

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The beautiful pure white and pink **MALVA MOSCHATA**, one of the best hardy border plants in cultivation. Strong two-year old plants, 12 for 1*s.* 6*d.* ; 25, 2*s.* 6*d.*

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IRIS.—Rivals of the famed Orchid. Selections from Germanica, Siberica, and Pallida, 3 distinct varieties for 1*s.* ; 6 extra, 2*s.*

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80,000 CLEMATIS IN POTS, of all the finest double and single varieties (some of the flowers of which become 10 inches across, and are of every shade, from pure white to the darkest purple), for climbing and bedding, from 12*s.* to 24*s.* per dozen, strong plants. BEAUTY OF WORCESTER, a magnificent purple, excellent for bedding, recently sent out by us ; reduced price, 2*s.* 6*d.* each. Descriptive List on application.—RICHARD SMITH & Co., Nurserymen and Seed Merchants, Worcester.

Next Week's Engagements.

MONDAY, April 15th.—Sale of Lily Bulbs at Protheroe & Morris's Rooms.

TUESDAY, April 16th.—Sale of Orchids in Flower at Protheroe & Morris's Rooms.

WEDNESDAY, April 17th.—Notts Horticultural and Botanical Society : Exhibition of Daffodils, &c. Sale of Greenhouse Plants at Protheroe & Morris's Rooms. Sale of Orchids in Flower at Stevens' Rooms.

THURSDAY, April 18th.—Sale of New and Rare Orchids at Stevens' Rooms.

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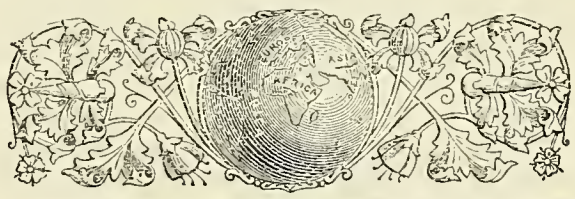

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, APRIL 13, 1889.

CURRENT TOPICS.

RAILWAY RATES AGAIN.—The more we learn of the Railway Rates Act of last year the more do we find it is open to severe criticism. It seems to have had the by-no-means—considering its origin—uncommon result of playing the deuce with all sorts of interests, and offending everybody, except perhaps the railway companies themselves. As far as information is to hand, it would seem as if the companies were taking advantage of the Act to increase their rates for the transit of commodities, and especially of soil products some 30 to 40 per cent. A pretty outcome that of a measure which was called for by all the trading interests of the country for the purpose of creating equal rates of transit, which should favour home trade as freely as they did foreign trade.

Not a few of those who called so loudly for the abolition of favoured rates for foreign

produce begin to wish they had let well alone. Had they gone to the companies and made their own special arrangements all might have been well; but they preferred to invoke the aid of Parliament, and a pretty mess has been made of it. "Where," exclaims an indignant correspondent of a contemporary, "are the Fruit Growers' Associations, at this juncture?" and echo answers, "Where?" As one result of all this hubbub about preferential rates, products seem likely to be heavier rated generally, with increased terminal charges, all of which, so far from helping the home-grower will but leave him in a worse plight than ever. Well may he exclaim over this matter, "Save me from my friends!"

All about a Medal.—One of our contemporaries last week waxed so wroth over the action of the Floral Committee in granting to a large and attractive group of plants at the Westminster Drill Hall, on March 26th last, a Silver-gilt Banksian Medal, that the fierce protester could find in nothing less than a long leader, space in which to vent his editorial indignation. It seems a little late to be angry with the Floral Committee for doing just what that body has been doing any time during the past twenty years. Perhaps if the recipient had been some London or other eminent nurseryman, no protest would have been made, and it does seem rather unfortunate that the whole force of our contemporary's anger, which is very terrible when it bursts, should have been reserved for a young and striving tradesman in a provincial town, who thought that in sending to London a big bank of decorative plants and flowers for the delectation of the habitues of the Westminster Drill Hall, he was performing a meritorious act.

But after all, what is this row about? A Silver-gilt Banksian Medal, whatever that piece of metal may be. We are strangely reminded of the protest of the Jew, who, when about to partake of a surreptitious rasher, was startled by a terrific clap of thunder, and, as if to propitiate angry Jupiter, exclaimed, "What a row about a bit of bacon!" Just what seemed in the Hebrew's eyes to be trifling, is this medal with the long and dubious description in our estimation. For after all what is the medal worth? Will anyone give five pounds, one pound, nay, ten shillings? No? Well, let us withdraw the lot for some more appreciative people than those all too familiar with the pecuniary value of Silver-gilt Medals. But whilst we are far from joining with our contemporary in his anger about such a small matter, we freely admit that still the Drill Hall displays are far too much made up of common-place stuff, which is greatly out of place there.

Hirsute Chrysanthemums. — Not exactly crested, as were the several forms of Cyclamen shown and illustrated last year, but distinctly hirsute or hairy is said to be the new Chrysanthemum, Mrs. Alpheus Hardy. So far we have been favoured only with illustrations of this wonderful variety; and whilst we shall not be surprised if it be found less remarkable than described, we shall, on the other hand, welcome most warmly not only that, but any other form if found to be really novel and offering distinctive breaks from the normal type of petal found in Chrysanthemums. If Mrs. Alpheus Hardy be all that it is pronounced to be, we may in time hope to see a race of Japanese flowers covered with something like swan's-down, or bristling over with spines like the back of a hedgehog. Such forms may prove to be very hard nuts for both floral committees and judges to crack, but they would all fall into their proper places in good time.

We hope to see the new American beauty, hirsute though it be, in all its native elegance next autumn. No matter from whence illustrations may come, we have had enough of experience to take them all with a big grain of salt; and that grain has often to be all the larger when the descriptions come to us from over the Atlantic. It is to be hoped that some of our best growers of Chrysanthemums have this novelty, and will be able to render to it ample justice. Such champions as Molyneux, Beckett, Doughty, &c., will know how to create in the flowers all those features which it is desirable to see fully evoked. There will be as big a run on the flowers as there was a few years since to see that fine Rose, Her Majesty, that has not been so grandly shown since. We hope for a better fate for the hirsute album Mrs. Alpheus Hardy.

The Shirley Poppies.—These very beautiful summer garden flowers, for the introduction of which, through the process of selection, we are largely indebted to the Rev. W. Wilks. have the particular merit of being very fresh and vigorous as ordinary border foliage plants during the winter. The best way to have them in good robust clusters, seems to be to sow seed in small patches in the autumn, and thin the plants down to three or four, where strong enough to be so treated. The roots strike deeply, and therefore do not take kindly to transplanting, the fine outer leafage suffering in the end. Probably we shall find the Shirley Poppies in everybody's gardens soon, and it may largely tend to their popularisation if their proper treatment be understood. A similar sowing of seed may also be made in spring, to give a late summer blooming.

Columbines.—Very excellent hardy foliage is as the spring draws on, furnished by the robust forms of the various species and hybrids of Aquilegias. Very hardy are they also, seemingly incapable of harm from hard weather. The various products of intercrossing, especially from chrysantha and cœrulea, or those intermixed with the common garden varieties, are wonderfully robust, and if well established in good holding soil, produce huge heads or clusters of flower stems every year. Seed sown in the early spring—and it is wisest to sow under glass as a rule—give strong plants for dibbling out during the summer. They bloom moderately the first year, and henceforth become valuable perennials. Columbines have been not inaptly termed the Orchids of the hardy flower garden. Certainly the flowers of many varieties are quaint, elegant, and very beautiful.

"The English Flower Garden," with over 1,400 engravings, will be published this week by Mr. Murray. Many of our most beautiful English gardens are illustrated, while nearly all the plants that will bear the free air in England are figured.

L'Orchidéenne.—A meeting of the Orchid Society of Brussels will be held on Sunday morning next in the Central Pavilion of L'Horticulture Internationale. The jury meets at 10.30. a.m.

The Late M. Beaucarne's Collection of Plants is announced to be sold by auction at Eename, near Auden-Arde, France, on the 29th and 30th of this month. Besides the numerous ornamental subjects of all kinds, it is stated that the sale will comprise notably very beautiful collections of Azaleas and Camellias of exhibition size, of Bromelias, Amaryllis, Palms, and above all of Orchids, amongst which is a rich series of Cypripediums in strong specimens, and Vanda Lowii, a very rare and unique specimen, about 5½ ft. high.

A Daffodil Show in Ireland.—The first Daffodil show held in Ireland took place on March 28th and 29th, in the Assembly Rooms, Cork, in connection with a sale of fancy work, we presume for some charitable object. The great feature of the display was naturally a contribution from Mr. Baylor Hartland, which consisted of blooms of over 100 varieties, and perfect masses of some of them—such as the Queen Anne's Daffodil.

Gardening Engagements. — Mr. C. A. Long, foreman to Mr. Lumsden, at Bloxholm Hall, Sleaford, as gardener at Aswarby Park, Folkingham. Mr. Neil Sinclair, for fifteen years gardener at Easthampstead Park, Berks, as gardener to A. Wynne Corrie, Esq., Park Hall, Oswestry. Mr. Richard Willey, late gardener at Glenville, Brough, Yorkshire, as gardener to Wm. Wheatley, Esq., Milton House, Hull. Mr. C. J. Salter, gardener to the late J. Southgate, Esq., Selborne House, Streatham, as gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate.

Nottinghamshire Horticultural and Botanical Society.—The next monthly meeting of this society will be held at the Arboretum Rooms, Nottingham, on April 17th, at 7.30 p.m., when Mr. J. Duncan Pearson, Chilwell House, Notts, will read a paper on Daffodils and Narcissi, and an exhibition of specimen blooms of this lovely spring flower will take place at the same time.

Ealing Gardeners' Mutual Improvement Society.—The closing meeting of the first session of this society, which was established last autumn, was held on Friday the 29th of March, and as a fitting termination to the session a dinner was held on the Wednesday following. In the unavoidable absence of E. M. Nelson, Esq., the president, the chair was occupied by Mr. Geo. Deal, chairman of the Gardeners' Orphan Fund. A pleasant evening was spent by an agreeable rendering of songs and recitations. A number of well-known local men were present, including a large number of gardeners and their amateur friends to the number of sixty. In the course of the evening, Mr. Geo. Cannon said that it was the intention of the society next autumn to organise a concert in aid of the Gardeners' Orphan Fund. The chairman also announced the receipt of a donation towards the same fund from a gentleman present.

Thrush's Nest in an Ozothamnos Bush at Temple Hill, Cork.—Mr. W. Baylor Hartland writes:—My eldest boy delighted me yesterday (Sunday) with the discovery of a thrush's nest in an Ozothamnos bush, an occurrence that could not take place in England, except perhaps well south of London, and which goes to prove what has been said respecting the salubrity of our climate. Here is a plant that has to be grown with a certain amount of risk in England, sufficiently established in my garden to produce seclusion for the building of a thrush's nest. When the young birds appear, and before they are fledged, the plant will be in flower, and the birds will have "Snow in Summer" for a blanket, the blossoms really when at perfection resembling snow resting on sprays of Coniferæ.

Azaleas.—Large specimens of Azaleas are now no longer a feature of London exhibitions as they were ten or fifteen years ago, when competition in monster specimens of these plants was keen and well contested. The horticultural papers in those days teemed with the experiences, the hopes, fears, and disappointments, as well as the successes of more fortunate exhibitors. Different sets of sizes were kept by some cultivators, and the keen disappointment of an unsuccessful exhibitor may be better imagined than described, when, on reaching the scene of the contest, he had found that his neighbour perhaps had brought his largest specimens, while he himself had only turned out with a smaller set, whereas, had he come up with his biggest plants he had felt confident of being able, without doubt, to outdistance him. The labour and worry attached to the culture, training and tying of those monster specimens was no small matter, but when to this was added the railway expenses inevitably attached to the conveyance of plants to exhibitions at a distance, the risk of failure was very depressing to gardeners who could ill afford to lose the money. Where, it may be asked, are all those giant exhibition specimens now? It is to be feared that by far the greater proportion are non-existent. A few of them linger, or did till recently in some establishments, where they are retained for the sake of the large quantity of cut blooms they afford rather than for exhibition. Some were planted in the open shrubbery in sheltered places in the south of England, where they managed to exist and flower for a few years at least, serving to remind us of what had been. Reports of the bygone exhibitions hepled to animate the breasts of young gardeners with an ambition to travel south and see those magnificent specimens for themselves; but more than one has been disappointed, on reaching the great southern centres of civilisation, that the times and the fashions had changed, for large specimens, not only of Azaleas but other hard-wooded plants are now the exception rather than the rule. Recent exhibitions have only served to give further illustration of this, and although spring shows are not the best places where large specimens may be expected, yet those held later on will not show a proportionately marked difference.

ODONTOGLOSSUM ELEGANS.

In examining the flowers of this supposed natural hybrid, and of which we give an illustration, one can hardly fail to notice a large weight of characters which evidently point to Odontoglossum cirrosum as one of the parents. The spotting and large size of the flowers are no doubt obtained from O. cristatum or O. Hallii. The crest is like that of the former. First of all we notice that the long, slenderly-pointed, and more or less twisted sepals and petals are heavily blotched or banded with a rich chocolate-brown on a creamy yellow ground. The labellum is yellow at the base, and is there shaped exactly like that of O. cirrosum, while the crest is intermediate between the two supposed parents. The middle portion is rich brown, and the long slender point is white. The slender curved or twisted wings of the column are exactly like those of the antennæ-like processes of O. cirrosum. A fine plant of it was shown by Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham, at the meeting of the Royal Horticultural Society, at the Drill Hall, Westminster, on Tuesday last. It bore a branching spike about 4 ft. in length, carrying in the aggregate thirty buds and fully-expanded flowers.

RUDGEA MACROPHYLLA.

Seldom are any of the forty-five known species of Rudgea known to science seen in cultivation, except R. macrophylla. This species attains a height of 6 ft., but it is probably seldom allowed to exceed 3 ft. or 4 ft. in the stoves of this country. Tall plants always assume a leggy character on account of their stiff branching habit, and the few side shoots they are disposed to make. For this reason alone it is better to propagate occasionally, so as to obtain the requisite number of small plants, which flower as well and as frequently proportionately to their size as taller specimens will. In R. macrophylla the axis terminates in an inflorescence, and a side shoot develops from the axis of one of the uppermost leaves, and at the time of flowering is generally pretty well advanced. The flowers are creamy white, and developed in dense subglobular heads; they are fleshy, and to all appearance would last a long time, but they are moreover moderately short-lived. The corollas are five or four-parted, even in the same head; and the unique appearance of the whole inflorescence makes the plant worthy of cultivation in a collection of stove plants. The leaves are in themselves ornamental, being large, oblong, leathery, and dark green with a glaucous hue. A number of plants have been keeping up a succession of bloom in the stove at Kew for some time past.

DATURA SANGUINEA.

A large specimen of this planted out in a greenhouse or conservatory has a magnificent effect when in full flower, which it continues to do in spring for many weeks together. Earlier than this, however, it seem unable to bloom—at least, in the neighbourhood of London. The flower-buds are produced in large numbers during winter if the plant is then making growth, but they drop off while yet in a very small state. The absence of sunshine and the deficiency of light have no doubt to account for this state of things, and no amount of artificial heat under those conditions would mend matters. Beyond the radius of the London smoke, the white-flowered D. suaveolens blooms grandly even in mid-winter. The drooping trumpet-shaped flowers of D. sanguinea measure about 7 ins. or more in length, and the tube is orange-yellow, almost scarlet, except at the base, where it is tinted with green. A well-grown plant has a fine effect when studded with these huge drooping funnels. When growth becomes played out, the plant ceases to flower, and may then be hard pruned back, not only to restrain the plant within bounds, but to cause a development of strong shoots when the buds break afresh. If planted out, no water should be given for some time after pruning back.

THE ATMOSPHERIC CONDITIONS OF PLANT HOUSES.

(Concluded from p. 449.)

Referring to the hygrometrical tables previously mentioned, it will be seen that when the dry bulb indicates a temperature of 70°, and the wet bulbs the same, the air will contain 100 per cent. of moisture—that is, it will be saturated; but if the wet bulb registers 65°, the dew point will be 61·1°, and the atmosphere will contain 73 per cent. of that necessary to saturate it, and so on in proportion to the difference between that registered by the dry and the wet bulb. Under these conditions, there will be no deposit of moisture upon the plants. There may be drip from the roof, owing to the fact that the air in immediate contact with the glass is cooled down to the dew point by the coldness of the external atmosphere. That should not affect plants, however, in the house, provided means are taken to conduct away the condensed moisture.

Succulent-Plant Houses.

In the case of succulent plants, it is necessary to maintain a more or less arid atmosphere at all seasons, but particularly so in winter, when they are or should be mostly at rest, or at least growing slowly, and in some cases, it may be, flowering. Many of them flower best when kept in a dry condition, not only with regard to the soil in which they are grown, but also the atmosphere. Some of them, in fact, refuse to flower at all unless they are kept dry and ripened off, as the popular expression is, after the completion of their growth. During summer, however, when making their growth, a great number of them enjoy a liberal supply of moisture—more, in fact, than they are generally credited with. They will live and make a small amount of healthy growth even when kept almost at the point of starvation, or what would be certain death to other classes of plants which have less capacity for the storage and retention of moisture; but their capabilities as ornamental plants are often greatly advanced by their receiving liberal treatment during active growth in summer.

Odontoglossum elegans.

Even here the use of the psychrometer would be advantageous, and afford an opportunity of making many useful observations. A much greater percentage of moisture in the atmosphere should be permitted in summer than in winter, calculating from the above-mentioned facts. During winter the difference between the temperatures registered by the dry and wet bulb thermometers should be much more marked than in the case of other plant houses. The low degree registered by the wet bulb thermometer will be a measure of the dryness of the atmosphere. Succulent-plant houses may be kept at different temperatures, according to the nature of their contents, but they should always be relatively high in proportion to the degree of humidity of their atmosphere.

Greenhouses.

Plant houses coming under this heading admit of a wide latitude of meaning with regard to the temperature at which they are kept, and the degree of moisture in the same, particularly during autumn and winter. Houses intended to be kept gay with flowering plants in winter, and which for the sake of distinction may be termed conservatories, must be maintained at a temperature of from 45° to 50° at night, while those intended for the preservation merely of plants from frost may be kept at any low temperature, provided it is above freezing point, or at least not much below it at any time. A much greater amount of moisture may be permitted, and is actually necessary where plants are to be kept in a growing and flowering condition. Even should a cool house be saturated with moisture it will actually contain a smaller amount than may be in the conservatory, although the atmosphere of the latter is considerably above dew point. The fact to be remembered here is that the lower the temperature the less moisture is necessary to saturate the atmosphere. It must not be considered that evaporation ceases at a low temperature, and that an excess is impossible under these conditions, for, as already mentioned, the tension of aqueous vapour is active at all temperatures, and an atmosphere at freezing point is capable of retaining in solution 5·4 grains of water per cubic metre.

The damping off of plants or flowers in low temperatures is of frequent occurrence, and an evil much dreaded by gardeners. During winter the atmosphere of this country is frequently at saturation point, or nearly so, the wet bulb thermometer indicating a difference below the dry one of one or two degrees, or it may be only from six to sixteen-tenths of a degree. Cool houses are, or should be, freely ventilated, so that their excess of moisture may be dissipated by diffusion into the open air—that is, if they contain a greater amount of moisture than the external air, which they generally do. It is frequently necessary to light the fires to drive out the moisture, especially during sunless, wet, and foggy times.

The most fertile causes of damping are to be found in cool houses which are kept at a habitually low temperature, and consequently always on the verge of saturation. It is desirable to keep Chrysanthemums as cool as possible during their flowering period in autumn, in order to avoid exciting vegetative growth, or to prevent its becoming drawn and weakly, as well as to prolong the flowering season as much as possible. Considering the saturated condition of our atmosphere at that period, it is not surprising that compact heads of long delicate florets like those of Chrysanthemums should be liable to damp in cold moist weather. Like those of all other bodies, the thinnest parts, such as the florets, soonest part with their heat by radiation, bringing the air in contact with them to dew point, so that there is a deposition of moisture. Provided this were only to last for a short period of time, little harm would be done; but in autumn it may continue for many days together. Care should be taken to wipe up or drain away all superfluous moisture caused by necessitous watering, and to warm up the hot-water pipes occasionally, ventilating at the same time in order to dispel moisture.

Another good illustration of the evil effects of long-continued saturation of the atmosphere at a low temperature is sometimes furnished in the case of filmy Ferns grown in close-fitting frames or cases, when ventilation has altogether been neglected or ignored. A heavy dew continually resting upon their thin delicate fronds keeps them cold and saturated, and prevents transpiration and other necessary functions from being performed, till at last the stagnancy of the atmosphere reduces the fronds to a black, mouldy, decaying mass. In a freer atmosphere they enjoy a great amount of atmospheric moisture.

Fruit Houses.

Both the temperature and the amount of atmospheric

moisture necessary for fruit houses depend upon the subjects grown. Tomatos being semi-succulent in their nature, fertility in opposition to vegetative growth is greatly promoted by a dry atmosphere. This condition also greatly tends to check the progress of fungoid diseases, some of which are very destructive to Tomatos. There have been cases where the plants were almost ruined or killed by a virulent attack of the Potato murrain, or something closely allied to it, and whose career was stopped by a change from wet to dry atmospheric conditions. Both in this instance as well as in the case of Vines attacked with mildew, the use of the pyschrometer would prove a valuable friend as an indicator of the degree of humidity of the atmosphere to secure certain results. A saturated atmosphere is beneficial at times, inasmuch as it promotes a rapid extension of growth, while in the case of Vines and many other subjects it is of the utmost importance that the foliage should be dry for several out of every twenty-four hours; and this is most advantageous during the middle of the day, so as to promote transpiration. Again, the degree of saturation of the atmosphere of a vinery during the rapid spread of mildew could be determined with scientific accuracy, and by altering the conditions it would check the disease, as in the case of the Tomatos mentioned. It is quite of common occurrence during moist, sunless weather in summer to see vineries kept close all day long, without ventilation either at top or bottom, simply that the requisite temperature may be kept up with the least possible expenditure of artificial heat. It is no wonder that the Odium finds in this a suitable atmosphere for its rapid development. The excess of moisture should be reduced by proper ventilation, even at the expense of more artificial heat or an actual lowering of the temperature, as great heat in sunless weather is productive of thin, flabby, improperly developed foliage, and the fruit prospects must consequently be less hopeful. I would suggest the use of hot-water pipes, to be laid along the lower part of the roof, to dispel moisture when required.

When Vines as well as other subjects are being forced in winter, the question of high temperature is a very important one, and should not be ignored. Hard forcing of Vines in dull weather is productive of slender, weakly shoots, giving rise to bunches that frequently become aborted to mere tendrils, thus ruining the chance of a crop. Advice is often given against the practice of hard firing on frosty nights, even should the temperature of the forcing houses sink below the usually required standard. The reason is that the great difference between the temperature of the external and internal air causes an enormous evaporation of the moisture in the houses, and this is carried through the laps between the glass into the open air. During the long night while this state of matters is going on, the young and tender foliage is getting desiccated and injured by the aridity and heat of the atmosphere. Hence a lower temperature is advisable so as to reduce the excessive evaporation caused by the great heat of the pipes.

Summary.

To sum up the principal or leading points concerning the atmospheric conditions of plant houses, we have already noted that heat and moisture are intimately connected in their mutual relations towards any given class of subjects cultivated in plant houses, and that ventilation is necessary not only to modify these conditions, but to admit a free circulation of fresh air when the external and internal temperatures approach the same degree or are not widely different. Damping the paths and stages, as well as syringing, increases atmospheric vapour, and to a certain extent checks transpiration by saturating the atmosphere. This, by enabling the tissues of plants to become distended or gorged with water, promotes rapid growth or extension of plant tissue, which is not, however, synonymous with the manufacture of fresh material or an increase of weight, but merely an increase of bulk. Therefore, the atmosphere of plant houses must not always be kept in a saturated condition, but allowed to attain a certain degree of dryness during the hours of daylight in order to promote transpiration, or a rapid ascent of water from the roots towards the leaves of plants, and from thence into the air, for the simple reason that the amount of transpiration is a measure of the mineral constituents of plant food carried into the plant body. Assimilation of carbon from the atmosphere in the presence of sunlight can only proceed in a ratio proportionate to the smallest quantity of any absolutely requisite constituent to plant life that may be taken up. For instance, extension of tissue may proceed apace during darkness, or in the daylight, provided the atmosphere is saturated with moisture, but the plant may actually be losing in weight while that is going on. Promote transpiration and assimilation, however, and you actually add to the dried weight of the plant. A builder could not advance his work by a superabundance of water when solid material becomes used up, neither can a plant add to its tissue without an adequate supply of carbon and mineral constituents.

Besides the useful purpose of syringing and damping already mentioned, another valuable function recommending their use is the destruction of insect pests, such as green-fly, red-spider, and thrip, and the washing of the foliage to prevent the accumulation of dirt, whereby a healthy performance of its allotted duties is prevented or retarded. In modifying the atmospheric conditions by means of ventilation, great care must be exercised in avoiding extremes of excessive dryness, or a rapid lowering of the temperature. The ventilators should be opened a little early in the day, and the amount gradually increased as the sun gains in strength. It is a gross mistake on the part of the cultivator to allow the temperature to run up very high with a saturated atmosphere, and then throw the ventilators wide open. A sudden rush of cold air upon plants in this condition is far more injurious to them than it would be on animals. Growth is checked by the paralysing of the functions of the leaves, and the plants become unhealthy, laying themselves open to the attacks of animal and vegetable parasites. Cultivated plants are under artificial conditions, and if the art, acting the part of a foster-mother, induces more rapid and greatly improved growth, it at the same time weakens the natural constitution of plants, rendering them subject to various evils.

The psychrometer, far too seldom found in plant houses in this country, might often prove of invaluable service to gardeners if they could be induced to avail themselves of it, for the purpose of determining what degree of humidity is beneficial or prejudicial at any given temperature to plant life. Questions, such as the spot in Orchids, disease in Tomatos, mildew of the Vine, diseases of various subjects, and, in fact, the degree of moisture most beneficial to plant life in health and disease, might well be studied with the aid of the psychrometer.

WATER, ITS USE AND ABUSE IN THE CULTIVATION OF PLANTS.*

Where there is no water there is no life; water, therefore, is absolutely essential to the life and growth of a plant. The first stage of a plant's life—the germination of the seed—cannot take place until the seed has been permeated by water, and oxygen has converted part of the carbon into carbonic acid. Water also extends the tissues of the seed, and helps to dissolve the nutritious elements stored up in it, preparing it for the early needs of the germ when it commences to grow. Thus, in the first stage of the plant's life it is stimulated into growth by the absorption of water.

Plants are found to contain a great amount of water, as may be found by exposing them to a temperature of 135° Fahr., which causes the water to evaporate, the plant or seed thus sustaining loss in weight to the following extent:—ripe seed 12 to 15 per cent., herbaceous plants 60 to 80 per cent., and many water plants and fungi as much as 95 per cent. of the whole weight. A plant cannot live in dry soil, water not only being one of the most important elements of food, but it is also the vehicle by which foods in solution are carried into the plant, and which go to form the component parts thereof, 2,000 pounds of water passing through a plant for every pound of matter fixed. Water is taken up by the plant through the small root-hairs found a little above the apex by osmosis, and is carried through the plant assisted by growth and transpiration. There is also a pressure from the roots, drops of water often appearing on the margins and apices of the leaves of many grasses (especially striking in Maize) when transpiration is diminished by the absence of light and the cooling of the air, while the activity of the roots is increased by warm, damp weather.

Water and its Impurities.

Absolutely pure water, made from the oxygen and hydrogen gases, is seldom obtainable, and would be of little value. Distilled water is a near approach to pure water, but of no use. Rain water, it must be noted, is by no means free from impurities, for it absorbs many chemicals from the air while falling, the ingredients differing in different localities, according to what factories, &c., exist in the neighbourhood. Such chemicals as nitric acid and carbonic acid, also metals as iron and magnesia, are absorbed. River water varies a great deal, it being made up of rainfalls and springs, and is influenced by the bed over which it flows. That flowing over flint or granite beds is purest and tolerably soft.

The hardness of water is generally caused by chalk which it contains in solution. This chalk is not beneficial to plants, and when used through the syringe leaves a white deposit on the leaves. By exposing the water to the air, a portion of carbonic acid is given off, and a corresponding amount of chalk deposited. A few grains of pure brisk quick-lime stirred into each gallon of water would soften it, without adding a particle of lime to the fluid. Gypsum or sulphate of lime also hardens water, and sometimes exists to such an extent as to destroy the bottoms of cisterns containing it. Rain water is undoubtedly the best for general purposes, and should be stored up in large reservoirs or tanks during the rainy season.

On the Proper Application of Water.

After we have obtained the water, its application is of the greatest importance, and it needs all the skill and discretion possible on the part of the operator. The quantity a plant demands depends on its nature, structure, and surroundings, evaporation going on to a much greater extent in hot than in cold weather, and on light than on heavy clay soils. Watering indiscriminately must be strictly avoided—judgment must be exercised, and the circumstances taken into consideration. For instance, although no hard-and-fast rule can be laid down, it may be taken for granted that the smaller the roots, the more constant must be the supply of water, from the smallness of the agents about to receive it. Such plants are most impatient both of drought and over-watering, while those with large roots and succulent leaves are less affected by the former. Rapid growth indicates need for a continuous supply of moisture. Most water is wanted in the growing season, less when flowering, more again when fruiting, and very little when seeding. Hence fruit trees, Apples, &c., during a dry summer should have a good soaking or two, and mulchings to prevent evaporation. This watering should be thorough, in order that the ground may be permeated with moisture. The evils of surface watering are greater than one would generally suppose. July will be about the month to commence the watering operations above referred to, the winter rains supplying the moisture for the growing season. It is also better done during dull weather; evaporation not going on so rapidly, and the earth being cooler, the plants will be in a kind of prepared state for receiving water.

Vine borders need special drenchings when the fruit is swelling, there being a great demand on the roots. The mildew on Vines is generally caused by misplaced moisture, dryness of the border, and too much atmospheric moisture in the house. It may here be observed that an excess of moisture will do more harm than good by destroying the quality of the fruit; so that the rule would be to water fruit trees when swelling, but not when ripening their fruit, the maturing being really the seeding period. The Melon is an exception to this rule, as it requires abundance of moisture throughout the whole of its growth, acquiring the greatest excellence in countries where its roots are immersed in water, as on the floating islands of Cashmere, the irrigated fields of Persia, and the spongy river beds of India, but these Melons have an enormous perspiratory power, arising partly from their large surfaces and the intense heat. Still, not having the same degree of heat in this country, the water must be diminished, as they lose quality in flavour if the roots are immersed, as proved by experiments in the Royal Horticultural Society's Gardens. The Lettuce also requires an abundant supply throughout its whole growth, to keep the leaves tender.

That transpiration goes on to a considerable extent in land plants, as in the Melon, may be seen by placing a plant under a glass case, when the latter will soon become dewed all over; also by cutting off a shoot and placing it in a bottle full of water, tightly sealing the mouth. If this be placed under a glass case the water will be seen to gradually decrease from the bottle, and a deposit will be made on the glass. Dr. Hales found that an ordinary-sized Cabbage in twelve hours evaporated water to the amount of 19 ozs. The same gentleman made experiments with the shoots from Apples, Pears, Apricots, Peaches, and Cherries, by

* First-prize essay on the subject of watering, gained by Mr. James Macfarlane in the Chiswick Gardeners' Mutual Improvement Association competition, 1888. Prizes offered by Mrs. S. A. Lee, Arlington Park Villas, Chiswick, to be competed for by members under the age of thirty.

taking two branches of each sort, stripping one branch of its leaves, and placing the lot in different vessels of water. The branches with leaves on them imbibed in twelve hours of the day 15 ozs. to 30 ozs., according to the number of leaves on them, and weighed lighter; while those without leaves imbibed but 1 oz., and were heavier in the evening than in the morning, they having transpired little.

It has also been observed that a surface which, in calm weather, would give off 100 parts of moisture, would give off 125 in a moderate breeze, and 150 in a high wind; hence the benefit of protection to fruit and other garden crops by high walls protecting trees, &c.

THE FERNERY.

Wardian Cases.

Many are disappointed with the comparatively short duration of Ferns, particularly Adiantums in dwelling-houses. Some of the more leathery-leaved kinds, it is true, will endure the dry atmosphere of a dwelling-room all the year round, provided they are grown in a window, or are otherwise properly exposed to light. A great number of the most delicately-cut and beautiful Ferns, both British and exotic, can be successfully grown, however, in Wardian cases, which are simply small, close-fitting, and almost air-tight greenhouses, named after Mr. H. Ward, who first invented them.

These cases can be made of any convenient shape or size, to suit the convenience of a would-be owner, according to the size of his windows, whether bay or otherwise. Larger cases may be stood on tables placed close to a window or other sufficiently-lighted places, such as halls or porches, or even on balconies—as, for instance, in town residences. Some of the finest collections of filmy Ferns have been grown even on the tops of those establishments. Such structures are generally made in the form of small span-roofed greenhouses, and are elegantly and lightly built, so that their presence in dwelling-houses is neither unsightly nor objectionable. The bottom of the cases must be water-tight to prevent injury to the windows or tables on which they are stood. Large ones should have a special means of drainage, and the superfluous water carried away by means of a pipe. The smaller ones are so close that little water is required from one year's end to the other, after the first good soaking.

In the bottom of the case should be placed a good layer of broken pot-sherds or brick rubble to act as drainage. Over this lay some moss, then a mixture of peat, a small quantity of loam, and some sand. The centre of the case can be built up in the form of a miniature rockery, of any suitable design, according to the fancy of the owner, using any soft or porous stone in quantity, and, if considered desirable, pieces of a more ornamental character, whether porous or otherwise. White quartz is generally much appreciated for this purpose when procurable.

Having got everything ready, the next thing is to set about planting the Ferns, which may be of a rich and varied character; but the species used should always bear some proportion in their relative size to that of the cases in which they are planted. Tall-growing species would soon monopolise the whole case, a state of matters by no means to be desired. Provided always that sufficient space is allowed each species to develop its natural proportions, then the greater number of kinds that can be accommodated, the greater interest attaches to their cultivation. Very little attention is required after the first planting, except the replacing of any dead ones by fresh specimens and the cutting away of dead fronds. To facilitate these operations one of the top squares of glass should be moveable.

A collection for a Wardian case may consist largely of the smaller and more ornamental British Ferns, such as Adiantum Capillus-Veneris, Asplenium fontanum, A. lanceolatum, A. Trichomanes and its crested variety, A. viride, any of the filmy Ferns, as well as the Bladder Ferns (Cystopteris fragilis, C. regia), and others. The Sea Spleenwort (Asplenium marinum), which on some rocky sea-coast places may be found in thousands lining the seams and crevices of the rocks, is admirably adapted for planting in Fern cases, where it obtains a luxuriance unknown in a wild state. If exotic kinds are preferred, then what could be more appropriate than Adiantum cuneatum, A. c. gracile, or Asplenium viviparum with its slenderly divided fronds bearing little plantlets all over it? Doryopteris palmata is a small-growing and bold kind of distinct character. Many kinds can be used in a small or seedling state, and renewed annually if they get too large. Several of the Selaginellas may also with profit be used.

NOTES FROM SCOTLAND.

Scottish Horticultural Association.—At the opening meeting of the thirteenth session of this association on the 2nd inst., Professor Bayley Balfour, on taking the chair as president for the ensuing year, began his inaugural address by thanking the members for his election. Having pointed briefly to the practical character of the work of horticulturists, he said he represented more the laboratory side of botany, and he felt that, in honouring him by asking him to preside at their meetings, they recognised that there was no antagonism betwixt the botanical side and the horticultural—that workers in both fields were necessary in order to have real progress in science. For his introductory address he had chosen the subject of "Variation in Plants," which was of the most profound interest to horticulturists. The chief reason why he had taken up this topic was that he wanted to bring before them a question which was the most discussed in the scientific world at the present day amongst biologists—Are acquired characters transmissible from one generation to another? A new view had arisen on the subject, advanced by Professor Weissman, Germany, to the effect that in order to have variation the only way in which it could be effected was by means of sexual intercourse; but he (the president) asked, if it was only by this means that they had got this power of variation at the present day, how was there ever any power of variation at all? Having suggested the carrying out of experiments with the view of arriving at some definite conclusion on the point, he said the question was one which was awaiting settlement, and one which appealed, he thought, very directly to the members of the association, because they had it in their power to make so many observations in connection with variation. It was a question of very great importance to know if there was any evidence that these acquired habits were or were not transmissible. He was strongly inclined to think they would eventually get evidence in favour of the transmission of acquired characters and habits, but at present if they ask him to point to a single instance where he could show without any doubt that acquired characters were transmissible, he confessed he was unable to do so. In closing, he expressed his thanks to the association for the leading part they took in the agitation which was started last summer in connection with the preservation of the Royal Botanic Garden for the people of Scotland and the people of Edinburgh. He was anxious that the Botanic Garden should be made something more than a mere place for the exhibition of plants. He should like to have it as far as possible a place for real horticultural training. On the motion of Mr. John Methven, seconded by Mr. Alexander Milne, the president was heartily thanked for his address. A number of awards were made to assistant gardeners for essays prepared by them. None of the productions, it was stated, could be said to be of more than average merit.

North of Scotland Horticultural Association.—Tree-growing in Towns.—The monthly meeting of the members of this association was held in the Christian Institute, Aberdeen, on Wednesday evening, 3rd inst. There was a good attendance, and Mr. James Walker occupied the chair. The first business on the card was an interesting and instructive paper by Mr. Robert Walker, gardener, Victoria Public Park, Aberdeen, entitled, "Trees most suitable for growing in Towns." Mr. Walker said it was a popular but erroneous notion, that trees would not thrive in the streets of smoky towns. People often saw in France streets bordered with rows of handsome young trees, and they naturally compare these verdant avenues with our own streets, where trees were rarely planted, and come to the conclusion that there was "something in the air," which prevented trees thriving in even an ordinary packed city. Consequently they contented themselves with pretty little gardens. These were excellent in their way, but they effected only a partial good. The slight good effected by fine parks placed here and there in or towards the outskirts of a city was as nothing compared with what might be carried out by so planning and planting streets and roads, that the air might be comparatively pure and free, and the eye refreshed with green at almost every point.

It had been said that the streets in most European cities were far too narrow to admit of tree planting. This was not the case. When trees were planted in close lines to form a shady avenue, their natural tendency was to make a beautiful and picturesque arch. After referring to the additional value that would be given to property by the planting of trees in streets, and to the importance of the scheme from a sanitary point of view, Mr. Walker proceeded to describe the kind of trees most suitable for street planting. The best of all trees for European cities was the Western Plane, which might be seen in many towns from the heart of London to the shores of the lakes of northern Italy, and numerous places thousands of miles from its native home. It was by far the noblest city tree, and nowhere were there finer individual specimens to be seen than in London. There were the common Sycamore, the purple-leaved Sycamore, and the rose Acacia, all specially suitable. Numerous other trees were mentioned, such as the Poplar-leaved Birch, the pyramidal variety of the Oak, and the new American broad-leaved Lime, all of which had particular qualities to recommend them for streets and avenues. The Hawthorn family generally furnished a greater number of hardy ornamental dwarf trees than any other known variety. They were not only pretty and fragrant, but the aspect of the fruit in autumn borne in showers of bright red, yellow, black and scarlet was of itself a recommendation which should entitle these trees to general cultivation.

The extensive use of Lime, Lombardy Poplar, Horse Chestnut, and Beech trees in towns was a great mistake. At the end of July the Limes were often the most miserable-looking trees that could be seen, and that in the midst of summer. The writer then treated of the soils most suitable for trees of the kinds he had suggested. As to the planting of the trees, it was a fatal mistake to plant them in squares; they would thrive far better in rows. The special features of each class of trees were then dealt with, interesting information being given regarding their suitability for streets, villa fronts, &c., and the treatment they should receive. A large selection of trees suitable for smoky streets and suburban roads was then given, and, in conclusion, Mr. Walker said they should have ample room and thorough exposure. They should not, as it often happens, be made to acquire heights at the expense of stoutness by over-crowding. They should have straight, stout, clean stems, with handsomely furnished, well-balanced heads, and from being frequently transplanted, should be splendidly rooted. They should be, without doubt, the finest trees possible to be had for purposes of street planting. The girth of the stems should be taken at 4 ft. from the ground, and not at the base, which is often deceptive. This would give a true indication of the sturdy character of the trees.

Discussion was then invited by the chairman, and after Mr. Taylor, Clashfarquhar, and Mr. France had made a few remarks, Professor Matthew Hay, Aberdeen University, said he agreed as to the possibility of utilising the planting of trees in cities. Of course, it might be that in other climes—hotter climes than our own—there were certain advantages to be obtained which did not come to us, such as screening persons from the hot sun. That advantage was one of considerable importance, but it was not the only one. There were many others, and one was the advantage from an æsthetical standpoint—the beautifying of the streets. He thought they must all feel that one of the greatest wants in our streets was something natural to rest the eye on. There was nothing green in our streets on which the eye could rest, and a little bit of nature would be very pleasing and refreshing. Something had been said about the advantages from a sanitary standpoint, and he certainly felt that trees in the streets would be a decided advantage to any city in that way. Trees, chiefly of the Blue Gum species, had been planted in the Campagna at Rome, for the purpose of getting rid of the malarial germs, and they seemed to have served the purpose very well. He did not know that trees were required in this country for such a purpose, but no doubt they would exercise a good sanitary influence by purifying the atmosphere, by diminishing the amount of carbonic acid, and increasing the amount of oxygen—playing an opposite part to human beings. He dared say that he had shared the erroneous popular belief that trees did not grow very well in the middle of a city; but such an idea had been completely dispelled, for he saw that it only required that it should be known what was the right kind of tree to plant, and what was the proper treatment for it. He considered they were very much indebted to Mr. Walker for his admirable paper.

Several other members took part in the discussion, and a suggestion was made that the paper should be printed. At the close a hearty vote of thanks was accorded to Mr. Walker for his admirable paper. The next business was a paper by Mr. Taylor, Clashfarquhar, on artificial and natural soils. Mr. Taylor explained that in the short time which was at their disposal he could not do justice to the subject; but he gave an idea of the lines he was to proceed on, so that members might be prepared to discuss the matter fully when it came up again.

FLORICULTURE.

Blue Gem Primrose.

Mr. Dean sent me two blooms of Blue Gem Primrose a few days ago, and much pleased I was to see them. The variety is well worthy of the certificate, as in addition to its lovely colour, it possesses all the properties of a first-class Primrose, including a strong gold plated eye, so much valued in florists' Auriculas and Polyanthuses.

As to the colour, all the colours in nature are derived from the three primary colours, red, blue, and yellow, and very rarely indeed, if ever, is the colour of a flower a pure representative of any of these, nor does it detract from its beauty that it is not, but on the contrary how often do we see the beauty of a flower enhanced by the mixture of colours. We speak of blue Hyacinths and blue Delphiniums; did anyone ever see a pure blue flower of either? I do not think that I have, and I have seen some thousands of both. In all that I can remember there are mixtures of red in various tones of purple, violet, &c.; the same may be said of the Gentians. The nearest to pure blues that I can at present call to mind is the blue colour of Delphiniums Bella Donna and Wheelerii, Gentiana verna, and Forget-me-not; even the lovely blue of the latter has a trace of yellow in it.

Blue Gem is nearer pure blue than three-fourths of the blue Hyacinths, or than half of the blue Delphiniums. It is a purer blue than that exquisite Primula sinensis "Holborn Gem," which is none the less beautiful and distinct in a collection because it is lavender and not blue. Why there should have been opposition to its being certificated I cannot understand. Would there have been opposition to the granting of a certificate to a Dahlia equally as good a blue, and equally as perfect as a flower? I trow not. Or was it opposed because it was simply a "Primrose"? If so, I am glad that the Peter Bells of the Floral Committee were outvoted. How much poorer our lives and our literature would be if we had no Primroses! I have yet to learn that the Primrose is inferior to any other flower.—*S. Barlow, Stakehill, April 8th*, 1889.

Being an admirer of the whole tribe of Primroses, and having read with interest the article in last week's issue (p. 497), I should be very pleased if "Blue Gem" would inform me, through your columns, where I could obtain plants of the above-named Primrose, as I am very anxious to add the novelty to my collection. I should also be pleased to know where I could obtain plants of any species and varieties of this class of plants true to name.—*Needwood.* [The stock of Primrose "Blue Gem" is in the hands of Mr. A. Dean, Bedfont, Middlesex. The others can be obtained from any nurseryman who makes a specialty of herbaceous and Alpine plants.—Ed.]

CALADIUMS.

When seen in their prime, there can be no question that Caladiums have a noble and telling effect. The vigorous-growing exhibition kinds can only be seen to best advantage when in the form of large and established specimens, so as to furnish a goodly number of leaves to hide the long petioles. The unique collection of Messrs. J. Laing & Sons, at Forest Hill, is now in excellent condition, exhibiting a wonderful range and variety of colouring, from delicate porcelain-white to the deepest red and crimson, and in most cases showing a number of colours.

Exhibition Kinds.

All of the kinds mentioned under this heading are large specimens suitable for exhibition purposes. A specially handsome subject is Baronne James de Rothschild, the leaves of which are white with red midribs, and the finer ones of a warm rosy pink. The huge white leaves of Mrs. Laing are handsomely reticulated with green. Madame Lemonier has red ribs and a broad green border, while the whole centre of the leaf of Comtesse do Condeixa is rose-red surrounded by a narrow green edge. Madame Imbert Kœchlin is beautifully variegated with scattered red blotches on a greenish white ground. Two of the most delicate porcelain-white and almost transparent kinds are Madame Fritz Kœchlin and Duchesse de Montemart. The former has red ribs, green veins and edge, while the latter is undoubtedly the most delicate and fine, being lightly splashed here and there with pale green.

Vigorous-growing kinds are Mithridate, Charlemagne and Souvenir de Madame Bernard. The latter has broad red leaves with a green edge, while Mithridate has a red centre and ribs. The second-named kind has very large red veins, being a counterpart of Le Titien, which is green with red veins. Equally vigorous as any of them is Leopold Robert Rothschild, which is marbled with green, red and white all over. The leaves of Triomphe de l'Exposition are arrow-shaped, of great size, crimson and red in the centre, with a broad green border. Somewhat similar is Sanchonianthon, but the broad border is pea-green. A beautiful and vigorous kind is Madame Marjolin Scheffer, which is red in the centre, and reticulated with green on a white ground over the rest. Luddemannii is also red in the centre, while the remaining portion is blotched with white and pink on a green ground. Bosphore rises to a height of 2½ ft., and has green leaves, with a red centre and broad pink ribs. The leaves of Ferdinand de Lesseps are green, with a red centre, and range from 2 ft. to 3½ ft. in height.

Softer colours are presented by Mons. de Hallory and Clio; the leaves of the former are of a beautiful cerise pink slightly marbled with green, while those of the latter are marbled with pink and pale green. Candidum is a near approach to white, as the name implies, and has long narrow green ribs.

Decorative Varieties.

Under this title may be included a number of beautiful decorative kinds that are naturally too small to be of any value for exhibition purposes. Their small size renders them admissible to stoves where larger kinds could not be accommodated. The silvery-blotched leaves of Argyrites are well known, and are but little inferior in size to those of Minus erubescens. A charming dwarf kind is Ibis Rose, the leaves of which are wholly of a warm rose and very attractive. Comte de Germiny is comparatively new, dwarf, and wholly red with pink blotches. The leaves are larger than those of the above. A counterpart of Madame Imbert Kœchlin is L'Automne, having pale greenish white leaves blotched white. Raymond Lemoinier and Princess Royal may also be placed here. They have red centres, while the border of the former is greenish white, and that of the latter bright green.

PETUNIAS.

As in the case of Cinerarias, Chinese Primulas and other popular garden flowers, little attention is now given to the raising and naming of seedlings—at least, so far as the single kinds are concerned. The various strains are now generally so good and so diversified that a pinch of seed from any respectable firm will give a large percentage of beautiful kinds.

A very suitable time to sow seeds is in March, especially where it is intended to plant the seedlings out. Seeds may still be sown for indoor purposes, and although they will be later in coming into flower, they will prove useful for the conservatory late in summer and in autumn. As the seeds are very small, the soil in which they are to be sown should be sifted through a ¼-in. sieve. Use a compost consisting of a small quantity of loam, with a large proportion of sifted leaf-soil, and sufficient sand to allow the water to pass away freely. Get some shallow seed-pans, drain well, placing some moss or other rough material over the crocks, and fill up with the compost. Press the soil firmly with the fingers, and after making it level water it well down with a fine-rosed pot. After the water has drained away for twenty minutes or half an hour sow the seeds thinly and evenly. Give a slight sprinkling of soil from the same compost, just sufficient to keep the seeds in position, but scarcely to cover them. Put a square of glass over the pans to preserve the moisture, and stand them in a moderately warm place where the seeds will soon germinate. As soon as this has taken place the square of glass should be removed, and the pans stood in a light position near the glass to prevent drawing.

When the seedlings have attained an appreciable size to handle, and before they become crowded, prick off a sufficient number into shallow boxes of rougher soil. A moderate warmth must be maintained for a time to bring the plants on quickly, but an abundance of air must be given to keep the plants dwarf and sturdy as soon as they have taken to the new soil. Before the plants get crowded they should be potted off singly into 60-size pots, using a compost consisting of two parts of loam to one of manure and a dash of sand. When established in these pots the weather will be sufficiently warm for them to be placed in cold frames, where they will receive all the advantage of light and a free ventilation. Even before this, if necessary, the tops of the plants should be pinched out to induce a branching and bushy habit from the very first.

Never allow the plants to become crowded, otherwise their foliage will suffer, and they can never afterwards present the same fresh and healthy appearance. When grown in pots, they require a liberal supply of clear soft water, although we know from experience that Petunias bloom much more freely in the open air during a dry summer than a wet one. This may be applied to a certain extent as the plants in pots are coming into flower; but it must always be remembered that if carried to too great an extent the foliage will inevitably suffer—a thing which is to be avoided. Weak liquid manure applied when the flower-buds begin to form will greatly assist the size of the blooms. When the plants are removed to the conservatory plenty of light and ventilation must be given.

Single kinds may now be obtained in various colours, and striped in various ways. Some of the self-coloured flowers are really handsome, while others show a most beautifully-feathered venation, similar to that seen in the Salpiglossis. There is also a strain of blue or purple blooms, greatly resembling those of Clematis Jackmanni. Double-flowered kinds may be and are raised from seedlings, but they do not seed very freely, and require an experienced hand to set the flowers. They are only suitable for indoor culture on account of the heaviness of the blooms.

THE ROSE GARDEN.

Practical Rose Growing.*

It can be fairly said that as a winner of the National Rose Society's Challenge Trophies in London (1887), Edinburgh (1887), and Darlington (1888), and a very successful exhibitor generally, that anything written by Mr. John Harkness on Rose cultivation may be accepted as "gospel truths." His little book of sixty-three pages on *Practical Rose Growing* is truly a Rose-growers' guide, the observations being those of a close observer and a practical cultivator and exhibitor.

Situation, soil and manures receive ample attention, and the observations in respect to them are most useful to amateurs. Stocks, selection of plants and planting, are the subjects of another chapter, and here again the amateur has trustworthy guidance. Propagation, pruning, disbudding, pests, &c., receive thorough treatment by the author, and much information is to be gained therefrom. A chapter is devoted to the selection, cutting and staging of blooms for exhibition, and intending exhibitors new to the work will be glad to have such good advice given to them.

Part II. of the book is devoted to selections of garden and exhibition Roses, and lists are given, while a chapter on "Brief Hints on Monthly work amongst Roses," gives a calendar of operations which young growers will do well to study.

The Maréchal Niel Rose.

After calling upon Mr. Fish, at Hardwicke, where Roses are grown everywhere, and Maréchal Niel in abundance, I was agreeably surprised the same day, when calling upon G. Wood, Esq., at Brandon, to see so large and fine a plant as he has against a south wall, some 18 ft. high. Though it has been planted but a comparatively short time, it covers 40 ft. run of the wall, and Mr. Wood told me that it yielded an enormous number of blossoms. It receives no protection in winter, yet is in rare health.—*Con.*

NOTES ON FRUITS.

The Lord Suffield Apple.

Thomas Thorpe, of Rhodes, a man in humble life, raised the Lord Suffield Apple from a Keswick Pippin, and he raised also another variety, which is known as Miss Manley. I grow both of them. He raised them both, and the manner of doing so is known to most of you. I remember being in Scotland once, and going to Abbotsford, the seat of the late Sir Walter Scott, where I went into the garden, and saw the gardener, who had a very nice lot of pyramidal Apple trees in good bearing order. I was admiring them, and he said, "But I will show you a new one," and he took me to a Lord Suffield, which was laden with fruit, and he said, "I wish they were every one of that sort; that is the best Apple I ever grew in my life." I said that I knew the man who raised it, and that he lived within four miles of my house. So the gardener got quite interested when I told him the whole story. I mention this to show its wide-spread popularity. I may say that some years ago

*Practical Rose Growing. By John Harkness, F.R.H.S., of Messrs. Harkness & Sons, Bedale.

I read, I think, in the *Gardeners' Magazine*, under the head of "Peeps at Nurseries," that Richard Smith, of Worcester, grafted 40,000 Lord Suffields annually at that time. This shows that it was a fruit which had become of national importance.—*From a paper on Garden Gossip, by Mr. Barlow.*

ORCHIDS AROUND MELBOURNE, AUSTRALIA.

The bulk of our native Orchids belong to the tribe Ophrydeæ, of which the Bee Orchis (Ophrys) is typical. A collection of dried plants, of which nineteen species are Orchids, was sent us by Mr. A. Shaw, of the Botanic Gardens, Melbourne. The specimens were all collected in the immediately surrounding neighbourhood of that place, and although Australian Orchids are rather small, and looked upon with indifference by horticulturists in this country, yet a number of them are exceedingly interesting and pretty, even when compared with our natives. All of those sent belong to the tribe Neottiæ, represented in this country by the Lady's Tresses (Spiranthes), and the Tway Blades (Listera), including the Bird's Nest Orchid. Judging from the specimens sent, the bulk of the Orchids in the neighbourhood of Melbourne belong to this tribe, and constitute a striking contrast to the lordly Sobralias—their representatives in the new world. They are all terrestrial, many of them inhabiting the dry sand-hills of Australia, New Zealand and Van Diemen's Land, and many have tuberous roots.

Some of them are sufficiently pretty or ornamental to be worthy of cultivation even in this country, either in the Orchid house or on the rockery, provided they could be made to succeed. The Spider Orchid (Caladenia Patersoni) is exceedingly pretty, and notable for its great variation in colour, being described as almost white, or variously reddish, greenish, or pale yellow, as well as in the long or short fringes of the lip. The specimens sent exhibited two very distinct types in this respect, while the upper lobe of the labellum was of a deep purple. This species, as well as C. latifolia, are notable amongst Orchids for the hairiness of the stems and leaves, as in Ponthieva, a New World genus, belonging to the same tribe, and often cultivated in Orchid houses here. Curiously enough, Caladenia suaveolens is perfectly glabrous. Few could ignore the butterfly-like beauty of Diurus sulphurea, with bright yellow blooms, having dark purple, almost black spots, of which there are two on the upper sepal and the labellum. Glossodia major has blue flowers, paler outside, and rarely quite pink or white on both sides. It reminds us of the South African iridaceous plants, such as Ixia or Sparaxis, with large flowers.

The collection included five or six species of Pterostylis, a genus of hooded flowers, in shape reminding us of Masdevallias. They are neat and pretty, but not showy plants, with flower-stems arising from the centre of a rosette or radical tuft of leaves. Their colours are not very bright, with the exception, perhaps, of P. vittata, having red flowers striped with white, and borne singly or in crowded racemes. The majority bear only one flower on a stem. A singular-looking Orchid is Lyperanthus nigricans, with a solitary broad leaf near the base of the stem, and bearing a raceme of curious reddish flowers. The whole plant on drying becomes as black as a nigger. A rare plant in Australia is Lyperanthus Burnettii of Mueller, or Burnettia cuneata of Lindley, recorded in the *Genera Plantarum*, from Tasmania only. It is, however, recorded from Victoria in the *Key to the System of Victorian Plants*, vol i, pp. 412 to 413, a new book by Baron Fred. Von Mueller, K.C.M.G., &c., Superintendent of the Botanic Garden at Melbourne.

A singular-looking Orchid is Corysanthes pruinosa, resembling a miniature Aristolochia both in its two leaves and flowers, either of which are blackish purple. It grows on dry sand-hills. Thelemytra antennifera has yellow flowers deeply stained with brownish red externally, reminding one of the colour of a dark variety of Crocus vitellinus. It derives the specific name from two blackish purple appendages to the column. The tiny flowers of Microtis minutiflora remind us of a miniature specimen of our native Spiranthes autumnalis. Prasophyllum elatum resembles a giant form of our native Man Orchis (Aceras anthropophora) in colour and general appearance.—*J. F.*

DENDROBIUM WARDIANUM.

Of the thousands of imported plants of Ward's Dendrobe that have flowered in this country since the importation of the immense piece for which Lord Londesborough gave 100 guineas some years ago, the finest that has come under our notice is the one now illustrated, which made its appearance recently at Stevens' Rooms, and passed into the splendid collection owned by Baron Schroder. The plant was but a small one, but there was no mistaking the wonderful rotundity of its flowers, owing to the unusual breadth of the petals.

The flowers measured 3½ ins. across the petals, which were more remarkable for their width than their length, and measured 1⅜ in. in diameter, and were of a beautiful shining waxy white, with a deep purple tip. The sepals were broadly oblong, blunt, white, tinted with blush, and purple at the tip. The lip was very round, deep yellow on the basal portion, with two large, velvety, brown blotches at the base; this yellow was surrounded with a white band, and the lip was purple. On the whole, then, the flowers were not only highly coloured for the species, but they showed great regularity, and a considerable approach to the florists' ideal of the round flower, with broad, overlapping segments. Several forms in gardens which have received special varietal names are less worthy of the distinction than this fine variety, for the opportunity of illustrating which we are indebted to the kindness of Baron Schroder.

Dendrobium Wardianum: a variety in Baron Schroder's Collection.

GARDENING MISCELLANY.

Monochætum ensiferum.

The quantity of flowers that even small plants of this Melastomaceous subject will produce in the course of the winter is truly surprising. A genial warmth must be maintained, such as that which greenhouse plants require to flower in winter, and ventilation must be freely given to induce a close bushy habit and short-jointed wood. Under these conditions, the flowers—not very durable, as a rule, in this family—will be more lasting. They are of a warm violet-rose, and individually about the size of a shilling, or even larger. A succession is developed from the side-shoots, as the flowers drop from the primary cymes. Numerous specimens may be seen in a house devoted to the culture of hard-wooded plants generally, in the nursery of Messrs. J. Laing & Sons, Forest Hill. They have been flowering for some months past, the specimens being quite small, and closely furnished with dark green leaves. Altogether the habit is neat.

Pilea muscosa.

I have found this plant very useful for decorative purposes, its beautiful foliage standing out in pretty contrast when arranged with other plants. It is not so durable or so hardy as many other decorative subjects, and when once used in rooms will never completely recover, but should be at once cut up for future use. They strike very readily, and should be grown in successive batches as required, one plant or three or four in a 60 or 48-size pot, according to fancy.—*Alfred Gaut.*

Reineckea carnea variegata.

Few gardeners seem to be aware of the hardiness of this Liliaceous plant, which may be compared to Lily of the Valley with narrow grass-like leaves, amongst which nestle racemes of flowers similar to those of the plant just named. They are, however, flesh-coloured, not white, but are delicious ly scented, like those of its more favoured relative. It is not, however, advisable to grow the variegated form out of doors, because according to our experience the leaves either become entirely green or show the variegation to so small an extent as to be worthless from that point of view. The same thing applies to several other variegated subjects, which, when grown in windows or cool greenhouses, lose most of the charms of the variegation they exhibit when grown in a warmer temperature. It rarely happens that hardy plants can be healthily grown for any length of time in a stove, yet there are some that will stand it, including Reineckea carnea variegata, as we have observed in more than one establishment, and recently noticed it in one of Messrs. J. Laing & Sons' stoves in the nursery at Forest Hill. the young leaves are striped with pale yellow, becoming white as they mature, and sometimes a whole rosette of leaves will be white.

Double-spathed Richardia.

High cultivation extending over a long period of time seems to be having its effect on Richardia africana, judging from the number or frequency with which double spathes—in most cases quite perfect—appear on well-grown plants. There are two ways at least in accounting for the presence of the second spathe—namely, by the adhesion or inseparation of the leaf and peduncle as they emerge from the axis, or by the development of a second large bract or spathe just under the flower-bearing spadix. The former seems as likely to be the real origin of the second spathe as any, judging from a number of the species which we have examined. The lower of two spathes on a specimen from Devonhurst, Chiswick, was considerably larger and longer than the upper, and in all respects resembled a true leaf, except in colour, being quite white. It was inserted at a lower level on the flower-stem than the true spathe, and had a long sheath, which became decurrent on the peduncle, the latter being flattened on one side for the greater part of its length as the petiole of a leaf would be. The union of a true leaf with the peduncle of a flower can easily be accounted

for by a luxuriance of vegetative growth, which shows itself in many plants by the formation of fasciated stems.

The Chilian Crocus.

When first introduced much was said about Tecophilæa cyaneo-crocea, and much more was expeeted from it than has ever been realised. The peculiar conditions of climate necessary for its well-being are evidently not to be found in this country, as when the bulbs are left in the open ground without protection they die away and disappear. The intense blue colour of their flowers is sufficient to make the plant worthy of cultivating under more favourable conditions, such as a frame or greenhouse from which the frost is kept out. The chief point to be observed is that the bulbs should be kept comparatively dry during their period of rest. The popular term of Chilian Crocus is not inaptly given on account of the stature of the plant, the size and general form of the flower, though structurally it is very different. The intense blue is also of a shade never seen in the true Crocuses. The plant also belongs to a totally different natural order—namely, Hæmodoraceæ, few of the members of which outlive our winters in the open without protection. There is a variety with a larger white throat than usual, but it is not so pretty as the typical kind which may be seen in the hardy plant house at Kew.

Aponogeton distachyon.

Wherever this beautiful aquatic can be grown, it can never fail to be appreciated by all lovers of flowers. It is generally known to be perfectly hardy, and will grow and increase pretty freely in rather deep ponds or rivers where there is a constant supply of fresh water, but does not seem to appreciate any approach to stagnation. Swans and ducks appear to be very fond of it, so that it is useless to try and grow it where these abound. I have seen ponds full of it yielding a plentiful and constant supply of beautiful and deliciously fragrant flowers during the summer months. I was reading in an old botanical work by Professor Burnet a short time ago that in Cape Colony the Hottentots eat the roots roasted, and I have heard that the flowering tops are sometimes used as a substitute for Asparagus.—*Alfred Gaut.*

Cineraria cruenta.

The original or wild state of this plant would be considered weedy now, in comparison with the fine forms that have been evolved by the florist's care. When first introduced, however, we can understand with what favour it was received, for the numerous starry flower-heads have really a graceful appearance. Besides the enlargement of the heads, and the increased breadth of the rays, the plants have been greatly dwarfed in stature by continued selection. A group of plants of the wild type, from the Canary Islands, may be seen in the greenhouse at Kew, ranging from 3 ft. to 5 ft. in height, with loosely-branching stems, occupying a considerable amount of space. Associated with other plants the effect is pretty, while the wilding is altogether different in appearance from any cultivated form. The starry heads have short lilac rays, and a violet-purple disk. For decorative purposes the wild type would be much more graceful than the finest garden forms, with heavy, massive heads, notwithwithstanding the florist's idea to the contrary.—*J.*

Prunus divaricata.

One of the earliest Rosaceous trees to flower is the subject of this note, and which, notwithstanding the lateness of the season, has been in flower for some time. It is a native of the Caucasus, and is of low spreading habit, with much ramified branches divaricating in all directions, and should therefore, to get the best results, be planted by itself on the ground where other trees cannot interfere with it. The flowers are produced singly, but in such enormous quantities as to render the whole tree a mass of bloom. The leaves commence to make their appearance at the same time as the flowers. The fruit is yellow, globular, and resembles a small Plum, but does not seem to be produced in this country.

Streptocarpus paniculatus.

Compared with the species and varieties most generally seen in cultivation, this is a veritable pigmy so far as the flowers are concerned. The plant, however, bears erect leafy stems about 4 ins. or 5 ins. high, while from the axils of the upper leaves small axillary cymes of flowers are produced. The latter are of a pale lavender colour, with violet spots in the throat. The leaves are small, ovate, hairy, and altogether unlike the long strap-shaped leaves of the better-known kinds. It is a native of Madagascar, and may be seen in the Begonia house at Kew.

The Amateurs' Garden.

Ornamental Grasses.

A number of these are so ornamental and so easily managed that their cultivation might more frequently be undertaken by amateurs than is at present the case. By cutting them, tying up in bunches, and drying slowly in a shed or similar place where direct sunshine does not strike upon them, they will acquire a condition fit for preserving for comparatively any length of time without being brittle. Those who study the question from an economical point of view can avoid future expense in that direction by saving their own seed. To do this, all that is necessary is to allow the plants to grow until they naturally lose their colour and become mature. They may then have their heads or panicles cut off, dried in the sun, and after being rubbed in the hands, so as to remove the stalks and other unnecessary matter, stored away in paper bags until required for sowing the succeeding spring. The following are cheap, easily obtained, and above all of easy culture—namely, Briza maxima and B. gracilis (Quaking Grasses), Agrostis nebulosa, Eragrostis elegans, with spray-like panicles of flowers; Lagurus ovatus (Hare's-tail Grass), Hordeum jubatum (Maned Barley, with long bronzy awns), and Bromus brizæformis. The latter usually flowers the second year.

Hardy Annuals.

The ground is now in excellent condition, and the weather having become much milder all of the hardy annuals may now be sown in the open ground. Under this heading may be included Mignonette, Shirley and other Poppies, Candytufts in great variety, Lychnis cœli rosa, in blue, rose and scarlet colours, Virginian Stocks in variety, Calliopsis tinctoria, C. Drummondi, Collinsia bicolor, Sweet Peas, Larkspur, and others. One thing that must be pressed upon the attention of amateurs, is that the seeds should not be buried too deeply; and the smaller the seeds—as in the case of Poppies and Mignonette—the thinner must be the covering of soil. One of the leading necessities for covering the seeds at all, is to maintain them in a moist condition till germination has taken place, after which the roots strike downwards and find moisture for themselves. The seeds may be sown broadcast, or what is better, in lines. In the latter case there is a primary saving of seed, and when weeding has to be done, matters are greatly expedited by the plants being in lines, so that the hoe can be run through them, and the weeds lightly raked off while the annuals are still in a young state. When there are doubts about the vitality of the seeds it may be advisable to sow thickly; but if they germinate too thickly, as they are liable to do, they should afterwards be thinned out to allow of their proper development.

Hardy Plants in Flower.

Where spring flowers, and particularly bulbous and tuberous-rooted subjects, are largely grown, the flower garden will now begin to wear a gay aspect. Snowdrops, Crocus, and Snowflakes in the shape of Leucojum vernum have not entirely left us, which, no doubt, may be largely attributed to the cold late spring; and as these die away or develop leaves only, then Narcissi of various kinds as well as Tulips and Hyacinths will make their appearance. Independently of these, however, there is a large and varied assortment of Hepaticas, in rose, blue, white, and other shades, both single and double, as well as Primroses and Polyanthus. Chionodoxa or Glory of the Snow, and Scilla bifolia will soon be over, but their place will be supplied in part by Scilla siberica and other species. The old-fashioned Pasque Flower (Anemone pulsatilla), with its purple flowers heavily coated with silvery hairs, affords some variety, but in beauty will be far exceeded presently by the beautiful varieties of Anemone coronaria in many charming tints. The white Arabis and the purple Aubrietias will be the pride of many a garden for some weeks to come. The above includes but a small portion of the easily grown herbaceous types; but there is a number of beautiful shrubs that cannot be overlooked—namely, Erica carnea, Polygala chamæbuxis, P. c. purpurea, and the red and white forms of the common deliciously fragrant Mezereon (Daphne Mezereum and D. M. alba).

The Gardeners' Calendar.

THE STOVE.

Climbers.—Considerable attention will have to be given to the plants trained up the rafters or on trellises, whether they are grown in the stove or warm conservatory. Twining kinds are liable to get so intricately interlaced with one another that it is impossible, after a short time, to separate the shoots without breaking them. Therefore, as growth proceeds, tie in the shoots of Stephanotis floribunda, Thunbergia laurifolia, T. (Hexacentris) mysorensis, Ipomæa Horsfalliæ, Stigmaphyllum ciliatum, and others. The last-mentioned may be grown either in the greenhouse or stove, and will flower tolerably well in either. A great host of other kinds that climb by means of tendrils also demand increasing attention at present. A few of these are Allamandas, Clerodendrons, Mandevillea suaveolens, Dipladenias, Asystasia scandens, Aristolochias, Passion Flowers, Bougainvilleas, and others. Where their shoots cannot be laid in without inconveniently crowding, it is well to cut away a few of the more worthless, so as to admit a proper amount of light and air, as well as to facilitate the operation of cleaning, as many of them are very liable to insect pests, especially mealy-bug.

THE GREENHOUSE.

Solanums.—With the abundance of spring flowers it is not necessary to keep these any longer, even if the berries are still retained. Cut the plants well back, place them in a cold frame or pit, where they may be kept rather dry till the buds commence pushing, or till time to plant them out. Some prefer a frame in which to plant, but this is by no means necessary, as the plants grow freely, flower, and set their fruit well in the open borders. In a sheltered but sunny position they grow into close bushy specimens.

Carnations.—Pot off seedlings as soon as they have formed the first pair of rough leaves, or even sooner. Keep them on shelves near the glass in an airy, well-ventilated house or pit. Even in establishments where a good collection of named sorts is grown, seedlings, in addition to the interest attaching to new kinds, are generally more vigorous than old plants, and furnish a large quantity of flowers for cutting. Look over the old stock and see that they are perfectly free of green-fly, which is liable to increase at an enormous rate at this season of the year. Plants so affected should be dipped in a mixture of soft soap and water, afterwards washing them with clean, soft water. Stake up all that require it.

Climbers.—As in the warmer houses, so in the greenhouse, a large number of climbers now require timely attention. Some of the Kennedyas, such as K. Marryattæ and K. prostata, and Hardenbergias, such as H. Comptoniana and H. monophylla, are in flower, and should be disturbed as little as possible. Such things as Bignonia Cherere, Jasminum, Tecoma, Passiflora cœrulea, Tacsonias, Trachelospermum jasminoides, Mandevillea suaveolens, Swainsonias, Cobæa scandens and its variegated variety, all require unremitting attention to maintain order and regulate the shoots as growth proceeds. Encourage the production of strong young shoots from the base of the Lapagerias, and assiduously guard against slugs, which are very fond of the fleshy and tender young stems. Baits in the shape of slices of Carrot, Turnip, or Cabbage leaves will offer counter attractions; and it may even be necessary to place glass round the young shoots till they get firm.

THE FRUIT HOUSES.

Peaches.—The fruit in the earliest house is now past the critical period of stoning, or will soon be so, and when such is the case the temperature at night may safely be raised to 60°, with an increase of 15° by day, or even more if the fruit be required at an early date. A high temperature by day, especially from sun-heat, is of much more material advantage to the trees than a high night temperature. Close the house early, syringing and damping down heavily. Attention to stopping and tying is also of great importance, as well as the thinning out of the fruit where it is too crowded, or if the crop is too heavy for the trees to mature.

The Orchard House.—During the prevalence of cold, blustering north and east winds the house must not be too freely ventilated on the exposed side; but at the same time it is essential that a current of air in the house should be permitted, in order to prevent stagnation and to assist in a free dispersion of the pollen, as a good crop cannot otherwise be secured.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

Now that many of the varieties of Dendrobium—such as D. Wardianum, D. crassinode, D. nobile in variety, D. Ainsworthii, &c.—have passed out of flower, it will be necessary to remove them into the stove to make their growth; and in case any of them require re-potting or re-basketing, they had better be attended to, so that the young roots may go right into the new compost, or cling to the new baskets at will. Any plants which have become bare of growths in the middle may be broken up and re-potted, in order to render them more shapely; and any subjects which may have been put into baskets or pots that were too large had better be transferred to smaller ones, so that they may safely receive copious waterings during the time they are in active growth without it remaining and becoming stagnant on account of the mass of compost by which they are surrounded.

To make the plants secure, it is a good plan to tack two or three narrow strips of wood to the baskets to act as stakes, which are much firmer than sticks merely pushed into the compost. Where the convenience exists it is advisable to give the Dendrobes a position where there is a warm airy atmosphere during the time they are in active growth, and where there is an abundance of moisture arising from the damping down of the houses two, three or four times a day, according to the state of the weather.

The fires must now be kept well in hand so as not to have any difficulty in keeping the fire-heat down when the sun bursts forth suddenly, for it is not well to excite any plants into growth before their season. Watering and damping down now occupy a good deal of time, but to take note and learn by experience the quantity of water required by different plants in the same houses is or ought to be interesting to those in charge. Green-fly and thrips are still determined to multiply, and will certainly do their best to spoil the plants and flowers, and should be allowed no quarter. Lycaste Skinneri is a certain haunt for green-fly when in flower. For growing plants infested with insects a dip in weak tobacco-water, afterwards laying the plant on its side to drain, is a good plan; but at this time of the year, when so many plants are in flower, perhaps the best plan is to steam the house by the use of the Thanataphore.

Temperatures at present time are East Indian house, 60° to 65° at night, 70° by day. Cattleya house, 55° to 60° at night, 60° to 65° by day. Cool or Odontoglossum house, 45° to 50° at night, 50° to 55° by day.—*W. P.*

Orchids from Terregles, Dumfries.

We have received a box of Orchid flowers from Mr. Alexander Chalmers, gardener to Captain Maxwell, Terregles, Dumfries. Three of them are Odontoglossums, each very good examples of its kind. A fine spike of a specimen that has flowered for the first time out of an imported batch of O. crispum seems very distinct from anything we have seen. If merely O. crispum it would not be considered of any importance, on account of the narrowness of the different segments; but there can be little doubt of its being a natural hybrid, and apparently between O. crispum and O. cirrosum. The sepals and petals are long, lanceolate, undulated at the margin, and more or less twisted, as in O. cirrosum. The lip has a triangular or hastate base, which runs out into a long undulated tail, and is white, with a yellow disk and two or three reddish brown blotches on the middle. The crest is like that of O. c. Andersonianum, while the wings of the column seem intermediate between those of O. crispum and the last-named variety, or of O. cirrosum or O. odoratum, all of which have the wings reduced to a small shred. But in the present case there is a distinct tooth at the base in addition to the tendril at the upper edge, with several minute intermediate teeth. The flowers were sweetly scented when we received them. Mr. Alex. Chalmers informs us that the flowers expanded of a decided yellow, gradually becoming white. Large and well-coloured samples of O. triumphans and O. maculatum accompanied the others, the flower of the former measuring 4½ ins. across the sepals. The flowers on a spike of Vanda tricolor were richly spotted with brown on a yellow ground.

A Norfolk Collection.

Having heard of the successful cultivation of Orchids by an amateur residing at Brandon—George Woods, Esq.—when passing through that Norfolk town recently, I called to see the collection, and was much pleased to find two houses full of healthy thriving plants—a striking illustration of what can be accomplished by loving care, for Mr. Woods looks after the plants himself, and has only the assistance of a labourer, who works to his instructions. The houses in question, which run north and south, are well heated and ventilated, and in bloom at the time of my visit were several good plants of Dendrobium nobile, D. Brymerianum, D. crassinode and its beautiful variety Barberianum, very fine; a good form of D. Wardianum, D. thyrsiflorum; Odontoglossum Rossii majus, many pans full of high-coloured forms; O. Roezlii and its white variety; Cattleya Trianæ delicata, Maxillaria Harrisoniæ, and two or three varieties of Cypripedium. These gave the house containing them a very gay appearance. I also noted many good Cattleyas of the Mossiæ, Mendelii, and labiata types, Odontoglossum vexillarium and crispum, in variety; a few good healthy Cypripediums, Phalænopsids, and Masdevallias. Some of the plants are grown in baskets, others on rafts, and all give evidence of careful attention and appreciation of the treatment accorded them. This collection forcibly illustrates the fact that a considerable variety of Orchids can be grown mixed together with a great deal of satisfaction by amateurs who really love the plants, and the wonder is that there are not more of such collections as Mr. Woods' to be seen in the country.—*Con.*

Orchids at Westbrook, Sheffield.

Calling at this noted Orchid-growing establishment a few days ago, I was courteously received and conducted through several well-filled houses by Mr. Pidsley, the gardener, who has at all times many choice and rare Orchids in bloom under his charge. Amongst the Cattleyas there are several very fine varieties of Trianæ in various shades, including the white kinds. Plants of C. Lawrenceana are flowering freely, and other species are showing well for a future display, amongst them being some fine plants of Mendelii and Mossiæ. A nice light and well-ventilated house has recently been fitted up for their accommodation. Cypripediums are well represented, the following being in bloom:—C. Stonei, C. niveum, C. Godefroyæ, C. Sedenicandidulum, C. argus, C. villosum, and C. lævigatum. Lycaste Skinneri alba is a very fine round-petalled variety, and L. Skinneri var. Imperator now in bloom is worth a visit to see. This lovely Orchid was exhibited at the Royal Horticultural Society's meeting in London last year, when it was deservedly awarded a First Class Certificate by the Floral Committee. Since that time the plant has made splendid growth under Mr. Pidsley's fostering care. Maxillaria Sanderiana will shortly be in bloom. The Westbrook plant was one of the first batch introduced, and is no doubt one of the finest in the country. Odontoglossum crispum is represented by many choice varieties, including a very vigorous plant of O. Stevensii with twenty-three large blooms on one growth. There was also another hybrid in flower which has not yet been named, the marking of the flowers being somewhat in the way of O. Stevensii, but the blotches are somewhat larger, and their colour much brighter. The plant was carrying fourteen charming flowers. O. Andersonianum and several varieties of O. cirrosum, including Klabochorum, were well represented. O. Schilleriana was also in bloom, with strong branching spikes. Amongst other valuable species and varieties of this lovely genus of Orchids, a very vigorous specimen of the rare O. Vuylstekianum will shortly be in flower. Masdevallias are well represented; several are gay with flowers, including M. Veitchii grandiflora gigantea. Two fine plants of Vanda suavis brightened up the house with several good spikes.—*Vanda.*

Oncidium sarcodes.

With reference to the inquiry of "J. W." in your last issue as to the number of flowers on a plant of this species at Broomhall Field, Sheffield, being unusual, it may be of interest to you if I mention that I last week cut from a similar plant grown here a spike with seventeen branches, carrying in all 147 perfectly developed flowers of good form and colour, the length of the spike being over 6 ft. This is more than twice the number of flowers (sixty) named by "J. W." as carried by two spikes on the plant to which he referred, and would therefore appear to have been, from your editorial acquiescence in his suggestion, very unusual. —*T. R. W., Chislehurst.*

We have a plant here with three spikes bearing the following number of flowers—viz., one with 102, the second with 125, and one with 153 blooms on the spike, or a total of 380 flowers on three spikes.—*John Cragg, gardener to A. Heine, Esq., Birchfield, Fallowfield.*

Miltonia vexillaria purpurea.

A specimen of an exceedingly fine variety of this Orchid, having flowered for the first time, was exhibited by Mr. E. Cowley, gardener to F. G. Tautz, Esq., Studley House, Hammersmith, at the meeting of the Royal Horticultural Society on Tuesday last, when it received a First Class Certificate from the Orchid Committee. Both sepals, petals, and lip are of a rich purple, while the size of the flowers is such as to put the other dark kinds, such as M. v. Klabochorum and M. v. superbum, in the shade. On the lateral sepals are two red lines traversing them longitudinally on a white ground. On the base of the lip is a large triangular white blotch bearing a smaller three-forked purple one, so that taken altogether the variety is a very fine one, and a distinct advance upon any that have been shown.

Dendrobium eriosmum leucopterum.

In habit and general appearance this may be compared to Dendrobium nobile, although the stems and the lip are structurally very different. The sepals are white, and revolute or somewhat twisted, while the petals are broader and also white. The lower portion of the tubular-shaped lip is deep purple, while the lamina is white. The stems of the plant shown were erect, ranging from 12 ins. to 15 ins. high, and bore a large quantity of flowers in lateral clusters of two or three blooms each. A fine plant was exhibited by Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham, at the last meeting of the Royal Horticultural Society, when it received a First Class Certificate from the Orchid Committee. It is of hybrid origin.

Botanical Certificates.

Amongst a fine group of Orchids shown by Sir Trevor Lawrence, Bart., M.P. (Mr. Bickerstaff, gardener), Burford Lodge, Dorking, at the meeting of the Royal Horticultural Society on Tuesday last, were three species to which the Orchid Committee awarded Botanical Certificates. One of these was the exceedingly curious Catasetum barbatum proboscidium, the sepals and petals of which were more or less boat-shaped, green externally, and densely blotched with almost black spots internally. The labellum was also boat-shaped, and curiously bearded with coarse white hairs around the margins. These hairs or fringes all pointed inwards, and the varietal name has evidently been given on account of a stiff, curved, white proboscis-looking structure on the base of the lip, the whole mechanism of which was very interesting. The flowers were not showy, but arranged in a short dense raceme. Another plant certificated was Lycaste Schilleriana, the large spreading sepals of which were of a dusky green, while the erect petals and lip were white upwards and yellow towards the base. The third plant was Restrepia elegans, a very pretty species, having the lip beautifully spotted with brownish purple on a yellow ground. The petals and upper sepal were long, slender, and clubbed, resembling the antennæ of an insect. The foliage was heavily tinged with red.

HORTICULTURAL SOCIETIES.

Shropshire Horticultural.—*April 4th.*

The spring show of this flourishing society took place on the above date in the Music Hall, Shrewsbury, under very unfavourable circumstances, the weather being very wet and cold. The plants and flowers were arranged so as to give the visitors more room than they had last year, but although the day was very wet, the hall was so crowded as to be unpleasant at times, and I think it quite time the committee should do their best to procure a larger place in which to hold their spring show. In the class for twelve pot plants in flower, not to exceed 10 ins., five lots were put up, and Mr. Milner, Sundorne Castle Gardens, this year took the first prize with a very nice fresh and well-flowered lot, Mr. Lambert, Onslow, being a very close second with very neatly-trained Azaleas. The same exhibitor also took the third prize with another twelve plants, and I think a fourth or special prize might have been awarded to another twelve creditable plants put up by Mr. Hespbury, gardener to James Watson, Esq., M.P. Hyacinths were not very good. Mr. Murrell, Portland Nurseries, gained first honours, closely followed by Mr. Lambert. In the class for trained large specimens of Azaleas Mr. Farrant, gardener to Mrs. Juson, The Monklands, had four fine specimens, and he also secured the second prize with much smaller plants. In the corresponding class for untrained Azaleas Mr. Lambert, Onslow, showed two fours, which were well-flowered and very even-sized specimens, gaining the first and second prizes, no third prize being awarded. Richardias were well shown, four exhibitors competing for the prizes, Major Patchett's gardener, Green Fields, Shrewsbury, taking the first, Mr. Lambert being second. Mr. Milner took the first prize for six pots of Lily of the Valley, which were full of good strong

spikes. For four pots of Dielytras Mr. Lambert secured the first and second prizes.

For a collection of bulbs or corms in flower, Mr. Murrell, nurseryman, was first, and he also had the best twenty-four flowering shrubs. Messrs. Dickson's (Limited), Chester, as usual showed in their well-known excellent style a large collection of hardy herbaceous plants and bulbs, which gained a first prize and attracted much notice. Four Plants of Clematis very well flowered were shown by Mr. Lambert, who took first honours. All the Shrewsbury nurserymen did their best to help the exhibition by showing fine collections of plants and bulbs in flower. A special Certificate was awarded to Messrs. Pritchard & Sons for a very fine lot exhibited, not for competition, this being the first year this firm has not shown against the gardeners; the only class entered by them was for bouquets, in which they took the second awards in each competition, Messrs. Perkins, of Coventry, securing the two first with very pretty examples. Special prizes were awarded to Messrs. Jones & Sons for a fine collection of wreaths and crosses; Mr. Murrell, Portland Nurseries, for a box of cut Roses; Mr. A. Myers, Sutton Lane, for a collection of plants and flowers; Mr. Lambert for a box of cut flowers, including a nice lot of Orchids; Messrs. Pritchard & Sons for a group of plants and flowers. Most prominent among the amateurs I noticed Mr. J. Barker (gardener, Mr. Macrady), Major Patchett (gardener, Mr. Blunt), Hon. W. H. Herbert (gardener, Mr. Phillips), Mr. G. Burr, The Oaklands (gardener, Mr. Jones), Mr. R. Blakemay Phillips, Mr. W. W. Humphreys, Mr. W. J. Wyley, and Mr. W. Adams. Mr. Blair, Trentham, and Mr. Hope, Weston Park, Shifnal, acted as judges.—*Visitor.*

Royal Horticultural—*April 9th.*

The meeting held on Tuesday was admitted by all to be a decided improvement on any that have taken place this year. The leading features of the exhibition were decidedly Orchids and Daffodils, while there was a collection of Tree Pæonies, an important and varied collection of plants from Kew, and numerous miscellaneous groups of flowers, as well as forced Strawberries. A Gold Medal was awarded to Baron Schroder (gardener, Mr. Ballantyne), The Dell, Egham, for a large and splendidly-flowered group of Orchids, including large pieces of Cattleya Skinneri, C. Lawrenceana, Lælia cinnabarina, with eight large spikes; L. Jongheana, Odontoglossum elegans, with thirty flowers; O. Wilckeanum, O. expansum superbum, O. triumphans, with two spikes bearing ten flowers each; large plants of Dendrobium nobile nobilius, D. barbatulum, D. Brymerianum, D. Farmeri, and others. A Silver-gilt Banksian Medal was accorded to Messrs. F. Sander & Co., St. Albans, for a well-flowered group in which Dendrobium transparens, D. marmoratum, D. Devonianum, Odontoglossum Hallii leucoglossum, Cattleya Skinneri, Trichopilia suavis alba, and Oncidium bifolium were very prominent. An Award of Merit was granted for the last named.

A Silver Banksian Medal was awarded to Sir Trevor Lawrence, Bart., M.P. (gardener, Mr. Bickerstaff), for a smaller group of Orchids. It included a grandly-flowered plant of Angræcum Leonii, also Cypripedium Curtisii, Cattleya Lawrenceana, Cymbidium eburneum Dayanum, Lycaste Schilleriana, and Restrepia elegans. A similar award was made to F. G. Tautz, Esq. (gardener, Mr. C. Cowley), Studley House, Hammersmith, for a group of Orchids containing a splendid variety of Miltonia vexillaria named M. v. purpurea, also M. v. leucoglossa, a large piece of Angræcum eburneum, Maxillaria Sanderiana, Cattleya speciosissima Bella Donna, and others.

From the Royal Gardens, Kew, came a mixed collection of hardy, as well as stove and greenhouse plants. Amongst hardy plants were Orchis pallens, O. morio picta, O. longibracteata, Ophrys arachnites, and a number of Primulas, including the Himalayan P. petiolaris. There was a group of Arisæmas, including A. speciosa, A. galeatum, A. Wrayii, also Columnea Kalbreyeri and a most singular-looking Godwinia gigas. Large groups of Daffodils occupied each of the two side tables, and a Silver Banksian Medal was awarded to each. One of the groups was shown by Messrs. Barr & Son, Covent Garden, and the other came from Mr. T. S. Ware, Tottenham. A group of single Moutan Pæonies and Japan Maples was shown by Mr. Wm. Gordon, St. Margaret's, Twickenham. Some of the best Pæonies were Flag of Truce, blush; Lady Freake, pinkish rose, with ragged petals; and Snowball, white.

Amongst the smaller groups was one from Messrs. J. Veitch & Sons, Chelsea, containing Dendrobium Wardio-aureum, Amaryllis Zephyr, and Sirocco, the latter being especially fine. George Firth, Esq. (gardener, Mr. F. Collier), Manningham, Bradford, showed some fine spikes of Phalænopsis Aphrodite, P. Schilleriana, and P. Schilleriana alba, the last-named being particularly fine and interesting, as having been cut from the only known plant in the country. Messrs. Hugh Low & Co., Clapton, had a finely coloured Cypripedium bellatulum; and Mr. Blair, gardener to the Duke of Sutherland, Trentham, Stoke-on-Trent, had a finely spotted piece of Odontoglossum Sutherlandi. An Award of Merit was accorded to Messrs. H. Lane & Son, Great Berkhampstead, for a basket of Gloire de Margottin Rose, a fine free-blooming scarlet Rose, highly recommended as a forcing variety; and a Cultural Commendation to Mr. H. M. Mouldsworth, Wilton, for a fine piece of Souvenir de la Malmaison Carnation. Mr. F. Ross, gardener to Sir George Macleay, Pendell Court, Bletchingley, showed large flowering pieces of Kennedya rubicunda, and the singular-looking Composite Mutisia Clematitis, with scarlet rays. A fine collection of Himalayan Rhododendrons came from Mr. R. Gill, gardener to Mrs. Shilson, Penrhyn, Cornwall, including R. Thompsoni, R. Nillagerricum, R. arboreum, and others. A beautiful group of hardy Primroses came from Mr. R. Dean, Ealing, including Blue Gem, Charles Darwin, Lady Rosebery, and Sir John Falstaff.

Fruit Committee.

At the meeting of this committee, Mr. W. Unwin, fruit salesman, Covent Garden, exhibited some good examples of a white-spined Cucumber called Covent Garden Favourite, and grown by Mr. G. Featherby, of Gillingham, Kent. The fruits were of even type, 15 ins. to 16 ins. long, and well flavoured. An Award of Merit was voted to it. From Mr. J. Harris, Great Lodge Gardens, Tunbridge Wells, came some pot-grown samples of a dwarf early-forcing Strawberry, with large Cockscomb-shaped fruits, somewhat deficient in colour, and very insipid in flavour. Mr. R. Dean, Ealing, received a vote of thanks for a nice dish of his Early Sunrise Potato, a white, round variety that will be useful for early work.

Royal Caledonian.—*April 3rd and 4th.*

Having been favoured with better weather during the preceding month than was the case last year, the spring show of this society, which was held as usual in the Waverley Market, was of a better average character, and the tables, laden with spring-flowering bulbs, Azaleas, Rhododendrons, and other gay-blooming stove and greenhouse plants gave the great building a bright and festive appearance. In the gardeners' and amateurs' classes the leading exhibitors included such well-tried supporters of the society as Mr. John Paterson, Millbank; Mr. R. Grossart, Oswald Road; Mr. Geo. McKinnon, Melville Castle; Mr. McIntyre, The Glen; Mr. John Forbes, Rockville; Mr. John Cumming; and Mr. A. Crichton, who each secured awards in several classes. In the nurserymen's classes Messrs. R. B. Laird & Sons and Messrs. Ireland & Thomson were the largest exhibitors, the first-named firm securing thirteen first prizes and two seconds. Of fruits and vegetables the display was, as is usual at this season, somewhat limited. The leading prize-winners were Mr. McIntyre for Pines; Mr. McKelvie, Broxmouth, and Mr. Smith, Oxenford, for Strawberries; Mr. G. McKinnon for black Grapes; Mr. Smith for white Grapes; and Mr. G. Potter, gardener to Mrs. Laidley, North Berwick, for vegetables.

Royal Botanic.—*April 10th.*

The second of the spring shows of this society was held on Wednesday under atmospherical conditions such as have never before been recorded in the society's history. It simply rained all day, and to add to the discomfort, for several hours the Cimmerian darkness in which the metropolis was enveloped, rendered it well nigh impossible to distinguish the plants or flowers.

The chief feature of the exhibition—or as much as we could see of it—consisted of Roses, hardy herbaceous and Alpine plants, Daffodils and Cinerarias. The best six Azaleas in the amateurs' class were shown by Mr. R. Scott, gardener to Miss Foster, Regent's Park; Mr. H. Eason, gardener to B. Noakes, Esq., Highgate, being second. Mr. C. Turner, Slough, had by far the best Azaleas in the nurserymen's class, Mr. H. James, Norwood, being second. Messrs. Paul & Son, of Cheshunt, had some well-grown Roses, and took the first award; Mr. W. Rumsey, Waltham Cross, being second. The first prize for Amaryllis went to Messrs. Paul & Son; and the second to Mr. J. Douglas. Mr. J. James, Farnham Royal, took the first prize as usual for Cinerarias, which were dwarf, and of fine quality; Mr. Douglas followed with much larger plants. Mr. D. Phillips, Langley Broom, Slough, was the only competitor with Pelargoniums. Messrs. Paul & Son received the first award for hardy herbaceous plants; and Mr. T. S. Ware was second with taller kinds. A second prize only was given to Messrs. Paul & Son for Alpines.

In the open classes for Auriculas, Mr. J. Douglas took the first prize for twelve show varieties, which showed considerable variety of colour, and was followed by Mr. C. Turner. This order of merit was reversed in the class for Alpines. Mr. Douglas was the only exhibitor in the class for Polyanthus. The prize for Mignonette went to Mr. D. Phillips, Langley Broom, Slough.

In the miscellaneous class, Messrs. F. Sander & Co. showed a large group of Orchids, including well-flowered specimens of Dendrobiums, Cattleyas, and Odontoglossums. A Silver Medal was recommended. From Messrs. J. Veitch & Sons, Chelsea, came a small group of Amaryllis and hybrid Rhododendrons, several of the former being very fine. A Bronze Medal was awarded to Mr. T. S. Ware for Daffodils and other spring flowers. A Silver Medal was awarded to Messrs. John Laing & Sons, Forest Hill, for a fine group of Clivias, Orchids, Palms, and Ferns. A Bronze Medal was accorded to Messrs. Barr & Son, Covent Garden, for a large group of Daffodils. Mr. Hibburt, gardener to W. Clay, Esq., Kingston, had a group of Cyclamens in 48-sized pots, for which a Bronze Medal was awarded. A fine group of dwarf and standard Roses was exhibited by Mr. Wm. Rumsey, the plants, with few exceptions, being well flowered. A large Silver Medal was awarded. Mr. W. Gordon, Twickenham, showed a group of single and semi-double Moutan Pæonies. Messrs. J. Cheal & Sons, Crawley, exhibited a collection of forty-two dishes and eight baskets of Apples, most of the specimens being highly coloured. A stand of Carnations was shown by Mr. C. Turner; a group of the Victoria Violet by Mr. J. Chambers, Isleworth; and some bouquets of flowers by Messrs. Hooper & Co., Covent Garden. A table of hardy Primroses, arranged on a groundwork of moss, was exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. The new plants certificated will be noted in our next issue.

THE NURSERY AND SEED TRADE.

A Disputed Account for Roman Hyacinths.

Bremond *v.* Lewis Isaacs.—This was an action remitted from the High Court to the Whitechapel County Court, and came before Judge Bacon on the 9th inst. It was brought by Mr. Louis Bremond, of Ollioules, France, against Mr. Lewis Isaacs, of 3, Victoria Warehouses, Mansell Street, Aldgate, to recover £50 1*s.* 7*d.* for goods sold and delivered, or in the alternative, for damages for non-acceptance of a bill of exchange payable six months from date of invoice. The defence was that the goods (Roman Hyacinths) were not according to order, and that the defendant had to sell the bulbs at 60*s.* per 1,000, although the plaintiff had charged him 80*s.* per 1,000. Mr. Wm. Denman, agent to the plaintiff, proved that the goods were delivered on 24th of August, 1888, and no complaint was made until he applied for the bill of exchange six weeks afterwards—viz., 5th October, when the defendant complained of the quality of the bulbs. Mr. Denman further stated that if complaint had been made within three or four weeks after the receipt of the goods he would have been happy to have taken them back, but when the defendant complained the season was over for Roman Hyacinths.

Mr. Isaacs, in cross-examination by Mr. Israel Davis, counsel for the plaintiff, admitted that he asked from clients 120*s.* per 1,000 for these bulbs, and one lot of 1,000 he sold at this price, although he had led the plaintiff to believe, until he went into the witness box, that he had sold the whole 10,000 bulbs to a client at 60*s.* per 1,000, and had tried to get plaintiff's price reduced to 60*s.* per 1,000 for the whole 10,000. The jury found for the plaintiff for the full amount claimed, together with interest and costs.

The Seed Trade.

Messrs. Hurst & Son, 152, Houndsditch, report a brisk sale for all varieties of Agricultural Seed. Red Clover is firmer, there being some inquiry from France for this article. White and Alsike steady. Trefoil being scarce commands extreme prices. Rye Grasses unchanged.

QUESTIONS AND ANSWERS.

BOOKS.—*G. L. H.:* Miss Hassard's *Floral Decorations for the Dwelling House.* Macmillan. Price 5*s.*

CHYSIS BRACTESCENS.—The imported piece of C. bractescens ought to succeed well in a house kept at the temperature named. The imported plants of Barkerias will do best if securely fastened to blocks of wood, maple or oak will be best, with the bark on; they will soon make root and fix themselves firmly to the wood. By using bare blocks they will require dipping once or twice a day during active growth, and the variety you mention would be in bloom in July or August if it starts away strongly at once. Little water is required after the flowering season, only sufficient to keep them plump. The cool end of the house will suit them best.

DRIED FLOWERS.—*Ulmus:* If you grow what are called "Everlasting Flowers," which are mostly annuals, all you have to do is to cut them when in flower, and hang them up to dry in a cool airy shed. You cannot hope, however, to get the same variety in this way as can be got in the shops, because these are collected from many parts of the world.

IVY-LEAVED PELARGONIUMS.—*W. Watson:* There are plenty of what are recognised as dwarf varieties now, and the value of your seedling will depend entirely upon the quality of the flowers, the habit being all right. Send us a truss of blooms when in flower, and we will advise you as to its value.

NAMES OF PLANTS.—*S. K. G.:* 1. Oncidium sphacelatum; 2, Miltonia cuneata. *P. M.:* 1, Peperomia Saundersii; 2, Euonymus japonicus variegatus; 3, Euonymus radicans variegatus; the Orchid is Dendrobium superbum; the Camellia is a variety of C. japonica, but we cannot undertake to name garden forms. *Wright, Levenshulme:* Hibiscus mutabilis flore pleno. *H. Kent:* Lycaste Harrisoniæ. *Geo. Jenkins:* Please number your specimens next time. The Cypripedium is C. caricinum, also known as C. Pearcei, not rare, but not very common; the yellow Orchid is Oncidium ampliatum; the Maidenhair is Adiantum cuneatum Pacotti; the other Fern is Onychium japonicum (no fruit); the Primula is P. verticillata, also called P. abyssinica in gardens. The rest next week.

COMMUNICATIONS RECEIVED.—T. D.—J. L. & S.—C. H. S.—J. A.—S. H—W. K.—R. S.—J. L.—S. B.—J. S.—T. G. W.—F. R. S.—W. J.—A. R.

THE WEATHER.

AT the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending April 6th was 29·49 ins.; the highest reading was 29·81 ins. on Monday morning, and the lowest 29·02 ins. on Thursday afternoon. The mean temperature of the air was 43·5°, and 2·5° below the average in the corresponding weeks of the twenty years ending 1868. The mean was below the average throughout the week, the coldest day being Wednesday, when the mean fell to 39·6°, and was 6·5° below the average. The direction of the wind was variable, and the horizontal movement of the air averaged 11·1 miles per hour, which was 1·2 miles below the average in the corresponding weeks of sixteen years. Rain fell on four days of the week, to the aggregate amount of 0·27 of an inch. The duration of registered bright sunshine in the week was 21.3 hours, against 26.1 hours at Glynde Place, Lewes.

COVENT GARDEN MARKET.

April 10th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Cobs .. per 100 lbs.			Pine-apples, Eng., lb.	1 0	1 6
Grapes .....per lb.	2 0	6 0	Strawberries.. per lb.	4 0	8 0

Canadian and Nova Scotia Apples, per barrel, 7*s.* to 17*s.*

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus....per 100	14 0		Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	3 0		Lettuces ..per dozen	1 6	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages.... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes ..per dozen	1 6	
Celery....per bundle	3 0		Small salading, punnet	0 4	
Cucumbers ....each	0 4	0 10	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos ....per lb.	3 0	4 0
			Turnips ....per bun.	0 6	

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemone, French, per doz. bunches.	1 0	4 0	Mignonette, 12 bun.	4 0	6 0
Arum Lilies, 12 blms ..	2 0	4 0	Pelargoniums, 12 spys.	1 0	1 6
Azaleas ....12 sprays	0 6	1 0	— scarlet ..12 sprays	0 4	0 6
Bonvardias, per bun.	0 9	1 0	Paper White Narciss, French, doz. bunches	3 0	6 0
Camellias, white, doz.	2 0	4 0	Primroses..doz. buns.	0 6	1 0
— coloured..... ,,	0 6	1 6	Primula, double, bun.	0 9	1 0
Carnations, 12 blooms	2 0	3 0	Ranunculus, French, per doz. bnchs.	2 0	4 0
yclamen..12 blooms	0 4	0 9	Roman Hyacinths, French, 12 bun.	1 0	2 0
Daffodil, dble., 12 bun.	2 0	4 0	Roses, Tea, per dozen	1 0	3 0
— single, various	4 0	9 0	— Red .....per doz.	3 0	6 0
— or Lent Lily ,,	1 6	3 0	— Red, French, dozen	1 6	2 0
Encharis ..per dozen	4 0	6 0	— Saffrano ..per doz.	1 0	2 0
Gardenias, 12 blooms.	3 0	6 0	Tuberoses, per dozen.	2 0	3 0
Heliotropes, 12 sprays	0 6	1 0	Tulips ....12 blooms	0 6	1 0
Lapageria, 12 blooms	2 0	4 0	Violets ..12 bunches	0 6	1 0
Lilium longiflorum, 12 blooms	4 0	6 0	— Parme, French, bun.	2 6	3 0
Lily of the Valley, 12 sprays	0 6	1 0	— Czar, French ,,	1 6	2 0
Maidenhair Fern, 12 bns	6 0	9 0	— Dark ,, ,,	0 9	1 0
Marguerites, 12 bun.	3 0	6 0	Wallflowers, 12 bnchs,	4 0	6 0
Mimosa, French, per bunch	1 0	1 6	White Lilac, French, per bun.	1 0	1 3

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	6 0	18 0	Heliotrope ..per doz.	6 0	9 0
Arum Lilies..per doz.	9 0	18 0	Hyacinths ..per doz.	6 0	9 0
Azalea.....per doz.	18 0	42 0	Lilies of the Valley, per doz.	12 0	24 0
Cineraria ..per dozen	6 0	10 0	Marguerites per doz.	6 0	12 0
Cyclamen ..per doz,	9 0	18 0	Mignonette, doz. pots	6 0	12 0
Cyperus, ..per dozen	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz.	30 0	60 0	Pelargoniums, scarlet, Pinks, &c., per doz.	6 0	9 0
— viridis, per dozen	12 0	24 0	Pelargoniums, per doz.	12 0	18 0
Erica, various ..doz.	9 0	24 0	Primula sinensis, doz.	4 0	6 0
Evergreens, in var. ,,	6 0	24 0	Roses, H.P., per doz.	12 0	24 0
Ferns, in var., per doz.	4 0	18 0	Roses, Fairy, per doz.	9 0	12 0
Ficus elastica ..each	1 6	7 0	Spiræa .....per doz.	9 0	15 0
Foliage Plants, various .....each	2 0	10 0	Tulips ..... per doz.	6 0	9 0
Genista ....per dozen	9 0	12 0			

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SCALE OF CHARGES FOR ADVERTISEMENTS.

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NOW IS THE TIME TO PLANT
GLADIOLI, of which we grow 20 acres
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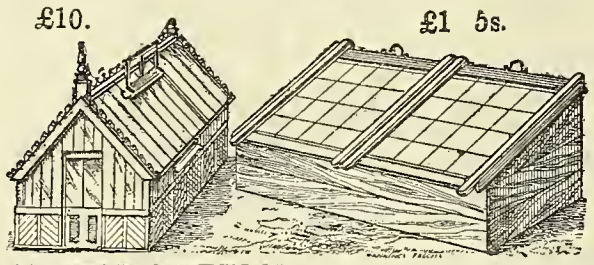

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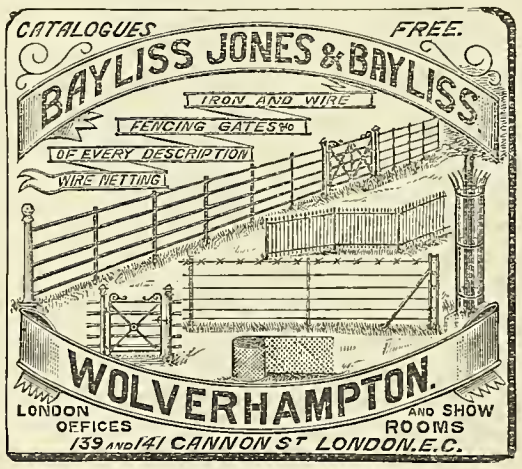

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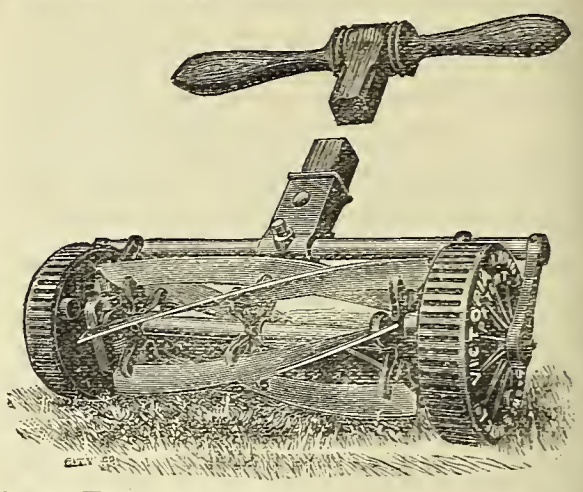

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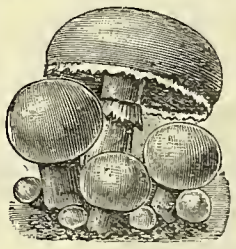

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BEAUTIFUL, NEW, HARDY
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CUT SPECIMEN FLOWERS
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Next Week's Engagements.

TUESDAY, April 23rd.—Royal Horticultural Society: Fruit and Floral Committees at 11 a.m. National Auricula Society's Show.

THURSDAY, April 25th.—Royal Horticultural Society of Ireland: Spring Show. Sale of Imported Orchids at Stevens' Rooms.

FRIDAY, April 26th.—Sale of Rare Orchids at Protheroe & Morris's Rooms.

For Index to Contents & Advertisements, see p. 538.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, APRIL 20, 1889.

CURRENT TOPICS.

THE AURICULA SHOW.—We may remind our readers that the annual Southern gathering of the followers of St. Auricula will take place at the Westminster Drill Hall, next Tuesday. The arrangement, which fixes the meeting for the day succeeding Bank Holiday, and during the Easter recess, seems to be a peculiarly objectionable one; but, on the other hand, so far as visitors are concerned, London is a large place, and when most empty may fill the Drill Hall with people a thousand times over. Londoners, we fear, however, are hardly smitten with the charms of St. Auricula, or find pleasure in worshiping the pretty Polyanthus. Just now we are most concerned with the conditions of the weather, which for so long has been cold, gloomy, and wet, bidding fair to rival the deep gloom and coldness of the show day of last year. We sincerely hope for better things, but it is certain that if cloud and gloom cover the London sky, then is the Drill Hall dark and lugubrious indeed.

Last year, thanks to the Auricula exhibitors and their friends, the largest gathering of visitors of the whole season was seen at the Drill Hall on the Auricula show day. Possibly it may be as large this year, although there

seems to be fear that the Auriculas, Polyanthuses, &c., will hardly be at their best, because of the low temperature and gloomy skies which have prevailed. We may not forget to remind our readers that two of the saint's most enthusiastic apostles, the Rev. F. D. Horner and Mr. J. T. D. Llewellyn, are to read papers on Auriculas and Primula species respectively, and without doubt these will be full of interest and information. We hope they will not be too long, and will afford some spare time for discussion.

It is difficult to find much that is new to be said concerning either class of plants, but very much that is delightfully interesting may, and probably will be said all the same. If the gathering should result in hundreds taking the Auricula pledge, and keeping it, we shall have every reason to be glad and so will they.

Daffodils, from Seed.—That these flowers come freely from seed, just as they freely produce seed, is now very well known; but it is rather disappointing to learn, on the authority of Messrs. Engleheart & Burbidge, that some four to six years must elapse from the sowing, ere flowers are produced. That fact is hardly an encouraging one to enthusiasts, whose fire must be fed with abundant and readily-produced fuel. When so many beautiful garden flowers produce flowering plants from seed within the year or a little longer, it is but natural that waiting some four to six years for seedling Daffodils to flower should hardly be encouraging.

It is true, once the first few barren years are got over, seedlings will then be producing blooms annually, provided seed be sown annually. But we see already such a very abundant variety in Daffodils, and variety so minute in diversity as to render distinction the veriest of hair-splitting, that new comers in seedling raising may well ask what is to be gained from their labours. When it is stated that the great majority of the seedlings will certainly prove only as good as the parents, or probably inferior, it is evident that a big lot of chaff has to be taken with the corn. In that respect Daffodils differ from some other popular flowers, which seem to show with every fresh batch of seedlings very appreciable advance.

The great need in Daffodils is less found in form or size than in colour, but a scarlet or even a red variety seems to be as improbable a production as does the blue Dahlia or Rose. Some such developments, however, if decisive, will at least not be open to the charge, that they are created only by the veriest hair-splitting.

Noble Trees.—There are some trees in the United Kingdom which it is difficult to look upon without some sense of reverence, arising from the fact that they are kings and princes of their kinds. The other day we were privileged to see once again, as green and as perfect as ever, the noble Dropmore Araucaria, which, with all its huge dimensions, still is as perfectly furnished from top to bottom as is any other Araucaria in the kingdom. Then there is the famous Dropmore Douglas Fir, of which we write, very much for old Philip Frost's sake, with bated breath, once so noble and so perfect in form, now, alas! robbed of much of its beauty by the snowstorm of 1887. There are not so many remarkable trees in the kingdom that we can afford to ignore any of them, and a splendid memento of their regal qualities would be found in some pictorial album, which contained illustrations of all the most illustrious specimens of various trees which the country possesses.

Cruel Cold is the adjective applied to the weather by one of our correspondents, who writes in a very despondent frame of mind. He fears a repetition of the cold, gloom, and wet of last year, from all of which we earnestly trust we may be spared, for another such season as the preceding one of 1888 would be a disaster indeed. Certainly the weather has been, for the time of year, cruel, cold, and wet also. Not only has the wind come to us sharpened by the northern temperature, but the clouds have been dense and laden with moisture, and the sun has been shut out from us most disappointingly. Every day presents a loss which can hardly be recouped. Especially will seeds suffer, indeed are suffering, for added to the poor germination which results from imperfect ripening, is slow growth, arising from cold sodden soil, whilst slugs are rampant in myriads. We hope every day may bring real spring weather, but not only days but weeks pass by, and still the winter remains and spring fails to come!

Early Sunrise Potato.—We learn that the excellent samples of this early Potato, shown by Mr. R. Dean at the meeting of the Royal Horticultural Society, were grown at Blythewood, Bucks, by Mr. Hubbard, in a frame, and were planted with others the first week in January. Mr. Hubbard considered that the variety had done its work remarkably quick, beating the other sorts planted at the same time. Sunrise is one of those excellent Potatos which, because not made widely known, has its merits very much hidden under a bushel. There are many such excellent Potatos in commerce—indeed, we have a wealth of first-class varieties, but it is the humour of some very clever but very ignorant persons always to be denouncing new varieties of Potatos. Really they know little or nothing about them, because they have not grown them.

Presentation to a Gardener.—On the occasion of Mr. Robert Bell leaving Morton Hall, Midlothian, for the more important position of gardener and manager to His Grace the Duke of Abercorn, at Barons Court, Ireland, a few horticulturists and other friends, as a mark of their esteem, presented him with a handsome timepiece, and Mrs. Bell with a gold brooch.

Liverpool Horticultural Association.—The tenth summer exhibition of this association is announced to be held in the grounds of the City Police Athletic Society, Fairfield (instead of as heretofore in Sefton Park), on Saturday and Monday, August 3rd and 5th, and the annual Chrysanthemum, plant, and fruit show will be held in St. George's Hall, on Tuesday and Wednesday, November 19th and 20th.

King Williamstown Botanic Garden.—We understand that Mr. J. Leighton has resigned the appointment of Curator of this South African Botanic Garden, which he has held for several years, and that Mr. T. R. Sim, lately a florist and seedsman at Banchory, Aberdeenshire, has been engaged as his successor. Mr. Leighton takes up the management of a large fruit farm which he has purchased.

Pembrokeshire Chrysanthemum Society. — The fourth annual exhibition of this society will be held in the Market House, Pembroke, on November 12th.

United Horticultural Benefit and Provident Society.—The quarterly meeting of this society was held last week, Mr. E. Berry presiding. Three new members were elected, making a total of nineteen for the past three months. About £11 has been paid to sick members during the quarter, but at the present time there is but one member on the funds. Applications for copies of the rules should be addressed to the secretary, Mr. W. Collins, 9, Martindale Road, Balham, S.W.

Plants Certificated in Ghent.—At the last meeting of the Belgian Chamber of Horticulture, Certificates of Merit were awarded to Mr. Jules de Cock for Anthurium Schertzerianum Marquise Henri de Waverin and Odontoglossum Harryanum nigrum superbum; to Mr. Moentjens, of Mariakerke, for Clivia miniata rubens; to Mr. Jules Hye for Odontoglossum Albertianum, O. Wilckeanum, and O. triumphans var.; to Messrs. E. Vervaet & Co., for Odontoglossum vexillarium and O. Mascrelianum; to Mr. Spae for Aciphylla squarrosa; and to Messrs. F. Desbois & Co. for Vriesia fulgida.

The Faversham Chrysanthemum Society have just issued their schedule for 1889, and although this is only the third schedule their prominent position and financial success speak volumes for the enthusiastic executive. Their balance sheet for last season, after paying a considerable number of prizes, shows a sum of £52 7*s.* 8*d.* to begin the season's work with. Numerous classes have been added, the most important being fourteen classes for vegetables open to members of allotment clubs, of which there are a goodly number in the district, and some keen competition is anticipated. In addition there are open classes for amateurs and cottagers, and the Society's Silver Challenge Cup. Mr. C. Stidolph, 9, East Street, Faversham, is the honorary secretary.

Slugs, Snails, and Worms.—Mr. John Thorpe, writing to the *American Florist*, says:—"Being troubled badly by the depredations of slugs and snails, a neighbour gave me this remedy: Take some fresh crushed oats, lay on boards—about a 2-in. pot full—place them where the enemy congregates, and in the evening take a light and go over the ground. There you will find your game without fail if there is any. Mr. J. N. Gerard, of Elizabeth who is sadly afflicted with 'Mum' fever, wrote me the other day: 'Here's something to keep worms out of pots—a sure cure. Take wire mosquito netting—Jersey size—cut into squares large enough to cover the holes in pots, and on this put your drainage. Result, no worms to make you say cuss words.' This is supposed to be for 'Mum' growers, but Rose men can use it."

International Congress of Horticulture.—The committee named by the Minister of Commerce and Industry, general manager of the Paris Universal Exhibition of 1889, announces that the International Congress of Horticulture will be held from the 16th to the 21st of August next. Those wishing to take part in it must apply before the 1st of June next, addressing themselves to the president of the committee, Mr. M. Hardy, 84, Rue de Grenelle, Paris. The secretary of the congress is Mr. Ernest Bergman, Ferrières-en-Brie. The subjects to be discussed are:—1. Is it possible to obtain by practical artificial fertilisation amongst genera or species of plants which lend themselves to that operation, characters or foreseen qualities besides those belonging to different subjects already in cultivation? 2. Is it necessary to first obtain white flowers, to obtain others with variegated corollas? 3. To examine the tariffs of railway companies applied to the transport of vegetables. 4. The revision of the Phylloxera Convention of Berne. 5. Chemical manures in horticulture and their employment. 6. The means of destroying the enemies of cultivated plants.

Exhibition of Hyacinths at Haarlem.—We learn from Messrs. E. H. Krelage & Son that on April 21st they will open at their establishment a large exhibition of Hyacinths in flower, which will last till the middle of May, but which will be in the most perfect beauty during the last days of April. The exhibition consists of two large beds, each containing more than 600 plants, and comprising all the best and rarest kinds, as well as the latest novelties. Similar exhibitions were held in the years 1880-1884, but did not take place from 1885 to 1888, when the beds were devoted to late Tulips. There will also be opened, annexed to this exhibition, in the month of May, a special show of early single Tulips, two beds each of more than 600 being planted, all of the best, newest, and rarest sorts. This show of early single Tulips will be the first ever held in Holland of this much-esteemed flower. We need hardly add that foreign visitors will receive a hearty welcome at No. 19, Kleinen Houtweg, where the exhibitions will be held.

Reading and District Gardeners' Mutual Improvement Association.—The usual fortnightly address was delivered in the "British Workman," King's Road, Reading, on Monday evening the 15th inst., by Mr. Richard Dean, of Ealing, subject, "The Life History of a Flower," the florists' Tulip being taken as an illustration. By means of coloured diagrams the history of the flower was traced from the seed, through the stages of seedling, breeder, and broken flowers, and the curious physiology of the Tulip was clearly set forth. Appropriate cultural directions were given, and the address concluded with recollections of Tulip shows and Tulip growers. Some remarks on the subject of the address were made by Mr. W. Lees, who was in the chair, Mr. W. Wildsmith, of Heckfield, and Mr. J. P. Jones, of Reading, and the proceedings closed with a hearty vote of thanks to the lecturer, who expressed a hope that there might soon be a revival, in the southern counties, of the culture of this once popular flower.

Richardia albo-maculata.—The spathes of this species are rather smaller than those of the Trumpet Lily (R. africana), and not quite so showy nor so pure white; but this deficiency is compensated for by the markings of the leaves, which

are somewhat different in shape from those of the Trumpet Lily, being halbert instead of arrow-shaped. They are also of a dark shining green, and marked all over with oblong white blotches, which enhance their appearance considerably. The usual period of flowering is in summer, and the species might prove valuable as a successor to the common one when it goes out of flower. Specimens at Homefield, Ealing, the residence of J. Daw, Esq., have just commenced flowering.

Rhododendron, Countess of Haddington. — For early spring flowering, whether as large or small specimens, this hybrid will always prove useful for conservatory decoration on account of its large and showy flowers, which are produced in astonishing numbers, especially on large plants. It succeeds equally well either in pots or planted out, and the only complaint that can be made against it is that old plants are inclined to be somewhat straggling. This is remedied by tying the plant into some particular shape as practised by various growers; but although the untied plant takes up more space it is far more natural in appearance. The buds in the young state are purple, and even when fully expanded the corollas are deeply stained with pink, white internally, and highly fragrant. A specimen planted out in the conservatory at Devonhurst, Chiswick, now in full bloom, carries from two to four flowers in a truss, and between 700 and 800 in the aggregate.

THE FERNERY.

Filmy Ferns.

Many are deterred from attempting the culture of these beautiful and most interesting Ferns from a mistaken idea that they require great skill in their management, and a high temperature to ensure success. A great number of the species of Trichomanes, Hymenophyllums, as well as Todea superba, can be grown in windows even of a dwelling-house, provided they are kept in Wardian cases. In the matter of attention they really require less than almost any other class of plants in respect to watering. They do not, however, like sunlight, nor strong light at any time, although no harm will be done provided they are shaded from strong sunshine, which is liable to brown the fronds. Even in smoky London some of the finest collections of filmy Ferns have been cultivated.

Cases of any convenient shape or size may be constructed in any fernery adapted for the culture of Ferns of cool or temperate countries. Neat and tastefully-constructed rockeries may be made in these cases, and the majority of the filmy Ferns planted thereon. If soft and porous sandstone can be obtained for this purpose so much the better, as it will retain a large quantity of moisture, and at the same time afford a suitable medium on which many kinds may be grown to perfection. Rough fibrous peat and loam, the latter in moderate quantity, together with little bits of charcoal and chopped sphagnum will form a suitable compost in which to plant the Ferns. Such kinds as Trichomanes reniforme, T. Petersi, and others, feel perfectly comfortable and happy when grown on rough slabs of soft sandstone.

If newly imported, the chief difficulty lies in getting them established, after which their culture is of the simplest. Pieces obtained from the nursery, and already established in pots, will be easily dealt with, for after removing the pots and crocks the ball of soil may simply be inserted in suitable receptacles amongst the stones of the rockwork. Press the soil firmly about the roots and cover the whole with a layer of fresh sphagnum. Most of the Trichomanes and Hymenophyllums may be treated in this way; but those that form long, slender, creeping rhizomes on the surface of the soil succeed best when fastened to pieces of tree fern stem, which are covered with a dense layer of their own black or brown roots. Reserve spaces on the top of the rockwork for Todea superba and T. hymenophylloides, but especially the former, which should never be omitted from a collection. They should have plenty of space to develop their circular crowns equally on all sides.

After the specimens have all been relegated to their proper positions, and suitable surfacing given, the whole should receive a thorough watering to settle the soil about the roots. A watering-pot with a fine rose is the most suitable for this purpose, as it settles the soil without disturbing it; but after the filmies are established and making fronds they should not be drenched overhead in this way, as it ultimately proves injurious by rotting the fronds. Close up the frame or case, when a genial moisture will arise, settling upon the fronds in the form of clear glistening drops. This is a good sign of a healthy condition and a sufficiency of moisture, but in the case of cool houses it must not be continued for an unbroken length of time in a cold stagnant atmosphere.

A gentle heat may be encouraged for a time until the newly-planted Ferns have fairly begun to grow, after which they may be kept very cool, both summer and winter. Should the atmosphere of the case get very moist, and the fronds be continually saturated, it is well to open the case, either at the sides or the top, for a time every morning, or every second morning, to evaporate the excess of moisture. Under these conditions the filmy Ferns will grow healthily and strong, and wear a fresh appearance. Some of the species are bright green, others dull or dark green, while some of them naturally always present a pale brown appearance.

DORONICUM PLANTAGINEUM EXCELSUM.

In several gardens this is known as Doronicum Harpur Crewe, a name which was given in honour of that enthusiastic hardy-plant grower, the Rev. Harpur Crewe. As the above name implies, the plant is a tall-growing form of the Plantain-leaved Doronicum, a native of Britain, and which under favourable conditions attains a height of 5 ft. As a general rule, however, the plant does not exceed 3 ft., and frequently may be seen only half that height, and is, therefore, a convenient plant for small gardens, producing a large quantity of flowers during the whole of summer. On

Doronicum plantagineum excelsum.

the other hand, the early-flowering D. caucasicum and D. austriacum, followed later by D. Pardalianches, flower only for some weeks, after which they go to rest or produce leaves as an aftermath only. The best results are obtained by frequent transplantation of the offsets, or simply by the division of the fleshy, tuberous-looking rhizomes, and by planting in tolerably rich soil. In this manner the plant increases rapidly, producing flower-heads 3 ins. or 4 ins. in diameter, and of a rich golden yellow. In favourable seasons it commences flowering in March and keeps on till October, producing upright little branched stems. We are indebted to Mr. T. S. Ware for the illustration, which shows the habit of a plant in full flower.

SPRING FLOWERS.

In spite of the cold and sunless weather, and frosty nights, hardy spring flowers are making determined efforts to be in season at all hazard. A boxful of many beautiful kinds has reached us from Mr. T. S. Ware, of the Hale Farm Nurseries, and which were as fresh and clean as they might be any time during summer. A few of them had been grown under glass it is true, including the beautiful Cypripedium calceolus, rarely found now in this country in a wild state, and a novelty in the shape of a giant proliferous Lily of the Valley (Convallaria majalis prolificans), with flower-stems about 1 ft. high, and leaves even taller. The original flowers have become cut into separate segments, while several other more or less perfect flowers are produced in the axils of the latter. Therefore, instead of the flowers being borne singly, they are in clusters of three to five, and as fragrant as the type.

Tulips were represented by Tulipa Kolpakowskiana, with scarlet and yellow flowers, and another brilliant red and black-eyed kind in the way of T. oculis solis. Amongst Primulas were P. japonica, P. viscosa nivalis (pure white), and P. denticulata Cashmeriana. Grape Hyacinths, including Muscari botryoides album, M. Heildrichi, and another named M. marveanum are interesting when shown in contrast to other members of the same family, such as Chionodoxa Luciliæ, Puschkinia scilloides and P. s. compacta, more often seen perhaps under the name of P. libanotica, and rejoicing in white flowers with a sky-blue line along the back. Other Lilyworts included the Dog's-tooth Violets, Erythronium grandiflorum, E. g. albiflorum (the latter being new, with large pure white segments, having a yellow blotch at the base), a smaller one named E. purpurascens, and a seedling of E. Denscanis. Dark and light-coloured varieties of Fritillaria latifolia must also be placed here, as well as Trillium sessile californicum, which has white petals, stained with purple at the base in the same way as Magnolia conspicua Soulangeana.

Besides Cypripedium calceolus, the only other Orchid in the consignment was Ophrys tenthredinifera, the broad rich brown lip of which contrasted well with the greenish white sepals and petals. The typical blue form of Anemone apennina was accompanied by its white variety, A. a. alba. The latter has, however, a sky-blue stain on the exterior of the sepals, but it is only visible when the flowers are closed. Probably the earliest-flowering Poppywort, at least in this country, is Sanguinaria canadensis, of dwarf habit, with white flowers, and perfectly hardy. Exceedingly graceful and pretty Daffodils are Narcissus Johnstoni, N. cyclamineus (both yellow), and N. triandrus albus, with nodding creamy white Fuchsia-like flowers.

THE ROSE GARDEN.

A Propagating Feat.

Mr. Edwin Lonsdale, the famous Rose grower of Philadelphia, writes to the *American Florist*:—In the spring of 1887 Mr. W. W. Coles, of Lansdowne, Pa., bought from Craig & Bro. for one dollar a thrifty young plant of the celebrated Rose, Mrs. John Laing. By skilful handling it developed into a fine plant, and grew so satisfactorily that Walter could not resist the temptation of calculating how many young "Laings" he would have the following spring. One day in July, 1887, Mr. Coles met Mr. John Burton, and the subject came up in conversation as to how many young Rose plants could be raised from one stock plant in one season. I forget how many Mr. Burton said he thought it was possible to raise, but Mr. Coles emphatically asserted that he could raise 500 by the following April (1888). This was just as vigorously disputed, until a wager was proposed—a champagne supper for those present—which was accepted and put on record.

The plant continued to improve, and as the time for operations approached stocks suitable for grafting had to be secured, for there were no restrictions as to how the propagating should be done, either by grafting, budding, or on own roots. After some slight difficulty the necessary number of Manetti stocks were obtained, and on December 24th the first lot of plants were grafted, amounting in number to something less than 180; most of them grew and made a rapid growth. In the following February these plants yielded a number of scions—considerably over 1,000, and on the day specified, namely, April 15th, 1888, Mr. Coles had the extreme satisfaction of pointing out to the referee, Mr. John Westcott, upwards of 1,300 plants fit to ship to any point in this country. The question among local propagators is now, can this record be beaten?

PRIMULA CASHMERIANA.

A distinct and interesting Alpine from the mountains of northern India, vigorous of growth and free of flowering, P. denticulata Cashmeriana is worthy of a place in the choicest collection of herbaceous perennials. At the present time its fine large globular heads of bloom, well lifted above the mealy-covered foliage, are very conspicuous by reason of their colour, which is pale purple with a yellow eye; their form, which is a dense crowded umbel; and for their beauty, which is very attractive and more persistent than in some of the other species of this large, beautiful, and varied genus. A native of Cashmere, or Kashmir, from whence it derives its varietal name, it is perfectly hardy, and can be wintered in a cold frame with advantage. In

proximity to our great city this is desirable, if not absolutely necessary, as there is a liability to rot in the incipient flower-buds when exposed to a damp stagnant atmosphere such as we invariably experience during our sunless winters. As the leaves die away on the advent of cold weather, this protection can be afforded by placing a piece of glass over the roots—tilted, of course, to admit air.

One of my plants produced a fine head of bloom about Christmas, but owing to this damping-off process the flower soon deteriorated, and had to be removed to prevent the decay contaminating the other parts. This plant, however, perfected another bloom on March 24th, and now has developed five other compact heads of charming flowers. I have two fine robust specimens in 6-in. pots, the foliage in itself being remarkable, inasmuch as this is thickly coated with golden farina, which extends to the stems and the flowers. This farina is a pollen-like substance, and is secreted by all parts of the plant in greater or less quantity. Summer culture consists in dividing and re-potting in good loam, administering abundance of water, and giving a semi-shaded position. Under these concise directions the foliage will attain gigantic Primulaceous proportions.—*C. B. G., Acton, W.*

ORCHARD CULTIVATION.

There is no greater mistake than to suppose that the ordinary and uninstructed farm labourer can plant and manage an orchard properly. You might as well set him to make a coat or a pair of shoes. The results would not be so quickly visible, but they would be as unsatisfactory in the end. It would surely make some of the present writers on this subject blush to find how much wiser their forefathers were on this subject. Hear what Henry Dethicke says, in the "Gardener's Labyrinth," published more than 300 years ago:—"Not sufficient is it to a gardener that he knoweth, or would the furtherance of the garden, without any cost bestowed, which the works and labour of the same require. No. The will, again, of the workman, in doing and bestowing of charges, shall small avail, without he have both art and skill in the same. For that cause it is the chiefest point in every faculty and business, to understand and know what to begin and follow." And this view has been endorsed by every subsequent writer who knows his business, until a very recent period. But now, at the close of this ninteenth century, when everybody writes, it has become fashionable for those who do not know to undertake to instruct the public. Blind leaders of the blind, they substitute bold and reckless assertions for the thoughtful and painstaking deductions from experience, made and recorded by writers of the past.

If I were about to plant fruit trees, I would dig or trench the ground two spits deep. A few light, yielding soils might be efficiently prepared by the sub-soil plough, but even in dealing with them, the spade is a better instrument than the plough. Of course, the manuring and working of the soil is, or should be, more costly than in ordinary farm operations, and the cultivation of the trees, by pruning and keeping free from insects, is necessary, and is also an item of cost in labour which must not be lost sight of.

The practice of "sticking in" a few trees, by which is often meant merely digging a hole large and deep enough to admit and cover the roots, in the way one would stick in a post, cannot be too loudly condemned. However good the soil, however careful the after culture, no satisfactory results can follow it. The soil should be well prepared, and the trees carefully planted and cultivated, according to the recognised methods of our most intelligent and experienced horticulturists. I may say, however, that when planting, the top of the root should not be more than 4 ins. beneath the surface in heavy soils, and 6 ins. in light soils. The roots, too, should not be huddled together in a dense mass, but be spread out, and the soil worked in between them.

All cultivators will, I think, agree with me that an annual manuring and shallow digging is desirable, and that the pruning knife should be occasionally used. Thinning of the fruit may also be practised with advantage. The trees, if standards, should also be staked, to preserve them from injury by the wind. Of course, the digging cannot take place in orchards that are laid down in grass, but while I would not condemn such, they cannot be spoken of as the highest examples of cultivation.

In some estimates of profits lately put forward it appears to me that these costs, in connection with the cultivation of the trees and soil, have not been sufficiently allowed for. The improvement of races by selection and cross-breeding falls properly under the head of cultivation. Much has been done in this way by our skilled horticulturists during the last few years. Many of the fruits which now take a lead in the market were unknown there a generation ago. The cultivation of new fruits, although often very profitable, is, however, attended with considerable risk, and should be undertaken with due caution. It is well to try them on a small scale until such time as their nature and properties are fairly proved.—*From a paper by Mr. William Paul, read at a recent meeting of the Society of Arts.*

A COTTON STORY FROM LANCASHIRE.

Do you care about the story of the cotton grown at Manley Hall? I have it here. It happened in this way. Mr. J. R. Petch, at that time gardener to Mr. Sam Mendell, got hold of some cotton pods, I think. At any rate he got the seeds from some very fine quality of cotton, and grew the plants. When I saw him he had about nine ounces of it, and he wanted to know if it could be manufactured into anything. I advised him to see Mr. Charles Ashworth (Mr. Mendell's son-in-law), who was one of the Bolton fine spinners, and I said, "If you get that spun into fine counts I will get it made into something; I think I know the man who can do it." Mr. Petch got it done; then I went to an old neighbour of mine, a silk handloom weaver, named William Heap—"Bill Yep"—a very ingenious man, and he began to scratch his head, and say, "I never wove any cotton in my life yet." "Then it's time you did," I said, "it's as fine as silk; you can make a warp." "Aye," he said, "it will be a tedious job." "Well," I said, "it can be done, can't it?" "Aye," he said. "Well, you must do it." "Well, I will try," he says. And so after oiling the engine with a drop of whiskey, old Bill took this cotton, and wove three handkerchiefs, and most beautiful material they were. On all of them were embroidered Mr. Mendell's monogram. One of them I kept in the grey state just to show how it was in the raw, the other two I bleached and finished.

They were sent to Mr. Mendell on his birthday, and very pleased was he with them. He took them to the Chamber of Commerce, and they were on view at the Chamber for some weeks. Mr. Mendell wanted to know something about them. I gave the praise to old Bill, and nothing would do but he must go down to Manley Hall. I gave the invitation to Heap, and on receiving it he said, "Well, I don't know; I have never been to a place like that before." However, Bill went, and he had a high old time of it. He pleased Mrs. Mendell very much, and I heard that he had been dancing while he was there. Indeed, I believe he put them up to a few things that they did not know of before. Mr. Mendell offered to give him a handsome present of money or a suit of clothes. Bill said, "If I get the money I shall spend it, but if I get the clothes I can keep those, I think." So he decided for the clothes. I got an order from Mr. Mendell, and took him to Doherty's, in Exchange Street. He chose a green coat, and a red waistcoat, and woollen corduroy trousers. He was somebody then. (A voice: But you have not told us how Bill got home.) Well, I do not think that I ought to tell you how Bill got home. It is not a matter for publicity, but he found himself at night in the care of a policeman!—*From a paper on "Garden Gossip," by Mr. Barlow.*

WATER, ITS USE AND ABUSE IN THE CULTIVATION OF PLANTS.

(Continued from p. 515.)

Drainage.

It will be seen that trees and plants demanding and receiving large quantities of water must enjoy efficient drainage to carry off the superfluous moisture. Although water, by its motion and aërating properties, fertilises the poorest soil, still it loses its utility when stagnant, and drainage must be resorted to. Motion is always necessary if water is to carry out its work. When an excess of moisture is in the earth, a considerable amount of sun-heat is utilised in evaporating it, and it becomes obvious that the heat, if not employed in evaporation, would warm the soil. Warm showers, which are acknowledged to be so beneficial in spring, are prevented from penetrating. Water is heaviest at a temperature of 39·2° Fahr. Cold increases the weight or specific gravity of most solids and fluids; but in the case of water it is otherwise. In intense cold it solidifies and becomes much lighter, as we know; were it otherwise the sea would become a solid mass of ice. Experiments have been made where it was proved that pouring boiling water on a mixture of soil and water does not heat the mass more than 6 ins. or 1 ft. below the surface, while at 2 ft. or 3 ft. no effect is obtained. Drainage raises the temperature of the soil from 5° to 15°, enabling crops to be grown which would otherwise be impracticable.

Water also carries with it ammonia and carbonic acid by the air dissolving the existing elements in the soil. Drainage is a potent means of improving the texture of soils, and without it soil of a good friable nature cannot exist. Undrained soils have a tendency to cohere and become a useless mass. Worthless gardens have been converted into the very best and most productive; so lasting good may be procured by thorough draining of the soil, which leads to the use instead of abuse of the water supplied by nature.

The work that drains can do is notable in a case where the weight of rain which fell during twelve hours amounted to 148,900 lbs, or 48·5 tons, on an area of nine acres, equalling 437·4 tons, and each of the several pipes with which it was drained discharged nineteen tons, equal to about four-tenths of a ton per hour, on the mean of forty-eight hours; but when the flow was greatest, it was found that each drain must have discharged at the rate of five times that quantity per hour.

Watering Pot Plants.

The watering of stove and greenhouse plants is what taxes the skill, care, and patience of the cultivator. It is about the most important part in the cultivation of pot plants. They may be placed under adverse circumstances, and may have the wrong soil and treatment generally, but if the watering is properly conducted they will manage to drag on an existence in spite of the adverse circumstances. More deaths are caused by excess and deficiency of water than all other causes put together.

The parts of a plant exposed to the air, and not covered by cuticularised cells, are always giving off water; the hotter and drier the atmosphere, the greater the transpiration. This sometimes goes on to such an excessive degree that the roots cannot supply enough water, hence the flagging of plants during intensely hot weather. Tender plants and those of annual growth, where the cuticle is but slightly developed, are most subject to this. It may also be seen in a shoot which has the supply cut off by being severed from the plant, and it quickly withers if transpiration is rapid.

The water to make up this deficiency is taken up by the roots, hence the supply depends on their activity. If a plant is transplanted, the roots to a certain extent are destroyed, and not being capable of supplying the requisite amount of water, the plants flag until new root hairs are formed. In the case of the root disturbance of house plants by potting, shading should be resorted to, so that by keeping the plants cool there is less transpiration, and hence less demand on the roots.

If the soil is much colder than the atmosphere, absorption diminishes and the plants wither. This brings up an important point—viz., the temperature of the water, for if that supplied is very much colder than the atmosphere of the house, the result would be similar. It should not be warmer, or it will be too stimulating, but should be of the same temperature as the house if possible. This may be nearly gained by exposing the water in shallow receptacles. Another method is having the water exposed in a pond, from which it can be drawn. Experiments with such as compared with spring water in supplying Peach borders has proved that the first tended to raise the temperature of the border, while the spring water invariably lowered it several degrees. A good plan in hothouses, to which we know of no objection, is to have a small pipe or coil running through the tank from the hot-water pipes, so that the temperature may be regulated to a nicety. Watering in the summer should be done early in the morning before eight o'clock, and as late as convenient in the afternoon, at which time the soil will be at its lowest temperature, and hence less liable to chills. Of course, when a plant is dry it must be watered, whatever the time of day. Use rain-water when possible, but tap-water as supplied by companies is generally fairly soft, and has no very serious effect on the well-being of the plants by its use.

Its judicious application is the point, but no rule can be made for this. It is the greatest mistake to keep any plant sodden. Water should pass freely through the pot, and this by means of ample drainage,

when it will remain as a film of moisture round and adhering to each grain of soil, from which it is taken up by the plant as required. On the other hand, if the water remains in volume, the roots become submerged; air which is essential to their well-being cannot reach them, the tissues become distended, the leaves turn yellow, the soil becomes sour, the roots decay, and the plant finally dies.

The exact amount of water to supply must be learnt greatly by experience, for each species and variety often requires a special treatment, some plants having a resting season in which water is nearly or entirely withheld, while plants like Erica Cavendishianum would succumb in a very short time if kept dry at the roots. Most water is wanted during the growing season, and less as the leaves become old and cuticularised. There are exceptions to this rule, as in the case of the Lettuce previously referred to. No plants, except aquatics and the like, require the soil to be more than fully moist. Generally a plant should be watered when on the verge of becoming too dry. Close observation will soon teach one when the plant is in this state, and may be tested by the weight of the soil, its colour, and the ring of the pot when sounded—the colour and general appearance being the quickest, and the ring of the pots the surest method.

Never let a plant flag, as it is the death of many. Water thoroughly at each application; nothing is more treacherous than driblets, the surface only being moist while the bottom is dry, and the ball at length becomes so dry that water will not penetrate. When a plant is found to be in this state, submerge it in a large tub, and let it soak for several hours. The weight of water will be able to force out the air lodged between the particles of soil.

CULTURE OF VEGETABLES.*

The varieties of vegetables are so numerous now, and so many growers have their special favourites among them that it is difficult to say anything fresh on the subject of their culture. The production of these crops, however, is a matter that greatly affects our relations with our employers, and I shall endeavour to show by the following remarks that the aim of every gardener should be to supply his employer's table with as much variety as possible, and that of the finest possible quality. But to maintain a supply all the year round, and to be able to give a frequent change, demands forethought and energy from first to last; and we must start right if we hope to make a good finish. This brings me to point number one, which is, that we must see that the soil is in as good a condition as we are able to bring it before the seed is sown. We will suppose that it is the beginning of November, and the first thing to do will be to look round and decide where we intend to grow the different kinds of vegetables the following season, because we must prepare our soil in different ways according to the crop we intend to sow there, and must avoid as much as possible sowing or planting the same kind of vegetable on the same ground two years in succession.

For Peas, Onions, Carrots, Beet, Turnips, Parsnips, and all the Brassicas, we cannot get the manure in too soon, nor use too much of it. Next it is desirable that the ground be double dug or trenched, but if the subsoil is very poor do not bring it to the surface, rather allow it to remain where it is, merely forking it up and working some manure in with it as the work proceeds. Should a dry season follow, the roots will penetrate deeply, and so save a large amount of watering. Ridging on our heavy soil I find most beneficial, provided we move all the soil, as it exposes a larger amount of surface to the action of the frost, &c. Now let us look at the different varieties which I have found do well on our heavy soil, and Peas naturally come first. We begin with American Wonder, Ringleader, William I., Duke of Albany, Prizetaker, Ne Plus Ultra, and Walker's Perpetual Bearer; but if I were limited to three varieties only they would be William I., Duke of Albany, and Ne Plus Ultra, and by sowing a succession of each they may be had from June to October. Potatos come next, but for these we use no manure at all, the heavy dressing given for the previous green crop being unexhausted, and I find them do well without it. As to varieties among early kidneys I find Mona's Pride yields the most, and the best flavoured samples, followed by Beauty of Hebron, Duke of Albany, Lady Truscott, Schoolmaster, Chancellor, Magnum Bonum, and Vicar of Laleham the last of all.

*A paper read by Mr. E. Chadwick, gardener, Hanger Hill, at a recent meeting of the Ealing Gardeners' Mutual Improvement Society.

Parsnips are very useful, and often provide an agreeable change when green vegetables are scarce. Hollow Crown and the Student are the best. Carrots were a very unsatisfactory crop with me when I first went to Hanger Hill, and I had often to sow two or three times and then only secured half a crop, but by perseverance the difficulty has been overcome, and we can now look upon the Carrots as one of our best crops. The sorts we grow are Early Horn, James's Intermediate and Sutton's Red Intermediate. By applying soot, burnt ashes, and gas lime, we are able to fight the wireworm, and so secure a good supply. Of varieties of Beet, Henderson's Pine Apple Short Top and Sutton's Blood Red do the best with us, and of Onions for spring sowing we select Rousham Park and Reading Improved, and for autumn, Giant Rocca and White Lisbon. Celery is a very important crop, and to get it crisp and good from October to the end of March requires constant growth and plenty of water. We grow Solid White for early work, but for the main supply I find nothing stands better than Leicester Red. Celeriac I have found a very useful vegetable for a change, and I hope to grow it more extensively. Beans do well on the heavy soil, and Beck's Green Gem, Green Windsor, Seville Long-pod and Windsor give us a good supply. Of Dwarf French Beans we grow Ne Plus Ultra and Canadian Wonder both for forcing and out of doors; and as a runner Bean we grow Girtford Giant, which is both prolific and of good flavour. Turnips are a very precarious crop with us, some years being so much better than others, but the last few seasons we have got on better through giving a good dressing of soot and lime before and after sowing. Our best sorts are Six-week, Snowball and Jersey Navet, for summer sowing, and Chirk Castle Black Stone for standing the winter.

Of the whole Brassica tribe there is nothing so prolific, or which repays us better for the extra trouble we take with it than Brussels Sprouts, and Sutton's Exhibition we find does best with us. We sow under a hand-light on a manure bed in January, and prick the seedlings off as soon as they are large enough, and allow no check in their growth. Of Cauliflowers—and who ever gets tired of them?—Early Loudon is sown, to stand in frames and plant out in the spring, and Dean's Early Snowball is sown in the spring and follows close behind, Eclipse comes in next, and then Veitch's Autumn Giant, which gives a supply nearly to Christmas, when the Broccoli will come in, so that should the winter prove not too severe we get a supply that is useful and good. The varieties we have proved are Sutton's Michaelmas White, Snow's Winter White, Veitch's Self-Protecting, Leamington, and Cattell's Eclipse, which last, however, on light soil I find does best. The Purple Sprouting Broccoli must not be forgotten, as it yields a large return of serviceable food.

Cabbages form another important crop, and it is important that we should have them early and late; Ellam's Early Dwarf, Sutton's Main Crop, and Wheeler's Imperial, with the Rosette Coleworts, give a supply for the year. Of Savoys, Early Ulm and Sutton's Golden Globe are our favourites; the latter I cannot speak too highly of, being both good in size and quality. The last of this section, and not the least in favour, are the Kales, which come in at a time when other greens are scarce, such as the Tall Curled, Cottagers', and Asparagus Kale. The last named I would strongly recommend to all, as it is very hardy, gives an excellent supply, and is very late, keeping on till the spring Cabbages are ready.

Tomatos now form a very important crop in the garden, though most of them are grown under glass, yet, by getting the plants early and strong against a wall they come on well in a good season. Sutton's Earliest of All, Carters' Perfection, Hathaway's Excelsior, and Dedham Favourite are all good for outdoors.

Asparagus must not be forgotten, for that delicious vegetable is always acceptable, and we have for years now discarded the old and barbarous practice of digging out the alleys in the autumn, and throwing it on the top of the bed. All we do is simply to place some good rotten manure from a hot-bed on them for the winter, fork over the beds very lightly in the spring, rake the rough material into the alleys, and fork over; then by giving a dressing of salt about every fortnight we get an excellent supply. In bringing these remarks to a close, allow me to add that nothing should be wasted in the garden. All the rubbish that it is possible to burn should be so treated, and the ashes be used on the crops, which will be greatly benefited. Sweepings, &c., that will not burn should be thrown into a heap, with lime or gas-lime, and allowed to lie for twelve months; it will be very serviceable in the winter to wheel on to the ground for Potatos.

NOTES FROM SCOTLAND.

Vegetable Notes.—Among Broccolis which we planted in a plot last season, to prove their hardiness and general usefulness, none have proved more satisfactory, as a late kind, than the old well-tried Cattell's. Forming a short and sturdy growth, with leaves compactly clasped in a firm ball, they present a solid heart like a good Cabbage. Out of a few hundreds, none have failed, while others (some of which are characterised in catalogues as being the "hardiest in cultivation") are very blanky and not likely to be so late as they are described. As it is so difficult to get Broccolis true to name, it would, we presume, not be an untoward speculation for firms to make specialties of valuable kinds. We know it is a practice by some to raise seed and harvest it, retaining a monopoly of the kind; and although this may appear at first sight to be a selfish whim, we look upon it in an opposite light, and esteem the practice as a public benefit. Among Celeries which have stood unprotected without a single loss of a head, are those which we have before made mention of—viz., Major Clarke's Solid Red and Dwarf Incomparable. The latter has many synonyms, but this strain (Turner's) we first saw many years ago at Orchardleigh Park, in Wilts, where it was cultivated for the first time by the late Mr. W. P. Ayres. We know some private growers save their own stock of this most useful Celery, and wise they are, as to get the real hardy dwarf kind is often as puzzling as tantalising. The only Lettuce which has at all proved worthy of the labour of cultivation is the old Brown Bath Cos—Dutch, Hammersmith and others of fame for their hardy character are almost nil—and the late period in the season before this variety shows a tendency to seeding, renders it more valuable than any kind with which we are acquainted. It may be premature to speak of Cabbage, but Mr. Ewan's is the most promising, none having been lost, but a week or two hence will prove which have the strongest proclivity of reproducing themselves. Brussels Sprouts have been extra good, as we have sent to day (April 9th) a good gathering for family use from plants which we commenced picking from the third week of last September; and the best this year are Downie's Scotch-saved and Dalkeith. We do not object to large sprouts when they are solid, sound, and green.—*M. T.*

Spring Flowers.—Often where large quantities of bulbs and other plants have to supply flowers during winter and spring, after being forced by artificial heat, they are cast off as worthless, but it is well known that if they are not likely to be worth the trouble of saving for potting again to do duty next year (the supply from the continental firms being so cheap), they can be turned to excellent account for spring gardening purposes, as may be seen in many places—not the formal planting in beds, pretty as that often is, but in deciduous plantations, where herbage is scanty during winter, and the spring flowers have it all to themselves for a time. During March and onward inflorescence may be of the most charming description. We have seen Belvoir at its best, and grand, too; but in positions of more humble and obscure character one may often witness sights so pleasing that they are often called to remembrance, and the hope indulged that they may be witnessed again. Such was our pleasurable experience after visiting Brentham Park, near Stirling, a few weeks ago, where Mr. McLeod, the intelligent gardener, makes a specialty of turning his forced bulbs to the best account, and glades under tall trees at the time of our visit were charming, Snowdrops, Crocuses, Daffodils, &c., being in beautiful profusion. This is the kind of spring gardening we have always admired. Although Orchids are not a specialty now at Brentham, the display of flowers in the woods at this beautiful suburban residence will always be attractive and pleasure-giving in a large degree. Though the fine Orchid houses as we have already observed are not gay with Cattleyas, Lælias, Dendrobiums, &c., which were so long the pride of the worthy proprietor at Brentham, and such as inspired the cultivator of them (Mr. McLeod) with enthusiasm, there are other items of interest, and well managed too. The fine Camellias, Azaleas, Acacias, Lapagerias among pot plants, and the dense clusters of Peaches and Nectarines which had so profusely set in the fruit houses could not excite our admiration higher than the surfaces densely clothed with spring flowers, so informal and natural-looking. We have many hundreds of pots which have served their purpose for forced bulbs, anp the display at Brentham suggests the idea of "go and do thou likewise."—*M. T.*

FLORICULTURE.

The Florists' Laced Pink.

I HEARTILY wish Mr. Thurstan all success in his endeavours to revive a more general interest in the beautiful laced Pinks beloved by all florists. It was one of my earliest floricultural loves, I do not care to remember how many years ago; and if of late years my affection may have grown cooler, I will not say cold, it is simply because of the difficulties I have experienced in growing Pinks satisfactorily in metropolitan suburbs. For this reason, mainly, the Carnation and Picotee have to some extent superseded their rival—I can scarcely bring myself to say humbler rival—in my floral regards. With the aid of a little glass, I can delight myself with a galaxy of fairly-coloured Carnations and Picotees even in the midst of London smoke; but I have not found the laced Pink amenable to similar treatment. I fancy, however, that other reasons have operated to the prejudice of the Pink in, at least, the southern counties of England. Last summer must not be taken as a criterion, on account of the adverse weather, but I have heard bad accounts of Pinks near London for several years past. This may to some extent have been due to neglect and bad growing, which again may have arisen from the gradual passing out of fashion of an old public favourite.

Fashions change in flowers as well as in bonnets, and when a certain style goes out of fashion no one takes the trouble to work up or improve that particular style, so that eventually it becomes neglected, if not absolutely forgotten. I may illustrate this by an incident that occurred to me the other day when endeavouring to interest the manager of the floral department of a large establishment—I will not say whether private or public, because I do not wish to give the slightest clue to his identity. I told him that in common with others I was trying to do something to revive an interest in the florists' laced Pink. "Why, what do you call that?" said he; "some sort of a Dianthus, I suppose?" "Yes," I said, "it is some sort of a Dianthus, but upon my life I can't give you a botanical name that will help you to recognise it. Surely, however, you know the lovely white Pinks, each petal laced with crimson, purple, and chocolate, like a heavy-edged Picotee in miniature?" "Ah, well," said he, "yes, I think I did see something of that sort some years ago." Now, this gentleman is an accomplished florist, growing all sorts of stuff, from Daisies to Dracænas, Camellias to Cauliflowers; but his hair is not so "thin on the top" as that of some of us, so probably he has never seen a good stage of Pinks. This is the lamentable state of affairs which the National Pink Society must set itself to rectify. I am afraid, from the small number of communications that have come to hand at present, that there are too many who are not quite clear as to what sort of a Dianthus the laced Pink is, while probably still fewer have half a dozen specimens in their gardens.

Our chief difficulty will be to find out who has any Pinks, more particularly in the southern and home counties. I have no doubt our friends in the Midlands will give a good account of themselves. I am asking all my friends, and shall hunt up all the growers possible to be found. I shall prowl around gardens, both public and private, and keep a sharp look-out for Pinks, sending the result of my observations to the editor of THE GARDENING WORLD and the secretary of our society, when we have one. I fear we may not have much success the first year, but if Pink lovers will only bestir themselves and wake up their neighbours, there is no good reason why we should not have a good muster in 1890. Although I have not written before on this subject, since Mr. Thurstan first initiated the revival of Pink worship, I have watched the correspondence with anxious attention. When Mr. Thurstan's first letter appeared, I was just leaving London for the west of England. While there I spied about, peering over fences and high walls, and behaving otherwise in a suspicious manner, searching for concealed treasures. It was, however, too late in the season to do more than guess by the character of the foliage as to what the bloom would be like, and it was not until I arrived at Bath on my way back that I came across anything like a stock. I knew my old friend the late Henry Hooper was a rare lover of the Pink, and one who had raised many meritorious seedlings, and I was glad to find his son and successor inherited the same excellent taste. It was refreshing to find a batch of strong healthy plants, including most of the best old varieties, and promising well for the next season. I found upon inquiry that laced Pinks were still cultivated in many of the cottage gardens, but not in a scientific or intelligent manner so as to bring out all the best qualities of the flower. This, however, is not to be wondered at, for there has been no inducement or encouragement to give it any special attention. Coming nearer London I looked in at the Royal Nurseries, Slough, and was glad to find that John Ball had not forgotten his early love, although the pressing claims of more fashionable subjects had cast just a temporary shadow over the old favourites. Still, I believe he only lacks the opportunity, when the veteran Pink grower would win new honours for Messrs. Turner.

I begin to think it is high time to wind up this rambling discourse with something in the way of a practical suggestion. First of all, we must have a working secretary to bring us together and lick us into shape. I am willing to share the work, but I cannot pledge myself to be on any given date at any particular place, being a vagrant Bohemian sort of person. I shall also be willing to contribute half-a-guinea annually in the way of subscription, and one guinea yearly to provide a Hooper prize for Pinks, in remembrance of my old friend, to be awarded under such conditions as the committee of the society, when formed, may determine. As some extra expense for advertising and appealing will be incurred the first year, I will gladly double my subscription for that period.

One other suggestion I would throw out: Shall we be strong enough to run alone? How would it do to take another neglected floral beauty under our wing, say the Pansy, and model our society on the lines of the National Auricula and Carnation Society? Time was when I have seen crowds of admiring devotees around the shrines of the Pansy and Pink (not at the same exhibition, of course) at the Crystal Palace, Regent's Park and South Kensington; but how long is it since anyone saw a stand of show Pansies in London? Perhaps another correspondent may suggest a more appropriate subject, or it may be decided to stick to the Pink, which is perfection, as the saying goes. Anyway, the movement has my best wishes, and shall have my heartiest support.—*E. Ranger Johnson, Kennington, April 15th.*

Auricula Gossip.

COULD we only enjoy a week or ten days of balmy sunny weather, the show of Auriculas on the 23rd would be, I think, one of the best seen for years. But it is much a question of suitable weather to bring them on. How slowly it seems to us they unfold their pips! I have a Prince of Greens that seems as far now from being fully blown as it did a fortnight ago, so slow is the rate of progress. The Rev. F. D. Horner, writing on the 8th, states:—"I do not think Auriculas with me ever looked richer, if as rich. But at present the slower and mightier edges are late, and the plants being full of force, a good truss takes more time to finish. Unless weather improves I shall not have my best edges ready for London. The weather is gloomy, the wind always cold, and nights lack balminess." The experience of growers round London is similar. I am writing on the 10th; two weeks hence is the show, and I have not a single expanded pip of a show variety, so my chances of exhibiting on the 23rd are small indeed.

In his letter, referring to seedling Auriculas, Mr. Horner states, "I have so far only one pin eye among the 1889 seedlings," that is, seedlings flowering for the first time this year, and he goes on to say—"It just happens to be a lovely green edge, with ruby-crimson velvet body! It is very vexatious, and all I can do is to keep it for seed, though I do not believe in the safety of pin-eyed parentage. It is certainly a transmission taint more or less, but still marked." It is just a little singular that only the day previous I got a letter from Mr. James Thurstan referring to the seedling Alpine Auriculas from his seed I mentioned at p. 501, and he also alluded to the pin-eyed form as a parent. It will be remembered I made allusion to a seedling white-centred Alpine with a pin eye that I thought might make a useful parent. Mr. Thurstan advises me to "Go on crossing good pin-eyes, such as you describe. My idea is that seed from the pin-eyed Polyanthus or Auricula will produce the usual average of rose or thrum-eyed varieties."

I am disposed to agree with Mr. Horner's conclusions, and I think his plan of seeding from the finest thrum-eyed varieties has had a great deal to do with the production of the splendid new forms he exhibits from time to time.

Since the morning of the 9th until now, noon of the 10th, there has been an almost ceaseless downpour of rain, and a heavy, musty, cloudy sky. It is impossible that flowers can come forward. Mr. Samuel Barlow, writing on the 9th, informs me that his "Auriculas, &c., are very late. Hetty Dean only in bloom, and not full blooms of that, nothing else, and fear that I shall not be in anything like bloom on the 23rd, and may not appear at Drill Hall." I shall be sorry if we cannot see Mr. Barlow's new Alpine Auriculas and his gold-laced Polyanthus. They materially helped the show last year, and he shows us how gold-laced Polyanthus can be grown, so as to exhibit fine quality of flower.—*R. D.*

Cinerarias at Farnham Royal.

MR. JAMES' strain of Cinerarias—the attainment of which represents so many years of patient cross-fertilisation and selection—is so far in advance of all others, that a pilgrimage to Farnham Royal, when the plants are in bloom, has become an annual event to be noted and religiously made in our annual floral calendar. Time was, and not so many years ago either, when the Cineraria, as obtained from the ordinary seed supplied by the trade, was essentially a plant of a very weedy character, with flowers which though bright and cheerful enough in the mass, in no way individually conformed to the florist's ideal of perfect form. Now, however, we have a type of flower, as illustrated by Mr. James' strain, which it is hard to conceive can be in any way improved from a decorative point of view. The flowers—many of which measure 3 ins. and more in diameter—are quite large enough, to increase the size on this standard would be a very questionable gain, and must at first be associated with a coarseness of development that is not now tolerated. In substance, breadth, flatness, the refined beauty of the recurved florets, the black discs, and richness of colouring, the flowers leave nothing to be desired, and all that one can apparently hope for in the future is novelty in the arrangement of the colours, or an increase in the depth or intensity of some of the hues at present existing. Thus, up to about three years ago there were no really good shades of blue, but Mr. James has made great strides in this particular colour, and now has some fine flowers in both the self and parti-coloured sections.

For several years the Farnham Royal strain, to our thinking, contained too great a proportion of self-coloured flowers, which, though grand as they undoubtedly are in quality, yet lack the liveliness or sparkling character of the parti-colonred flowers which have the white ring round the disc. A fair or moderate proportion of selfs is most welcome and useful for making contrasts, but in all good displays of Cinerarias we are convinced that the largest proportion should be of bi-coloured flowers; and Mr. James recognising this fact has wisely gone in more for this style of flower than he did a few years ago. Besides improving the blue section, Mr. James has also had an eye to novelty in other directions, and among his seedlings flowering for the first time, he has some striped or flaked flowers which give promise of a novel section that may prove most acceptable, and of which we hope to see in the future satisfactory developments.

The situation of Mr. James' houses—a breezy upland site on the border of the far-famed Burnham Beeches—and the light airy character of the span-roofed houses in which he grows his plants, are certainly elements which favour the production of bright colours; but still the breed is there, and unquestionably good it is.

Mr. James does not now grow his plants so large as he used to do, either those intended for exhibition or for seed production; finding, perhaps, that a medium-sized pot gives him better returns in the way of seed production. Certain it is that he now uses only 32-sized pots, and these give him sturdy, neat-habited plants with grand heads of flowers, and all as uniform in size and character as if cast in a mould.

New Cinerarias.

VICTOR.—The flower-heads of this variety may be described as of a deep crimson-red, with the rays arranged in a regularly spiral and imbricated manner—that is, they overlap each other in a very regular way. They are also broad, and somewhat recurved at the tips.

CONQUEROR.—In this we have a deep magenta self, with a deep violet-purple disk. The flower-heads are very large.

PAUL JONES.—Flower-heads large and of a deep purple-red, with a narrow white zone round the central purple disk.

FAVOURITE.—The rays of this beautiful form are of a rich velvety maroon-purple, with a carmine spot at

the base of the claw. The flower-heads are large, and the plants in all cases very dwarf. The light was so deficient owing to a dense black fog which prevailed on the occasion of the second spring show at Regent's Park that we had great difficulty in discerning what the colours were. All were exhibited by Mr. J. James, Woodside, Farnham Royal, and received Floricultural Certificates.

Emperor Frederick.—The rays of this variety, as is now well known, are deep maroon-crimson with a broad limb and a tubular rose-coloured claw, which gives the plant its peculiar and characteristic appearance. A basket of plants was shown by Messrs. J. Carter & Co., High Holborn, at the spring show, Regent's Park, on the 10th inst., and a Floricultural Certificate was awarded.

Auricula, Heatherbell *(Simonite).*

It was with extreme difficulty that we could discern the real colours of this exhibition kind, owing to the miserable atmospheric conditions which enshrouded everything with a grim light on the 10th of this month, when the plant was shown by Mr. J. Douglas, Great Gearies, Ilford, at Regent's Park. The variety is a grey-edged one, with a dark ground, a broad white paste and pale yellow tube. The flowers and truss were large, and borne on a scape about 4 ins. high. The foliage was mealy, but not bulky in growth. A Floricultural Certificate was awarded.

New Amaryllis.

Sirocco.—The flowers of this variety are crimson-scarlet, and present the same regular and trumpet shape as Terentian, which was certificated a short time ago. The plant has the same dwarf habit, the scape being about 15 ins. high, carrying two large and short-tubed flowers of good size. Exhibited by Messrs. J. Veitch & Sons at the second spring show at Regent's Park, when a Floricultural Certificate was awarded.

Vulcan.—A dwarf variety about 15 ins. high, bearing four flowers of an intense crimson, with a short whitish star at the base. The tube is short, the segments broad, and the flowers well formed.

Salvator rosea.—The scapes in this case were 18 ins. high, bearing two flowers of a widely funnel or trumpet shape. They were crimson, with a six-rayed white star tinted with rose, extending for two-thirds along the segments. Both were exhibited by Messrs. Paul & Son, Cheshunt, at the last spring show of the Royal Botanic Society, when they received Floricultural Certificates.

ADONIS PYRENAICA.

Several of the species, both annual and perennial, are highly ornamental, particularly the latter kinds, which have by far the largest-sized flowers. Their slow rate of increase must be held accountable for the comparative scarcity of all the perennial species of Adonis in gardens, seeing that they are perfectly hardy and thrive well in any moderately good garden soil. A. pyrenaica grows from 6 ins. to 12 ins. in height, and forms a dense tuft of erect branching stems, each branch of which terminates in a solitary flower about 3 ins. to 4 ins. in diameter, and of a bright golden yellow, the numerous petals becoming fully expanded under the influence of bright weather.

The foliage is not the least ornamental part of the plant, as all the leaves are cut up into numerous slender segments. The stems appear to spring from one crown, which increases very slowly. Therefore, whoever undertakes its cultivation should give it moderately deep, rather light, but moist and rich soil, either in the ordinary herbaceous border or on the rockwork, where it should be left undisturbed for years, as it is very impatient of removal. It was introduced from the Pyrenees in 1817, and is, therefore, well adapted for rockwork. We are indebted to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for an opportunity of figuring it.

Adonis pyrenaica.

PRIMULA OBCONICA.

So much has already been said and written respecting this very floriferous member of the Primrose family, that it seems almost like presumption, not to say tautological, to attempt to add anything new, fresh or interesting that has not over and over again been urged in favour of this half-hardy Chinese species.

At the risk, however, of incurring displeasure or meriting odium, I am constrained to insist that a pan of seedlings in full flower, comprising various shades of colour from pure white to pale lilac, is a floral treat, which is at once gratifying to the taste and mollifying to the sentiments of anyone who has watched their progress from the tiny germ to the mature plant.

On plants produced from seed in this way, the individual flowers are fresher and finer than those which are the outcome of old-established stocks; not only so, but interest is keener in the case of seedlings which have not bloomed, as there is always a hope in the mind that something may result in the way of improvement, either in the colour, the habit, or the size of the flowers. If only the colour of these latter interesting appendages could be induced to sport into shades of yellow, red, or blue, what an invaluable and much-sought-after desideratum our cool greenhouse subject would become! Admirably adapted for cut flowers, there would be no end to the artistic effects produced by a combination of these with other flowers, long after Primroses proper had succumbed to the summer's sun.

A native of Central China, and an evergreen withal, it yet requires careful attention against frost and damp, which in our moisture-laden winter temperature is so provocative of harm. Avoid over-watering at this period as there is great tendency to decay. Out of two fine strong plants which were never out of flower last season, one has gone the rotten road, the other is in robust health, and contains twenty-two Polyanthus-like heads of bloom on scapes 10 ins. high, which constitute a floral picture no amateur need be ashamed of.

I may add that the plant is amenable to the simplest treatment, and in the case of seedlings, light, rich, sandy soil and effective drainage is all that is required, with the usual daily routine attention to ensure success.

The seedlings referred to in the former part of this note were sown June 9th, 1888, germinated June 30th, and the first perfect bloom developed March 30th of the present year. The accommodation they have received is a cool shelf in an unheated greenhouse, from which frost has been barely excluded during the winter.—*C. B. G., Acton, W.*

EASTER FLOWERS.

If one were to make an examination of the various metropolitan markets, as well as the numerous florists' shops of good standing, the amount of conservatism in the matter of flowers amongst market growers becomes more and more evident. The number of different kinds grown by them is comparatively few, and so closely do they confine themselves to certain classes of plants of recognised value and popularity that the shops would seem to have been supplied from one or a few establishments mostly confined to the culture of certain specialties; and an order for flowers of any particular colour, given in different quarters of the metropolis, would almost to a certainty be made up of much the same kinds of bloom.

White Flowers.

There are flowers that appear in the market at almost any period of the year, such as Eucharis, Lilium longiflorum Harrisii, and white Roses, such as Niphetos. Many are more particularly confined to the winter months, but at the same time seem capable of encircling the whole year, as in the case of Gardenias, Gladiolus Colvillii (The Bride), white Camellias, white Azaleas, varieties of A. indica, white Bouvardias, the common white Lily (Lilium candidum), and Astilbe japonica. Of those that may be considered special to the spring season, are the huge white Pottebakker Tulips, white Hyacinths, Lily of the Valley, and the beautiful hardy double white Primrose, sometimes to be seen in large quantities, and very pure and sweet they are. Freesia refracta alba owes its popularity in a large measure, no doubt, to the market growers; but what seems more surprising, are the quantities of the Garlic-smelling Allium neapolitanum to be seen amongst sweeter-smelling kinds, such as Narcissus poeticus ornatus, white Intermediate Stocks, and others. Other white subjects that must not be overlooked, are Pelargoniums of the Venus type, which are easily forced, white Marguerites, white Lilac, and Hydrangea paniculata. The flowers of the latter are not of the purest white when they have been forced, nor so large. The popular Richardia africana is nearly always present.

Coloured Flowers.

There is always a considerable number of coloured flowers, but, as a rule, the hardy kinds are represented in the greatest quantity. Amongst these, Hyacinths in various colours bulk largely at present, as well as double Violets, yellow Primroses, Wallflowers, Tulips, double scarlet Ranunculus, and Narcissi of many kinds, including the Lent Lily, or Wild English Daffodil. The Poet's Narcissus, as already mentioned, figures largely, together with Narcissus incomparabilis, N. Tazetta in various colours, and Daffodils in variety. That known as Empress, with white segments and a yellow crown, presents a magnificent appearance amongst others of smaller size. Anemone coronaria may be had in various colours for weeks or months together, while Carnation Miss Joliffe, and Roses in various colours, may be had in bloom at any season. Amaryllis is but sparingly represented, and may be almost considered a casual.

Pot plants of many of the above are plentiful enough, as well as Cyclamens, Mignonette, Chrysanthemum frutescens, Roses, including the Fairy Rose, Azalea Deutsche Perle, together with red kinds, and the orange-tinted A. mollis. The common pink-flowered Hydrangea is already in fine condition as well as the Lilies above mentioned. Small Heaths are also well

grown and floriferous, including Erica ventricosa, E. v. coccinea minor, and the large yellow-flowered E. Cavendishiana.

ORCHIDS.

At no period of the year do these rather expensive flowers bulk largely in the market, although the number of different species may sometimes be considerable. They are, however, only subsidiary to the general display at any time. At present Odontoglossum crispum and O. triumphans are amongst the most plentiful; while Cattleyas are represented by C. Trianæ, C. Lawrenceana, and C. Loddigesii. Lycaste Skinneri one would expect to be more plentiful than it is, as well as Dendrobium Wardianum and Cypripedium barbatum. As instances of what may be picked up occasionally, Lycaste Harrisoniæ, Odontoglossum tripudians, and Cattleya Lawrenceana may be mentioned.

THE AMATEURS' GARDEN.

WALLFLOWERS.

Considering the large supply of beautiful Wallflowers which was obtained from the open ground during last autumn, and at intervals during the winter, it may induce many amateurs to grow them more largely from that point of view. Seeds to flower in autumn should be sown in April, and transplanted to their permanent quarters some time during the summer, when the soil and atmosphere are suitably moist to ensure them becoming established with as little attention as possible in the way of watering. Growing naturally in the crevices of old walls and similar dry places, it is not necessary to have rich or deeply tilled loose ground. In fact, they will flower all the finer, and withstand the wet of winter much better if the soil in which they are grown is rather hard or firm. For early-flowering a plantation should be made of the most forward seedlings as soon as they have made a few rough leaves. A later batch to flower in spring may be taken from the same seed bed of the plants that germinate late and come on slowly, or a second sowing may be made in July.

INTERMEDIATE STOCKS.

Amateurs who do not possess a stock of plants in pots may well envy those who have. In order to get them in flower by this period they should be sown some time during May or June. Unlike the common Ten-week Stock, which is an annual, Intermediate Stocks require nearly a year to grow and develop into flowering condition. Sow the seeds in boxes or pans of light soil, and prick them off into other boxes filled with more substantial material as soon as the cotyledons have attained full size, if the plants show any signs of damping, otherwise the operation need not be performed till a few rough leaves have been made. After they have formed stocky little plants they may be potted into small 60-sized pots, or even smaller, according to the quantity of roots. When they have filled these with roots they should be transferred to 48-size pots, in which they may remain all the winter. Although Stocks will stand a great amount of frost, yet they suffer from wet if left exposed outside. They well repay the protection of a cold frame. Soil for potting should consist of good fibrous loam, with which a quantity of old mortar has been mixed, as the plant in a state of nature is partial to chalky cliffs. As the Stocks show flower they may receive another shift if they require it, and as they get established and fill the pots with roots they will profit largely by applications of manure water.

CLEMATIS JACKMANNI.

The various kinds of Clematis, including the subject of this note, which is one of the most popular, are now growing away rapidly, and must receive almost constant attention to prevent the young shoots getting so entangled amongst one another as to make it almost impossible to separate them without breaking the brittle growths. This is all the more necessary in the case of C. Jackmanni, which in many parts of the country gets killed down to the ground, and has therefore to form long stems before it can again flower. A good display of bloom, however, may be expected from those plants late in the season, provided they have been well enriched at the roots by a mulching of stable manure during winter. While making their growth the principal points to be observed is to carefully tie up the shoots till the desired height is obtained, and to keep the roots well supplied with moisture, even should it be necessary to mulch them.

BEDDING PLANTS.

Most kinds of bedding plants may now be consigned to cold frames, where they will grow sufficiently fast, and at the same time receive the necessary ventilation to render them sturdy and hardy. The glass sashes may now be reasonably expected to ward off any spring frost which may occur; but in the case of very tender subjects, or those taken from a warm house, a mat may be thrown over the lights at night. Pelargoniums, Fuchsias, Lobelias, Golden Feather, and similar things may be so treated. Prick out Ten-week Stocks, China Asters, Dianthus sinensis Heddewigi, Saponaria calabrica, French and African Marigolds, Tagetes signata pumila, and similar bedding plants, in the soil of a cold frame, or in boxes in the absence of such. The great secret with annuals raised under glass is never to allow them to become crowded, or in any way to interfere with a free and healthy development of leaf and shoot.

ROSES IN POTS.

Where these have been grown on for some time in an intermediate house, they will now be in flower or fast approaching that condition. Give weak liquid manure twice a week, and keep the plants in a light position and at all times tolerably freely ventilated. Prevent, however, all cold cutting draughts from playing upon the young and tender foliage, or mildew may make its appearance. To prevent the spread of this fungus and the destruction of the foliage, dust the latter with sulphur. Fumigate lightly to keep green-fly under.

GARDENING MISCELLANY.

The Scarlet Daffodil.

FROM some statements that were made at the afternoon meeting of the Royal Horticultural Society, on the 9th inst., it appeared that hopes were entertained that sooner or later a scarlet Daffodil would be obtained. We were surprised, nevertheless, the other morning on receiving a specimen, evidently sent by a floricultural wag bent on stealing a march on the sanguine expectations of the hybridist. The specimen in question was a small but pretty Daffodil, somewhat similar in habit to Narcissus Johnstoni, and possibly that species. There, at all events, was the unmistakable carmine-red or much-wished-for scarlet colour in appreciable quantity, only waiting for a little development by seed sowing and selection to obtain the coveted novelty. The tube was of a brouzy orange colour, while the midribs and all the principal veins of the segments and corona showed a near approach to scarlet. The sender might, however, have been a little more cautious in the quantity of cochineal or other colouring matter he had given the poor flower to drink, as the sceptical and incredulous writer had his suspicions confirmed on squeezing the stem, which stained his fingers and writing pad with red, leaving the blushing scarlet Daffodil unmasked. It is a case on all fours with the wonderful scarlet Snowdrops that were seen in London a few years ago.

Crop Prospects.

I AM a member of a gardeners' mutual improvement association, which holds its meetings not a hundred miles from Chiswick, and towards the end of a useful session just closed I heard much about "Nature in the garden," and how "God made some mountains grow green." I had begun to be afraid that kind Nature had deserted the little nook I look after, for the season has been none too kind to me. Our winter greens have generally done badly, and some Broccoli especially, which should have been green, were quite of a different colour. I had almost begun to despair of Nature working harmoniously with me again, but I am glad to say she is now doing so. In the kitchen garden Peas are peeping nicely through the soil, presenting an evenness of growth which is very encouraging, and this remark applies also to most other crops. Fruit trees are looking well, but late, so will possibly escape late frosts. I am therefore hoping for an abundant harvest. I have heard some complaints with regard to trees trained on walls, but I have no grievance to record, having no wall subjects to train. Bush fruits promise fairly, but the birds are so troublesome in the neighbourhood of London. Spare them, however, as they are grand insect destroyers. What a delightful time of the year this is, and what a pleasure it imparts to every true lover of nature to watch the opening of the buds, the germination and growth of seeds, to hear the humming of the ever-industrious bees, and to listen to the feathered songsters warbling forth their matchless anthems—all proclaiming, I hope, the advent of a glorious and fruitful summer!—*Rake.*

Another Blue Primrose.

THE year 1889 appears to be memorable as signalising the evolution of the blue Primrose. Since Blue Gem was exhibited and certificated at the meeting of the Royal Horticultural Society, I have heard from several sources that blue Primroses have put in an appearance. One flower only has reached me, sent by Messrs. Ryder & Son, of Sale, Manchester. It is of a deep blue—a purple-blue shade, but still blue—having a sulphur-coloured centre, with flakes of orange. The pips as sent were irregular in form and pin-eyed, the pin appearing just above the tube of the throat, which is somewhat sunken. It lacks the size, stoutness, general fine quality, and brilliancy of Blue Gem; but it will make a very useful parent if isolated and the flowers fertilised with their own pollen, if it be possible to obtain any. Having obtained colour, the next step should be to secure form, a perfect centre—that is, a thrum-eyed and bright one—size, and solidity of substance. These will come in due course, but it is a work of time, and I may add a process that requires the exercise of the virtue of patience also.—*R. D.*

The Buckbean.

MENYANTHES trifoliata is one of the prettiest of our British Aquatics. Its flowers are white, tinged on the outside with red in an oblong raceme, and the corolla is beautifully and delicately fringed on the inside with white filaments—quite an uncommon-looking flower. They will grow anywhere in shallow ponds or bogs, and if such do not exist in any locality where it is desirous to grow them, they will succeed very well if planted in tubs or pots, and plunged half way in the water in garden tanks or reservoirs. Many British plants could in this manner be introduced into our gardens or pleasure grounds, and so become objects of interest. It is said that this plant, besides possessing valuable medicinal properties, has been used in the north of Europe where a scarcity of Hops has existed, to produce a bitter beer. An infusion of its leaves is extremely bitter, two ounces supplying the place of a pound of Hops. Some of us, however, who are total abstainers would not consider this of any great advantage.—*Alfred Gaut.*

Neapolitan Violets—Which is "T'other"?

THIS is the question I put to myself a few days ago when paying a visit to friend Cannell, and on his calling my attention to a batch of Violets of the Neapolitan type. They had been collected together for purposes of comparison. There were the old Neapolitan, Marie Louise, Lady Hume Campbell, Marguerite de Savoie, Duchess of Edinburgh, and New York. Here, then, could be seen what was practically the same thing under different names, the only distinction, if such a distinction really exists, being in the shades of colour, some of which are paler and some deeper than others. Marguerite de Savoie was of the palest tint, and New York the deepest; beyond that the plants were essentially the same. De Parme and Venice are of the Neapolitan type also; and I am inclined to think there are such things as strains of Violets, as there are of some other things, and this may account for so many names being given.—*R. D.*

Pilea muscosa.

I QUITE agree with your correspondent, Mr. Alfred Gaut (p. 517), as to the usefulness of this plant for intermixing with other flowering or ornamental-leaved subjects, but differ from him as to its hardiness. I have had plants in the dining and drawing-rooms in the month of January for more than a week together, which were returned to the greenhouse none the worse for their week's change.—*R. T. Humphris, Childe Okeford, Blandford, Dorset.*

Strawberry, Vicomtesse Héricart de Thury.

WE are in receipt of a box of Strawberries of this excellent variety from Mr. W. Wildsmith, gardener at Heckfield Place. Both for outdoor and indoor work this Strawberry is one of the most popular and most widely cultivated. It is particularly suitable for indoor work; but considering the unfavourable nature of the weather, not only recently but during the whole of the winter, Strawberry forcing must have been attended with no ordinary difficulties. The gardener in Hampshire, however, has quite a different experience from

one in the neighbourhood of London or other large cities. The sample sent by Mr. Wildsmith showed evidence of high cultivation, for the berries were large, shapely, and well-coloured from the apex to the stalk, and were richly and delicately flavoured, notwithstanding the cloudy and sunless weather. Fruit under glass may lack the briskness of that grown out of doors, but that under notice was tender, and possessed the real flavour so characteristic of one of the most highly-esteemed fruits of temperate countries.

Rhododendron, Ne Plus Ultra.

THE flowers of this hybrid greenhouse Rhododendron are large and of a bright reddish scarlet. The continued effect of hybridisation and cross-breeding has been to shorten the tube and enlarge the lamina. The piece exhibited by Messrs. J. Veitch & Sons, Chelsea, at the spring show of the Royal Botanic Society on the 10th had been propagated recently, and the leaves rested on the pot, while the large truss of twelve flowers just surmounted them, and was very effective. A Floricultural Certificate was awarded.

Primula marginata cœrulea.

THE ordinary form of this is an exceedingly beautiful Alpine, and perfectly hardy in this country. The specific name applies to the margins of the leaves, which are surrounded with a silvery mealy margin, and giving the whole a very pretty effect. The typical form has lilac or violet-rose flowers, from which the variety under notice differs in having them of a decidedly blue tint, but hardly sky-blue, as the varietal name would indicate. A plant of it was exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, at the second spring show of the Royal Botanic Society, when it received a Floricultural Certificate.

Reversion of Daffodils.

AT Gunnersbury Park, Mr. Roberts planted out a number of the single form of the Tenby Daffodil, but a very large number of them have taken the double shape. Did the double grow out of the single, or *vice versâ ?* In my own garden a clump of the double Daffodil has thrown but one flower this season, and that a single one, and yet the plants in my clump appear very much stronger than those of the single Tenby Daffodil, which has reverted to the double at Gunnersbury Park. I am not quite sure I am correct in employing the term reverted, and I am open to correction.—*R. D.* [We doubt the statement that this is a case of doubling or reversion ; it is rather one of mixing. Last year, large numbers of bulbs of the Tenby Daffodil were collected and put on the market, and it is known now that they were not carefully selected, a considerable number of Telemonius plenus flowering among them. It has not yet been clearly proved that a double form of the true Tenby Daffodil exists.—ED.]

Primula petiolaris.

DURING the flowering period at least of this plant the application of the specific name is not very apparent, seeing that the leaves are stalkless, or almost so, and arranged in a compact rosette. They are obovate, toothed in much the same way as those of P. denticulata, and will no doubt become much more elongated later on when the flowering period is over. The common peduncle of the umbel of the flower is almost as short as in the case of P. vulgaris, being almost hidden by the leaves, whereas the stalks of the individual flowers are more elongated, but not to the same extent as in P. vulgaris. The general aspect of the flowers resembles that of European Alpine kinds, while, on the other hand, the foliage is that of the Himalayan type. The corolla is large, salver-shaped, and lilac or rosy purple, with the obovate segments toothed along the upper end. We noticed a flowering specimen in one of the north-aspect pits in the gardens of the Royal Horticultural Society, Chiswick. The species seems also to have a tendency to throw up ligules or tongues from the base of the stamens, as in the case of the semi-double strains of P. sinensis. Here also the colouration is on the outer face, while the inner face is white. These characters may be seen on a specimen in the hardy plant house in the herbaceous ground at Kew.

Begonia suaveolens.

THIS is generally known under the name of B. odorata on account of its flowers, which are more or less fragrant at certain stages. It is chiefly valuable as a winter-flowering plant, producing a large quantity of pure white flowers. There is a close resemblance between it and B. nitida, which differs in having large deep rose-coloured flowers, and in other particulars respecting the leaves, which in both species are of a deep shining green. B. nitida has the honour of being the first Begonia introduced to this country, and was brought from Jamaica in 1777, whereas B. suaveolens was introduced from Central America in 1816. There can be little doubt that both are intimately allied species. We noticed a number of plants of B. suaveolens flowering with great freedom in the stove at Homefield, Ealing. The flowers are produced in large axillary cymes, and are useful for cut-flower purposes, for which their long peduncles and pure white colour render them very suitable. Old plants attain a height of 2 ft. or 3 ft., and assume a shrubby appearance.

Syringa vulgaris, Marie Lemoine.

SOME flowering branches of this Lilac which had been forced were exhibited by Messrs. Paul & Son, Cheshunt, at the second spring show of the Royal Botanic Society. The panicles and the flowers were large, the latter being single and pure white. There are already three named white varieties in cultivation, and this one seemed to be characterised by the size of its flowers ; but it must be closely similar to S. alba virginalis. A Floricultural Certificate was awarded.

Narcissus, Her Majesty.

THE segments of this variety of Daffodil are pale yellow, spreading and slightly twisted. The corona is darker, very short, with a widely-spreading, undulated and lobed mouth. These characters of the trumpet are the special features of the variety. A truss of bloom was exhibited by Messrs. Barr & Son, Covent Garden, at the second spring show of the Royal Botanic Society, where a Floricultural Certificate was accorded it.

Scented Solomon's Seal.

THE flowers on different individuals of the common Polygonatum multiflorum vary greatly in the degree to which their flowers are perfumed, while some have little or no scent at all. We examined some specimens in the greenhouses at Homefield, Ealing, which were very powerfully fragrant, reminding one very much of the odour given off by certain Orchids. Mr. Baird, the gardener, says that the odour is about equally powerful both during the day and after darkness sets in.

Australian Buffalo Grass.

BOTANICALLY this is Stenotaphrum americanum, also known in nurseries under the name of S. glabrum. Although spoken of as Australian Buffalo Grass, it occurs in the tropical parts of several countries, growing near the sea-shore as a rule. The variegated form (S. americanum variegatum) is the most ornamental kind for garden decorative purposes, and has its leaves variously striped with creamy yellow. As is frequently the case, the young foliage is the more ornamental, and the plants when kept growing under favourable conditions as to heat, moisture and light, produce a great quantity of young foliage. The procumbent stems keep elongating, giving off side shoots from the nodes, and in this condition the plant forms a suitable edging for the front of the stages occupied with taller plants behind. It is grown by Mr. J. Baird, gardener, Homefield, Ealing.

Rhododendron, Lady Alice Fitzwilliam.

OUTSIDE of what are known as hybrid greenhouse Rhododendrons, which belong to the R. jasminiflorum and R. javanicum types, are some excellent and first-class decorative subjects, including Lady Alice Fitzwilliam, which, in most respects, bears a close similarity to R. Edgeworthii, a native of the Sikkim Himalayas, and which was, no doubt, one of the parents. The chief difference is seen in the leaves, which in the subject under notice are not densely felted with a rusty tomentum, as in R. Edgeworthii. The flowers still retain the same magnificent proportions and the fragrance of the latter, and when fully expanded, diffuse an agreeable aroma through the house in which they are grown. The great expanse of the flowers is due, as in other cases, to a shortening of the tube and a flattening out of the limb of the corolla, which is pure white with the exception of a large yellow blotch or series of spots at the base of the upper segments. Even small plants, when trained in the form of a globular bush, flower very freely. We noticed some specimens in the nursery of Messrs. J. Laing & Sons in full bloom.

THE GARDENERS' CALENDAR.

THE STOVE.

CYCADS.—Few of these are, as a rule, grown in private establishments, with the exception of Cycas circinalis, C. revoluta, and a few of the Zamias. When, however, any of them show signs of throwing up a tier of fresh leaves, they had better be placed in a house where a high temperature and a moist atmosphere are maintained. This is all the more necessary from the fact that growth proceeds at a very rapid pace provided the conditions are suitable. In the comparatively cold atmosphere of a greenhouse a very limited growth is made, and the plants consequently lack in their decorative effect. While the leaves are being developed the plants must be liberally supplied with water.

SEEDLINGS.—In propagating pits and other warm houses where young seedlings are coming on, see that they get pricked off in good time to avoid crowding. Amongst those demanding attention at this period are Torenias, Gloxinias, tuberous Begonias, and other plants requiring a high temperature to start them.

THE GREENHOUSE.

EPACRIS.—As successive batches of these go out of flower, remove them from the greenhouse or conservatory, and after pruning them hard back, place in a stove or vinery at work to re-start them. Give very little water for a time, unless they actually become dry, till the buds push. Encourage growth by syringing on fine days. Any plants that require potting should be seen to just at this stage, because the young roots, being active, will take possession of the fresh soil immediately.

BOUVARDIAS.—Pot off cuttings singly as they root. In most establishments where large quantities are grown, the first batches will soon require a second potting into 48-size pots. Pinch out the tops to induce a bushy habit from the first. Old plants that had been hard cut down after flowering was over will now be breaking freely. They may be shaken out and have the ball of roots considerably reduced, whether they are intended to be grown on in pots or planted out in frames or on sunny borders later on when the weather becomes suitable. Re-pot them in a smaller size for the present in any case.

AZALEAS.—In order to get some late batches of these, some of the plants may be placed in a house with a north aspect, and kept as cool as possible, giving on all favourable occasions free ventilation.

ANNUALS.—If not already in cold pits and frames, all such things as are intended for decoration of the conservatory later on should be pricked into pots of good soil, and after they recommence growth, should be placed under cool treatment and freely ventilated. Under any circumstance give them plenty of light, to prevent their being drawn. Mat up the frames at night if there be any appearance of frost. Under this heading may be mentioned Stocks, Asters, Rhodanthe Manglesi, Schizanthus retusa, S. pinnatus, Browallia elata, and the half-hardy subjects used for conservatory decoration.

THE FORCING HOUSES.

VINERIES.—With the dull, cold and miserable weather which has prevailed for some time past, at least in the London district, the conditions have by no means been favourable to the ripening of Grapes. Therefore the most will have to be made of the circumstances, by maintaining a free circulation of warm air in the house. Ventilation to a greater or less extent, both front and back, should be given, and to keep up a good circulation the fires will have to be kept going at a rate of combustion proportionate to the needs of the day. This will induce the berries to colour better, and the flavour will also be greatly improved. The foliage may be kept healthy by damping down the paths and borders early in the day, so that by noon the atmosphere of the house will be again quite dry. Later houses will have yet to be treated differently. In the case of those houses where the berries have not yet commenced to colour, care should be taken that the borders do not get dry. If so, give a thorough watering with tepid water, using liquid manure or guano with it, and no further will be required till the fruit is ripe. The Muscat house may be kept at a night temperature of 70°, which will be sufficiently high at this period of the year. Allow the temperature to rise to 80° early in the day, particularly if the

weather be bright. In the case of Lady Downes and Gros Colmar, the night temperature need not be quite so high.

THE KITCHEN GARDEN.

STRAWBERRIES.—Plantations may be made in the open ground of Strawberries that have been forced. If this is intended, the plants should not be thrown on one side and neglected after the fruit has been gathered, but placed rather in a cold frame, and carefully looked after in the matter of watering till the fruit has been gathered from a sufficient number of plants to form a plantation, or the successive batches may be taken to the ground and planted out at once after being inured to a low temperature. Loosen or carefully break the ball before planting out, so that the roots may extend radially on every side.

PEAS.—Make successional sowings of these from time to time, and prepare ground for others when the soil is in a suitable condition. As a safeguard against winds, and partly against frost and the attacks of birds, stake all Peas, at least, as soon as they are well through the ground. Nothing will be lost by attending to this matter early, but much will be gained.

ORCHID NOTES AND GLEANINGS.

A WELL-STOCKED ORCHID HOUSE.

THERE are many persons who would grow Orchids if they only knew what could be accomplished in a small house. The prevailing idea is that in order to grow Orchids well it is absolutely essential to have an East Indian house, a Mexican house, and a cool house; but had any such idea ever crossed my mind, the recent visit I paid Mr. F. Wheatley, Ringmore, Teignmouth, has certainly dispelled it. In a small house, 15 ft. long by 6 ft. wide, were the following species and varieties in full bloom—viz., Cypripedium hirsutissimum, individual flowers measuring 5½ ins. across, C. Sedeni, C. ciliolare, C. insigne, C. Lawrenceauum, Dendrobium albo-sanguineum, with twelve strong spikes; D. Devonianum, D. primulinum, with bulbs 24 ins. long; D. chrysotoxum, D. tortile roseum, D. crepidatum roseum, D. crassinode, D. thyrsiflorum, with four racemes, and on an average fifty-four flowers on each; D. densiflorum, D. eburneum, D. Jamesianum, Odontoglossum Pescatorei, O. maculatum, O. vexillarium, O. Alexandræ, O. Cervantesii, O. Rossii majus, Cattleya Trianæ, fine variety, one plant with thirteen and another with ten flowers; C. Mossiæ, C. Mendelii, C. intermedia, C. citrina, C. Skinneri, Oncidium sarcodes, with strong spike; O. ampliatum majus, O. papilio, with three strong spikes; O. Kramerianum, Cœlogyne cristata, C. Parishi, Saccolabium giganteum, bearing two strong racemes; S. Blumei majus, S. ampullaceum roseum, with five racemes; Aërides odoratum, A. Fieldingi, Lælia purpurata, Chysis bractescens, Burlingtonia venusta, Leptotes bicolor, Epidendrum vitellinum majus, and last, but not least, Miltonia cuneata, carrying seven strong spikes, with an aggregate of forty-five flowers. Mr. F. Wheatley employs no gardener, everything being done with his own hands and in the most thorough manner; but his plants amply repay him for the care and attention bestowed on them.—*J. McNab.*

DENDROBIUM HARVEYANUM.

AT a short distance this curious yellow-bloomed species resembles a small-flowered D. Brymerianum. It differs, however, in having much smaller flowers, and the oblong petals are deeply fringed, whereas in D. Brymerianum the lip only is fringed. The fringes of the lip in this case are shorter than those of the latter. The flower-stalks are produced from the upper joints of the stems. A specimen was exhibited at the last spring show of the Royal Botanic Society by Messrs. F. Sander & Co., when it received a Botanical Certificate.

CYPRIPEDIUM CALOPHYLLUM.

IN this hybrid we have one of the oldest obtained through the skill of the hybridist. The seed-bearing parent was C. barbatum, while the pollen parent was C. venustum. The resulting progeny is intermediate between the two, but is so distinct from either that the practised eye only can detect the resemblance. The standard is white with conspicuous green veins, but is much larger than that of C. venustum, as is the whole flower. The petals are greenish at the base, purple at the tip, spotted with the same colour at the base, and furnished with some blackish warts along their upper edges. The lip is large, deep dull purple, and netted, the foliage being also distinctly marked with deep green markings on a paler ground. The plant is very vigorous, and like others of its class, occasions no difficulty in its cultivation. It is flowering strongly in Messrs. Shuttleworth, Carder & Co.'s nursery, at Park Road, Clapham.

PLATYCLINIS (DENDROCHILUM) GLUMACEA.

THE beauty of this, as well as other species of Platyclinis, better known among gardeners as Dendrochilum, lies in the quantity of flowers produced on long slender drooping racemes, possessed of much airy gracefulness, rather than for the individual beauty of the flowers. The bracts are pale straw colour, almost white, and very conspicuous, bearing each a small flower in its axil on the upper half of the peduncle. The sepals and petals are white, contrasting with the small but bright yellow lip, and the whole taken together possesses much decorative value. Add to this their strong but agreeable fragrance, and we are not surprised the plant finds favour with many growers. There are several well-grown plants in different stages of advancement in the nursery of Messrs. Shuttleworth, Carder & Co., Park Road, Clapham.

DENDROBIUM FINDLEYANUM.

ACCORDING to the experience of some cultivators this species is difficult to maintain in sound vigorous condition for many years after its introduction; consequently it is much less common in this country than it would otherwise and should be. A batch of plants in full flower have a very fascinating effect, owing to the lively yet delicate colour of the blooms, which are produced in clusters along the sides of the long greenish yellow stems. The latter are also divided into numerous club-shaped, but laterally flattened joints, giving them a distinct but curious appearance. The sepals and petals are soft lilac, flushed with white, and the lip has a yellow blotch covering all except the white margin. Being a native of Burmah it requires warm treatment. It has been flowering at Kew for some time past.

PHALÆNOPSIS AT CLAPTON.

ALL the leading species have been flowering fitfully during the past winter, which will long be remembered on account of the frequency and density of the fog. As is well known, Messrs. Hugh Low & Co., Clapton, grow this class of plants extensively, so that some or other of them are in flower at any period of the year. Now that the fogs, as we may reasonably expect, have left us for a season, a fine display may soon be expected. On the occasion of a recent visit we noted P. amabilis, P. Schilleriana, P. Stuartiana, P. Sanderiana and P. rosea in flower. The beauty and diversity of the foliage of P. Schilleriana and P. Stuartiana are well known, while P. amabilis is also subject to variation. Of the latter we noticed some very fine forms with large flowers, having the base of the sepals spotted with purple, as well as the basal portion of the lip, where the usual yellow and purple markings of the lip were very well defined. The most correct name of this species is P. Aphrodite, as has already been pointed out on several occasions, although the better-known name of P. amabilis will no doubt long continue to be applied to it by gardeners. The broad, rounded leaves generally serve to distinguish it from P. grandiflora, to which the name P. amabilis is now more correctly applied. P. grandiflora should therefore be altogether dropped now, as it will no doubt be by the rising generation of gardeners. A large number of the species may be seen at this nursery, mostly grown in small baskets.

CATASETUM TRIDENTATUM.

IMPORTED specimens of this Orchid are very variable, so that several forms of it have been described and figured under different names. Besides that above given, we have synonyms in C. macrocarpum and C. Claveringii. Catasetums are now being more largely cultivated than formerly; probably from the fact that their requirements are now better understood. The general belief used to be that imported pseudo-bulbs generally flowered well the first year, not so well the second year, and very indifferently or not at all the third year. Then the plants gradually dwindled away and died. A specimen of the above Catasetum recently flowered at Devonhurst, Chiswick, bearing thirteen large well-developed flowers. Now the same specimen has been grown and flowered there for the last four years, and the pseudo-bulbs continue to gain in size and the flowers to increase in number. The whole thirteen flowers were on one spike, the slugs having destroyed a second in its young state. The sepals and petals are yellow tinted with green, and spotted with purplish brown. The great saccate lip is three-toothed at the mouth, orange-yellow, and much spotted internally with brown or purple.

CATTLEYA GRANULOSA SCHOFIELDIANA.

THE Orchid under notice is the finest of all the forms of Cattleya granulosa which have been introduced. The type was first discovered in 1840 by Hartweg, but C. g. Schofieldiana made its appearance as recently as 1882, and first flowered with Mr. G. W. Law-Schofield at New Hall-Hey. We received a specimen the other day, through Mr. Sander, from Major Mason, The Firs, Warwick. It is a native of Brazil, and differs from the type and its other varieties by being more highly coloured. The flower sent us measured 5½ ins. across the petals, and the latter, together with the lateral sepals, are more or less sickle-shaped. All are densely spotted with crimson-purple on a tawny-yellow ground, with the exception of the contiguous halves of the lateral sepals, which are almost without markings. The lip is very markedly three-lobed, the lateral lobes being whitish externally and yellow internally, more or less deeply stained with crimson-purple on the anterior sides, and all over the throat and interior of the tube. In general appearance the flower resembles that of C. guttata, but differs in many minor particulars. The middle lobe of the lip has a long claw, which is deeply channelled above and keeled on the outer face, while the blade is densely covered with magenta-purple excrescences suggestive of the specific name.

MASDEVALLIA CHESTERTONI.

WHILE one of the most distinct of species, this is at the same time one of the most curious, and not altogether devoid of beauty. The sepals are divided almost to the base into three nearly equal pieces, terminating in black tails about 1¼ in. long. The ground-colour is a dusky or greenish yellow, heavily spotted all over with black on both surfaces. The lip is something in the way of that seen in the M. Chimæra section, but is several times larger, transversely oblong, bifid in the middle, concave, with numerous elevated, branching, salmon-coloured lines on a flesh-tinted ground. The small petals are orange-coloured, with two black spots. The flowers are borne singly on peduncles somewhat shorter than the leaves, which attain a size similar to those of M. triangularis. The species is a native of Colombia, from whence it was introduced as recently as 1883, so that the plant is by no means common yet in collections.

DENDROBIUM WARDIANO-AUREUM.

THE origin of this hybrid is indicated by the name. In the pseudo-bulbs and general shape of the flowers it resembles the female parent D. Wardianum, but the flowers are smaller than that popular species. The sepals and petals are white, tipped with pale purple, while the lip has a large brown and yellow blotch on the base similar to that seen in D. aureum, white upward, and pale purple at the tip. The plant was exhibited by Messrs. J. Veitch & Sons, Chelsea, at the Royal Botanic Society's show on the 10th inst., and was awarded a Botanical Certificate.

PHALÆNOPSIS SCHILLERIANA ALBA.

THE white variety of P. Schilleriana is beautiful and by no means common. It seems to flower equally as well as the type, and is equally vigorous. The flowers are pure white, with the exception of some bright yellow spots on the contiguous sides of the lateral sepals, on the crest, and the side lobes of the lip. It was exhibited by Geo. Frith, Esq. (gardener, Mr. F. Collier), Manningham, Bradford, at the last spring show of the Royal Botanic Society, and received a Botanical Certificate.

HORTICULTURAL SOCIETIES.

Birmingham Spring Flower Show.

ALTHOUGH Birmingham does not "go in" for a great summer exhibition of plants and flowers, it enjoys a reputation for its spring as well as autumn displays. These exhibitions are always held in the Town Hall, as it is so central, but the exhibitions have grown beyond the capabilities of the Hall, and "crowding out" is very much the result. The exhibition of Wednesday and Thursday, the 10th and 11th inst., was indeed a grand display throughout, but held under very adverse circumstances on the first day, which was continuously wet and gloomy, and in the hall with the disadvantage of a subdued dull light. It may be safely asserted that it was the best spring exhibition the society has held, and to use the words of Mr. John Pope, "The Orchids are the feature of the show, and the feature of the Orchids is the Dendrobiums." It certainly was so, for large masses of various Dendrobiums very profusely flowered, and masses of rich colouring,

not only amazed those who know but little of Orchid culture, but drew from even veterans in Orchid work, strong expressions of approval.

In the class for twelve Orchids Mr. G. Barnes, gardener to Charles Winn, Esq., was first with Cattleya Lawrenceana, C. Mendelii, C. Trianæ, and C. T. formosa, Cypripedium villosum, C. caudatum and C. Warnerianum, Odontoglossum luteo-purpureum, O. Alexandræ and O. vexillarium, Oncidium sarcodes and Cymbidium eburneum. Second, Mr. Powell, gardener to G. H. Kenrick, Esq., with Dendrobium thyrsiflorum with fifteen racemes, D. crassinode, D. Farmeri, D. Wardianum (a very fine plant), D. Devonianum, and D. fimbriatum oculatum, Cattleya Trianæ, C. T. delicata or Warscewiczii, C. intermedia, C. citrina, and Trichopilia suavis. Third, Mr. W. Finch, gardener to J. Marriott, Esq., Coventry, and in this collection was a plant of the very beautiful Lycaste Skinneri alba, one of the gems of the exhibition; Cypripedium caudatum, very fine; Odontoglossum luteo-purpureum, O. Rossii majus and a grand plant of Oncidium sarcodes, with spikes from 4½ ft. to 5 ft. long, and wonderfully well done. In the class for six Orchids, Mr. Powell, gardener to G. H. Kenrick, Esq., was first with superb specimens of Odontoglossum Wardianum (a mass of flowers), O. Devonianum, O. thyrsiflorum, O. chrysotoxolm, Cattleya Trianæ, and C. T. rosea. Second, Mr. Charles Winn. For three Orchids: first, G. H. Kenrick, Esq., with very fine specimens of Dendrobium thyrsiflorum, D. Devonianum and D. Wardianum; second, Mr. Charles Winn, with a very fine Cypripedium Hartwegianum, and two other Orchids. Messrs. Pope & Son also contributed a small collection of good Orchids.

There was a capital display of Azaleas, although an effort must have been made to get them so well into flower. Throughout they were really specimens with some size and good growth. Mr. J. Crook was first for six; Mr. Leonard Brierley, second; and Mr. E. Cooper, Highbury, third. In the class for three Azaleas, Mr. Brasiere, gardener to Sir Thomas Martineau, was first. Mr. Marriott was first for a specimen Azalea nearly 5 ft. high and as much through; a symmetrical plant abundantly flowered. The same exhibitor was first for six stove and greenhouse plants, the best being large specimens of Erica affinis and E. ventricosa coccinea minor, Boronia elatior, and Anthurium magnificum. The classes for three stove and greenhouse plants, and six miscellaneous plants were well represented.

Cyclamens, Dielytras, Spiræas, and Cinerarias were well represented. Auriculas were there, but in all cases pushed on for the show, and were generally not in form. Pansies and Violas in pots were very poor, not in flower, and the prizes were in most cases properly withheld. Mr. Newall took the first prize in the gentlemen's gardeners' class, for a bouquet; and in the open class, Mr. T. B. Thomson was first with a very handsome one.

Hyacinths were in great numbers, and generally good. Two honorary exhibits, not for competition, one staged by Mr. T. B. Thomson, nurserymau and seedsman, comprised a fine lot, amongst which were—Blues: Sultan, a splendid dark blue; General Havelock, Garrick, fine spike; Grand Maitre, Lord Derby, fine porcelain; and Queen of the Blues, a porcelain-blue, with fine bells and spike. In whites: La Grandesse, always fine; Alba maxima, Mont Blanc, and Lord Derby. In reds: Von Schiller and King of the Reds, both fine; Lord Macaulay, and Prince of Wales. In other colours, Marchioness of Lorne, creamy white, with faint pink stripes, fine spike, and distinct, is a decided acquisition; so also is Violet Challenger, a bright shade of rosy purple, and fine. This firm also set up, not for competition, a capital lot of double and single Tulips.

Mr. Robert Sydenham, Tenby Street, also staged, not for competition, a superb lot of Hyacinths, which were remarkable for finish—that is, for fine close spikes, sturdy growth, and short stiff foliage. Amongst these as particularly good were, in blues: Lord Palmerston, King of the Blacks, very fine indeed; King of the Blues, Queen of the Blues, and Grand Maitre. In reds: Koh-i-Noor, Lord Macaulay, Charles Dickens, Princess Louise, extra fine; and Duchess of Edinburgh, pale flesh colour, faintly striped, and extra fine. In whites: La Grandesse, Mont Blanc, Grandeur à Merveille, and Princess Amelia, waxy white, with splendid spikes. In other colours, some examples of King of the Yellows were very fine, and Laura, a pale shaded lilac, is both fine and an acquisition. Mr. Sydenham also had a few fine Narcissi and a capital lot of Tulips, amongst them a very fine yellow, Ophir d'Or, of the form of Proserpine, and must become popular. Van Bergen, single, shaded red, of fine form, and distinct, will be another favourite. These two collections alone were a fair exhibition of Hyacinths and Tulips; but irrespective of these, there was a very large display in the competing classes.

For the society's prizes there were seven exhibitors in the class for eighteen Hyacinths, Mr. W. Dyer, gardener to Mrs. Marigold; Mr. F. Cooper, gardener to C. Showell, Esq.; and Mr. Woolley, Neocks Green, being first, second and third in the order named. For twelve Hyacinths there were eight competing collections, Mr. J. Beasley, gardener to N. Thwaites, Esq., securing the first prize, Mr. F. Cooper the second, and Mr. Dyer the third. For six Hyacinths there were ten competitors, Mr. Thwaites being first, Mr. Woolley second, and Mr. E. Cooper, Highbury, third. There was not a bad lot in the whole of the collections shown, which made a fine display.

Then, in addition, Mr. T. B. Thomson, always a munificent supporter of these shows, offered liberal prizes for eighteen Hyacinths, which brought out five competitors, Mr. E. Cooper, gardener to the Right Hon. Joseph Chamberlain, M.P., being first, Mr. Woolley second, and Mr. Dyer third.

Tulips again were most numerous, and the prizes strongly competed for. Here also Mr. Thomson offered good extra prizes for twelve pots of Tulips, for which nine collections were staged, Mr. Caldicott, gardener to Wm. Matthews, Esq., being first, Mr. J. Crook, gardener to W. Milward, Esq., second, and Mr. E. Cooper third. For the society's prizes for six pots of Tulips there were eleven competitors, Mr. J. Crook securing first honours, W. Bowen, Esq., second, and Mr. F. Cooper third. For three pots of Tulips there were eight exhibitors. Mr. E. Cooper, Highbury, was first for Polyanthus Narcissus, and second for six pots of Lily of the Valley, Mr. Bowen taking the first prize in the latter class. Mr. E. Cooper was first for three Azalea mollis, and Mr. J. Crook second. Prizes were offered for dinner-table plants, and there was an excellent display.

Amongst the honorary exhibitors were Messrs. R. Smith & Co., Worcester, who had a nice group of Clematis, Azalea mollis, and new Indian Azaleas, amongst them a fine white, with what may be best described as "goffered edges," named Madame Jean Nuytens Verschaffelt, and Rhododendron multiflorum, an excellent early forcing variety. Messrs. Cutbush & Son, Highgate Nurseries, sent a nice lot of Cyclamens, Ericas and other plants. Mr. T. B. Thomson had a splendid group of plants, artistically set up, in which Palms, &c., formed a background, and flowering plants, the dwarf Asparagus, and other plants were worked out in designs. There was a circle of Primula obconica in fair character, flowers large and in masses, also a fine plant of P. floribunda. This firm also contributed a very large handsome memorial cross. Mr. R. H. Vertegans sent a handsome wreath, cross, and two groups of Clivias and Lilium Harrisii, and other plants, also a very interesting collection of Helleborcs in flower, and a small group of Alpine plants, amongst them the lovely Primula arctotis. Messrs. Pope & Sons contributed a very fine funeral cross and cut blooms of President Cleveland Bouvardia; and Messrs. T. Hewitt & Co., nurserymen, sent beautiful bouquets, a basket of flowers, and sprays.

Obituary.

We regret to record the sudden death, at Philadelphia, U.S.A., on the 9th inst., of John Alexander Mackenzie, aged thirty-two years. The deceased was the eldest son of Mr. Alexander Mackenzie, Superintendent of Epping Forest, a Lieutenant in the Honourable Artillery Company, and one of the crack rifle shots of the kingdom. In following his father's profession as a landscape gardener, Mr. John developed some admirable qualifications, and recently went to America, where he was carving out for himself a career of great promise. Only too early and in the full bloom of fresh young life he has been cut off by an attack of pneumonia. His connection with the International Potato Shows brought him in contact with many who now rank amongst our readers, and who remember his ever pleasant face and genial manners with kindly regard.

LONDON SEED TRADE.

April 15th.

Messrs. Hurst & Son, 152, Houndsditch, E., report a decreased demand for Clover Seeds, owing to rainy weather. Prices remain unchanged. Rye Grasses sell steadily at prices current last week. Rape Seed dearer. Bird Seed dull.

QUESTIONS AND ANSWERS.

Artillery Plant: Pilea muscosa.—*A. Sadler:* It does very well as a bedding plant, used as a groundwork for Begonias, or leggy plants generally, but would grow too tall for associating with Alternantheras.

Barkerias.—*G. R. T.:* The Apple boughs need not necessarily be covered with lichens, and in fact we believe it would be better if roughly scraped off, so that the roots may cling to the wood itself. If the lichens happen to become detached, the roots would in all probability be brought away also. A rough surface affords the best means of attachment for the roots. Suspend the blocks near the glass, and as no sphagnum is required, the whole must be dipped in water three or four times a day during the summer, while the plants are making their growth. Barkerias may also be grown in small baskets or pans, hung up near the glass. When at rest, in winter, comparatively little water will be required. B. elegans and B. melanocaulon are beautiful species; of the former there are several varieties in cultivation, and the latter is both rare and desirable.

Cinerarias.—*Adam Renton:* Your specimens of Cineraria show an approach to the peculiar rays of Emperor Frederick, but the evolution has not yet gone far enough. The purple and white variety comes nearest to it; but as you will observe, the claws of the ray florets form open, not closed tubes as in Emperor Frederick, and the blades of the rays of your florets are much narrower. Your flowers also produce pollen abundantly, whereas those of Emperor Frederick are perfectly sterile as far as has yet been observed or determined; however, these are only matters of detail, and you may get the desired form by seed sowing and selection of the best. Your blue and white variety has flattened, but only slightly narrowed white claws.

Greenhouse.—*M. Tobin:* If we knew what class of plants you liked best, it would simplify the matter greatly. You will have great difficulty in keeping alive some of the commonest greenhouse plants, such as Pelargoniums, without the aid of fire heat in some form or other. There will, however, be little difficulty in growing such things as Fuchsias, Hydrangeas, Calceolarias, Roses, Carnations, Lilies of various kinds, bulbs such as Hyacinths, Narcissi of very many beautiful kinds, Tulips, also Crocuses, Gladiolus The Bride, and others. Amongst hardy plants you have all the bulbs just mentioned, and a great number of Scillas, such as S. sibirica, S. hispanica, S. bifolia, large numbers of beautiful Primulas, including P. obconica, P. Auricula, P. verticillata, P. denticulata, P. involucrata, P. Sieboldi, in numerous fine varieties, P. japonica and others. Campanula isophylla, C. i. alba, Heuchera sanguinea, Cyclamen Coum, C. Atkinsi, Saxifrages in great variety, Veronica Traversi, V. formosa, V. Andersoni variegata, and a host of other things we could name would answer your purpose admirably, if you like that class of plants. You can also grow all the British and some half-hardy exotic Ferns. You may build the rockery of brick burs, or any soft and porous kind of stone you can lay hold of. You had best commence with rooted plants of any of the above-mentioned kinds.

Lawn Mower.—*Omega:* Consult our advertising columns.

Leaves Tunnelled.—*J. C.:* Your Marguerites, Cinerarias and French Beans have been bored into by the larvæ of Phytomyza nigricornis, one of the leaf miners. The grubs have mostly or all changed into pupæ in the specimens sent, so that the only remedy you can apply now is to remove all the affected leaves and burn them. Should that not be considered desirable, pinch the grub between the finger and thumb so as to kill it. Its position can be seen on either side of the leaf, but more easily so on the underside. This should also be done on the very first appearance of the insect, so as to prevent the unsightly effect it causes on the foliage. Some cultivators state that they succeed in preventing the mature insect from laying its eggs in the leaves, by syringing the latter with tobacco-water, afterwards washing with clean water. The surest method, however, is pinching the grub when it makes its first appearance. The only objection is the time such a process takes.

Names of Plants.—*Geo. Jenkins:* Please send fruiting specimens of the finely-divided Fern; the Orchid with the broad lip, and accompanied by a leaf, is Zygopetalum rostratum; the twin-flowered specimen is Brassavola Martiana var. *J. Grandfield:* Dendrobium pulchellum. *Omega:* Anthriscus sylvestris, the Wood Chervil. *Birmingham:* Dendrobium Farmeri aurea; the Wardianums are very good. *J. Macdonald:* Phaius grandifolius.

Communications Received.—J. S.—C. B. G.—J. A.—G. S. A.—W. D.—R. G.—F. E.—C. H. (many thanks).

TRADE CATALOGUES RECEIVED.

Henry Bennett, Shepperton, Middlesex.—New Pedigree Seedling and French Roses.

COVENT GARDEN MARKET.

April 17th.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.
Anemone, French, per doz. bunches.	1 0	4 0
Arum Lilies, 12 blms..	2 0	4 0
Azaleas ....12 sprays	0 6	1 0
Bouvardias, per bun.	0 9	1 0
Camellias, white, doz.	2 0	4 0
— coloured..... ,,	0 6	1 6
Carnations, 12 blooms	2 0	3 0
Cyclamen..12 blooms	0 4	0 9
Daffodil, dble.,12 bun.	2 0	4 0
— single, various	4 0	9 0
— or Lent Lily ,,	1 6	3 0
Eucharis ..per dozen	4 0	6 0
Gardenias, 12 blooms.	3 0	6 0
Heliotropes, 12 sprays	0 6	1 0
Lapageria, 12 blooms	2 0	4 0
Lilium longiflorum, 12 blooms	4 0	6 0
Lily of the Valley, 12 sprays	0 6	1 0
MaidenhairFern,12bns	6 0	9 0
Marguerites, 12 bun.	3 0	6 0
Mimosa, French, per bunch	1 0	1 6
Mignonette, 12 bun.	4 0	6 0
Pelargoniums,12spys.	1 0	1 6
— scarlet ..12 sprays	0 4	0 6
Paper White Narciss, French,doz. bunches	3 0	6 0
Primroses..doz.buns.	0 6	1 0
Primula, double, bun.	0 9	1 0
Ranunculus, French, per doz. bnchs.	2 0	4 0
Roman Hyacinths, French, 12 bun.	1 0	2 0
Roses, Tea, per dozen	1 0	3 0
— Red .....per doz.	3 0	6 0
— Red, French,dozen	1 6	2 0
— Saffrano ..per doz.	1 0	2 0
Tuberoses, per dozen.	2 0	3 0
Tulips ....12 blooms	0 6	1 0
Violets ..12 bunches	0 6	1 0
— Parme,French, bnn.	2 6	3 0
— Czar, French ,,	1 6	2 0
— Dark ,, ,,	0 9	1 0
Wallflowers,12 bnchs,	4 0	6 0
White Lilac, French, per bun.	1 0	1 3

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Grapes .....per lb.	2 0	6 0	Pine-apples, Eng., lb.	1 0	1 6
Grapes, new .. ,,	5 0	8 0	Strawberries.. per lb.	2 0	4 0

Canadian and Nova Scotia Apples, per barrel, 7s. to 17s.

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus....per 100	14 0		Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	3 0		Lettuces ..per dozen	1 6	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages.... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes ..per dozen	1 6	
			Small salading, punnet	0 4	
Celery ....per bundle	3 0		Spinach, per strike ..	2 0	
Cucumbers ....each	0 4	0 10	Tomatos ....per lb.	3 0	4 0
Endive, French, doz.	2 6	3 6	Turnips ....per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	6 0	18 0	Heliotrope ..per doz.	6 0	9 0
Arum Lilies..per doz.	9 0	18 0	Hyacinths ..per doz.	6 0	9 0
Azalea.....per doz.	18 0	42 0	Lilies of the Valley, per doz.	12 0	24 0
Cineraria ..per dozen	6 0	10 0			
Cyclamen ..per doz,	9 0	18 0	Marguerites per doz.	6 0	12 0
Cyperus, ..per dozen	4 0	12 0	Mignonette, doz. pots	6 0	12 0
Dracæna term., doz.	30 0	60 0	Palms in variety, each	2 6	21 0
—viridis, per dozen	12 0	24 0	Pelargoniums, scarlet, Pinks, &c., per doz.	6 0	9 0
Erica, various ..doz.	9 0	24 0			
Evergreens, in var. .,	6 0	24 0	Pelargoniums, per doz.	12 0	18 0
Ferns, in var., per doz.	4 0	18 0	Primula sinensis, doz.	4 0	6 0
Ficus elastica ..each	1 6	7 0	Roses, H.P., per doz.	12 0	24 0
Foliage Plants, various .....each	2 0	10 0	Roses, Fairy, per doz.	9 0	12 0
			Spiræa .....per doz.	9 0	15 0
Genista ....per dozen	9 0	12 0	Tulips ..... per doz.	6 0	9 0

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THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

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To celebrate the 50th year of this Institution the Committee will place on the Pension List the whole of the Unsuccessful Candidates at the late Election, Seventeen in number, upon the express understanding that the sum of

£3000

be realised, in order to provide for the great Extra Annual Expense thus entailed, without trenching on the Reserved Funds.

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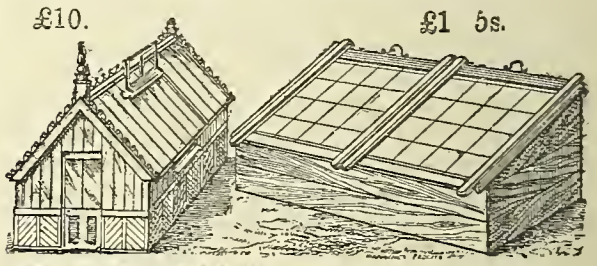

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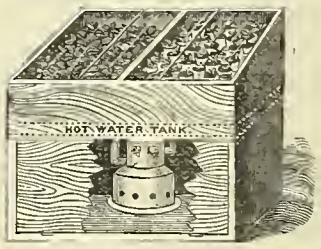

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Next Week's Engagements.

TUESDAY, April 30th.—Flower Show in the Town Hall, Manchester. Exhibition of the National Auricula Society: Northern Section. Sale of Orchids in Flower at Protheroe & Morris's Rooms.

WEDNESDAY, May 1st.—Sale of Greenhouse Plants, Palms, &c., at Protheroe & Morris's Rooms. Sale of the late Mr. Peacock's Succulent Plants at Sudbury House, by Protheroe & Morris (2 days). Sale of Lily Bulbs, Shrubs, &c., at Stevens' Rooms.

FRIDAY, May 3rd.—Sale of portion of Mr. Dorman's collection of Orchids at Protheroe & Morris's Rooms.

For Index to Contents & Advertisements, see p. 553.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.
SATURDAY, APRIL 27, 1889.

CURRENT TOPICS.

HORTICULTURAL EDUCATION.—A paper on this subject, of considerable importance, was recently read before the Reading Gardeners' Association. The author was Mr. George Stanton, of Park Place, Henley-on-Thames, who, as the head of one of the largest horticultural establishments in the midlands, was certainly able to treat his subject from a practical point of view. Mr. Stanton laid before the meeting a definite plan for the advancement of horticulture, the main feature of the scheme being to adopt the Science and Art Department Regulations; in short, to induce the Educational Department to add Horticulture to the list of subjects upon which grants are made and aid given. Mr. Stanton pointed out that Agriculture was already added to the list, and some thousands are examined annually in that subject. In nearly all trades and professions some subject was on the list in connection with them, and he thought it a right and proper thing that Horticulture should be added. Such a subject being on the list, would give artizans and others, likely to take up allotments, an opportunity of getting instruction in the best methods of cultivation, the best kinds of fruit, and the best kinds of vegetables to grow.

Coming to the actual details of such a scheme, Mr. Stanton pointed out that all subjects taught under the Department were divided into three stages: 1, elementary; 2, advanced; and 3, the honours stage. The first stage he would confine to the consideration of fruit and vegetables; this would be of infinite value to the great class of intelligent workmen who, there is every probability to anticipate, will take advantage of the new Allotment Act, and also to young gardeners and lads just leaving school. The second stage would be floriculture; and the third stage would be of a more advanced nature, and would enable men, after a course of good practice and careful preparation, to secure an honours certificate. The teaching staff, Mr. Stanton said, could be

drawn from the head gardeners of any district where such a subject is taught; they, in his opinion, would be able to quickly pass the required examination, and could then themselves act as Government teachers.

A discussion ensued, in which it was evident that the matter had the sympathy and interest of the meeting, and a formal resolution was unanimously passed, "That the Reading Gardeners' Association should get up a petition to the Education Department, praying the Department to add Horticulture to their list of Science and Art subjects."

GARDENERS' HOLIDAYS.—Without doubt many gardeners, and especially young ones, must look with some envy at the good fortune of fellow workers in other occupations, who are enabled freely to indulge in the ordinary holidays which are now so liberally provided. We have just passed through the Easter holidays—to very many persons signifying a week, to others three or four days, to others one or two only, but to the great mass certainly a holiday of some sort. Gardeners, on the other hand, find that Easter falls at an exceptionally busy time of the year, and when work must be attended to.

It is true, purely outdoor labour may stand still for a day or two, but house-work—and in most gardens that forms at this time of the year not only the most imperative, but also the most important garden labour—will bear no cessation. To leave that labour to the tender mercies of neglect for but one day may result in the entire ruin of a season's preparation, therefore holidays find scant respect in gardens. Young men who may be embarking upon gardening careers may well pause ere they do so, and take stock of the opportunities their occupation will afford them to join in those cessations from labour which other trades offer.

Gardening knows of no Saturday half-holiday; it knows very little, relatively, even of Sabbath observance, for plants in pots, houses (hot or otherwise), frames, &c., must have as close attention on Sundays as any other day, whilst holidays for gardeners have to be made subservient to everything. Needful and necessary seems always to dominate in gardening. Such being the case, we must make the best of what cannot well be helped in horticulture.

Gardening Appointment.—Mr. Thomas Hobday, for the last seven years foreman in the Rangemore Gardens, Burton-on-Trent, as gardener to the Earl of Yarborough, Brocklesbury Park, Ulceby, Lincolnshire.

Grass Seeds for the Metropolitan Parks.—Probably one of the first orders given out by the newly constructed London County Council was for the Grass seeds annually required for the parks under its control. The order was placed in the hands of Messrs. James Carter & Co. for execution.

The Gardens at Walton Lea, Warrington, by the kindness of Alderman John Crosfield, J.P., were thrown open to the public on Good Friday and Easter Sunday afternoon, and were visited by about 2,000 persons each day. The Camellia house, which is over 100 ft. long, with a path down the centre, and having pyramidal trained trees on each side from 10 ft. to 12 ft. high, and now in full bloom, was very much admired.

National Dahlia Society.—We understand that this society intends to celebrate the centenary of the introduction of the Dahlia into this country, by holding a special exhibition of the flower, and a conference of Dahlia growers at the Crystal Palace. As at present arranged there will also be an exhibition of books and pictures, illustrating the history of the flower, and that the conference will be opened with a paper on the History of the Dahlia, by Mr. Shirley Hibberd, and the papers to follow will be by Mr. Harry Turner, on the Development of the Show Flower; Mr. West, on the Cultivation; and Mr. W. H. Cullingford, on Decorative Dahlias, more especially pompon and single flowers.

Tulipa Leitchlini.—The flower scapes are comparatively dwarf, and are furnished at the base with several narrow, glaucous leaves. Externally, the three outer segments are of a deep red tint, while the interior is light yellow. The three inner segments are several shades paler, almost white, while the anthers are yellow and very short. A pot of bulbs was exhibited by Messrs. Paul & Son, Cheshunt, at the last meeting of the Royal Horticultural Society in the Drill Hall, Westminster, when it received a First Class Certificate.

May Blossom.—Last year, owing to the cold spring, the Hawthorn was late in coming into bloom, and it was a common remark that it would be difficult to get May Blossom in May. May Blossom is the popular name for the Hawthorn in the southern counties, and especially about London. Apparently there are early varieties of it, including the Glastonbury Thorn, which is reputed to flower at Christmas. A tree might have been seen in full bloom in the High Road, Chiswick, on the 21st of April. As far as could be seen it did not differ from the common white form, except that the flowers were fully expanded, while other trees alongside of it were only in bud. Has anyone seen it flowering previous to that date this year?

Muscari botryoides alba.—The Grape Hyacinths do not seem, as a general rule, to take the fancy of plant growers to that extent which their merits deserve, for many of them are really pretty, extremely hardy, and easily cultivated. The white variety above mentioned is so distinct that it might be grown by way of contrast to the blue kinds, all of which are suitable for borders, rockeries, or in pots for the decoration of the hardy plant house. Some fine pots of it may be seen in the gardens of the Royal Horticultural Society, at Chiswick.

Epiphyllum Makoyanum.—The stems of this garden hybrid are oblong, flattened, tapering somewhat towards each end, and jointed in the manner of E. truncatum, but quite distinct from that. The flowers are produced at the apex of the terminal shoots, and both the tube and the numerous narrow, acute segments are of a rich scarlet when in bud and after expansion; when this has taken place, the interior of the segments is deeply tinted with orange. The radiating stigmas are white. A plant was exhibited by Messrs. J. Veitch & Sons, Chelsea, at the Drill Hall, Westminster, on Tuesday last, when it received a First Class Certificate.

Rhododendron, Her Majesty—The flowers of this new hybrid exhibit a bold and striking appearance, quite distinct from the usual run of this class of plants. A small plant, about 8 ins. high, bore a terminal truss of three large expanded flowers that were nearly flat, the tube having been almost obliterated. Externally the blooms are more or less splashed or suffused with pale purple or pink, which shows itself slightly on the interior white face. The leaves are obovate, leathery, unusually small in proportion to the size of the flowers, and slightly hairy. It is the result of hybridising R. Fosterianum with R. arboreum. The plant was exhibited at the Drill Hall, Westminster, on Tuesday last, by Messrs. J. Veitch & Sons, Chelsea, when a First Class Certificate was awarded it.

Variations of Primula denticulata. — Imported seeds of this Himalayan species show a wonderful amount of variation, both in size and colour of the individual flowers, as well as in the size and density of the truss. This may be verified by an examination of a small group of plants in one of the north-aspect pits in the gardens of the Royal Horticultural Society, at Chiswick. One plant has dense trusses of small lilac flowers, similar to a variety that used to be named P. d. pulcherrima. A second plant has large purple flowers, equal to those of the variety passing under the name of P. d. purpurea; while a third kind has large flowers which expand of a violet-purple, and soon after change to a decided violet hue. If anything, this affords additional evidence that there is a large amount of blue in all or nearly all of the highly-coloured species and varieties of Primula.

Wolverhampton Horticultural Show. — Wolverhampton appears to be taking a new departure in regard to horticultural matters. For some reason or the other the exhibition formerly held there declined, which is matter for wonder, because it is in these great horticultural centres that popular exhibitions appear to flourish best. A new order of things is being established, and a schedule of prizes, to be offered at a great show to take place in the Public Park on July 16th, 17th, and 18th, has just been issued. Some classes—eleven in number, that are open to all—contain valuable money prizes. £20 as a first, and £15 as a second prize for sixteen stove and greenhouse plants, flowering and foliage, are good; a first prize of £8 offered for a group of plants arranged for effect; £6 for forty-eight blooms of Roses; £4 for thirty-six blooms; and with good prizes for smaller classes should bring a good display of the queen of flowers. One class is for twelve varieties of Moss Roses, which is always a very interesting one. Good prizes are also offered for gardeners and others in the district, and so a good exhibition should result. The Mayor offers a special prize of five guineas, to be awarded by the judges to the most meritorious exhibit in the show. The honorary secretary is Mr. W. A. Green, junr., of Corporation Street, Wolverhampton.

Bilbergia nutans.—One of the most regular and free-flowering species of the genus is Bilbergia nutans. The nodding habit of the flowers is well expressed by the specific name. The narrowly lance-shaped leaves are bright green, arranged in dense tufts, and furnished with small distant spines on the margins. From the centre of these the flower stems rise to the height of 1 ft., more or less, and then arch over in a graceful manner. They are closely covered throughout with pink bracts, which become longer, broader, and looser towards the apex of the peduncle, and constitute in themselves an object of no mean ornamental value. The flowers are of large size compared with those of larger-growing kinds, and have short pinkish sepals tipped with blue. The long revolute petals are of a deep green, margined with deep blue; so that taken altogether the plant presents a strange combination of colours. A small group of flowering plants may be seen in the gardens of the Royal Horticultural Society at Chiswick.

CONCERNING THE HOLLYHOCK.

SOME years ago, just when it might have been said that a new and vigorous life was being infused into the profession of the florist, an old writer—one of the old school of narrow ideas and limited experiences—seeing in some of the flowers then being taken in hand by florists, subjects that had hitherto received but little attention in comparison with what had been paid to others, was led to give utterance to his prejudices in these words: "Some younger spirits, straining after new worlds of flowers to subjugate, or in which to mend nature, have obtruded Hollyhocks, Phloxes, Verbenas, Snapdragons, &c., to the discomfort and surprise of the old school." Since then these aggressive young spirits, as in many other matters relating to our every-day life, have made considerable headway in their especial tracks, despite many sorrowful protests similar in character to that just recorded. Since that was originally written, the Hollyhock reached to a great height as a florists' flower, and then, through the ravages of an insidious fungus, became almost exterminated of late years. Evidences have appeared that the flower is again rising in popular estimation, and the work done in the past by Baron, Chater, Paul, Roake, Bircham, Parsons, Hawke and others is being carried on by enterprising ones among the younger spirits, who are giving to its improvement the high service of their newly awakened and vigorous enthusiasm.

What is wanted in these days is that every lover of the Hollyhock should resolutely set himself to work to become a raiser—and a successful one too—of new varieties. I think the late Mr. Chater's last catalogue was issued about 1875; since that date there occurred a terrible loss among the fine varieties he and Lord Hawke raised. I am afraid a very large number of them are hopelessly lost, leaving sad gaps in a list of first-class sorts. Therefore it is desirable that every lover of the Hollyhock should be both a cultivator and raiser. The Hollyhock is one of those stately border plants that gardens, and especially large ones, cannot dispense with, and seed of good varieties is always in demand.

I have pleasant recollections of several times visiting the nursery of the late Mr. W. Chater, at Saffron Walden, when his Hollyhocks were in bloom. They were planted out in rows 4 ft. apart, and the plants 3 ft. apart in the rows. The ground was rich, old market-garden soil, and preparatory to planting it was trenched over to a depth of 2 ft., and plenty of thoroughly rotten manure worked into it. If the subsoil is of a character that is retentive of moisture, the plants will do remarkably well during the summer, but if the plants are allowed to stand out all the winter in such a situation, they will undoubtedly suffer.

But in planting out to grow exhibition flowers, there is no reason why the cultivator should not study floral effect, and he can do this by placing, as far as he can, the tallest-growing varieties in the centre of his bed or quarter, and arrange the colours so as to harmonise the one with the other as much as possible.

It is best to grow the young plants in pots during the autumn and winter, keeping them in a cold frame, and then plant them out in March and April, putting in about the roots some manure mingled with soil. What is wanted is a good start, so as to ensure a vigorous growth. When they have reached 1 ft. in height, the shoots should be thinned out, allowing the plants to carry one, two, or three flowering shoots, as the case may be, according to the strength of the plants; when they are tall enough, each should be supported by a stake some 4 ft. in height, and driven firmly into the ground. Growers invariably recommend that the stakes be placed to the plants early in the season, and the young shoots be carefully tied to them, so as to induce erect growth. When intended for exhibition, the flower-buds will need to be judiciously thinned, whether single blooms or spikes are required, so as to give the flowers ample space to expand.

When the Hollyhock was at its greatest height of popularity, it was shown in spikes as well as cut blooms. Spikes made a grand display, shown in twelves and sixes, when they were well grown, and symmetrically furnished with well-developed flowers. In the days when Chater, Turner, Paul, Bragg, Hawke and others used to exhibit, the spikes were 4 ft. in length, and the buds were previously so thinned, that the spike was quite covered with blooms, without being crowded. Huge frames covered with tiffany were required to convey the spikes to the place of exhibition. The last thoroughly good competition I saw with Hollyhock spikes was at Bishop Auckland, when the exhibition there was maintained at the very height of its prosperity.

But a few words are necessary in reference to the summer treatment. The surface soil round each plant should be well mulched with manure during the summer, and in the event of drought prevailing, there must be no stint of water. Some means of shading will be necessary, and if the grower would have finely-finished flowers, they must be protected alike from sunshine and rain, for splashed and otherwise disfigured flowers are a great eyesore, and when placed on the exhibition table in this condition, cannot be expected to win a prize. And just a word about seedlings. It is not difficult to make an annual of the Hollyhock by sowing the seeds in heat about the month of January, pushing them on into growth, planting out early and giving good culture; and then some of the plants will bloom late the same year. But it is perhaps best to make a biennial of it, and sow the seeds in May or June, and then plant out in the open in September or October. If the soil be at all wet during winter, it might be best to grow on the seedlings in pots through the winter, and not plant out until early in March; but it is hardly worth troubling with seedlings unless the seed be of a good strain.—*R. D.*

ALBERT NURSERY, PECKHAM RYE.

Messrs. Boulton & Shuttleworth, having leased Albert Lodge, with the piece of meadow land attached to it, have there established a nursery business. The nursery is situated at the extreme, that is, the southern end of Peckham Rye, and is in fact nearer to Honor Oak railway station than the former.

Two houses, each 100 ft. in length, have been constructed and filled with Palms, Ferns, Dracænas, and other decorative stuff. As the number of houses is increased, various subjects and classes of plants, will no doubt be added, but Palms will constitute one of the leading features of the nursery.

There are large quantities of such popular and useful subjects as Cocos Weddelliana, Geonoma gracilis, and Areca lutescens, ranging from 10 ins. to 2 ft. or 3 ft. high, all in excellent condition, clean, and healthy. Some half-a-dozen good plants of Rhapis humilis represent an extremely graceful Palm that is yet far from being common. Young specimens of Phœnix rupicola, with leaves from 12 ins. to 15 ins. in length, are just showing their natural form. Seaforthia elegans, with leaves from 18 ins. to 24 ins. long, resembles some of the Arecas at this stage. The fan-leaved Palms Corypha australis and Chamærops excelsa are grown in considerable quantity, while some thousands of seedlings of Latania borbonica are coming on.

Large numbers of Dracænas in various stages may be seen, from the old stems in the propagating case to highly coloured specimens of D. terminalis, while the best form of D. rubra, with leathery leaves, is also grown. Amongst variegated subjects, Pandanus Veitchii, Aspidistra lurida variegata and Ficus clastica variegata are some of the most popular at the present time. Asparagus tenuissimus seems to meet with some favour in the market, and finds a place here. Flowering plants are represented by batches of old and young plants of Gardenia florida, all grown in pots. There is also a fine batch of Primula sinensis alba plena in full flower; it is one of the best for cut-flower purposes, being neither too large nor lumpy. Lily of the Valley has also proved a great success. Both large and small plants of Souvenir de la Malmaison Carnation are being brought forward under glass, as well as Lilium candidum. Orchids are as yet by no means plentiful in kinds, although several of them are grown in quantity, such as Odontoglossum grande, Lycaste Skinneri, and Cattleya Mendelii. Some good pieces of the newly-imported Lælia Goldieana are just starting into growth.

Ferns and Selaginellas—the former especially—will in time be extensively cultivated. At present the latter genus is represented by S. Martensii variegata, S. Kraussiana and its golden variety. Amongst Ferns, Pteris serrulata magnifica, P. s. cristata, and P. tremula are most largely grown. The silvery variegated P. argyrea is also very conspicuous amongst the green kinds, and the beautiful Onychium japonicum is also plentiful. Very useful for edgings and other purposes are Ficus repens and Panicum variegatum. The Cornish Moneywort (Sibthorpia europæa variegata) is a gem not soon forgotten by those who have seen it in good condition.

Odontoglossum Pescatorei Thomsonianum.

SAXIFRAGA CAMPOSII.

Undoubtedly this is the finest of all the white mossy-leaved Saxifrages, which, although it was introduced from Spain so recently as 1882, growers of all classes are beginning to recognise its true value. On the rockwork it is at home, and increases at a moderate rate compared with our British species in the same class. Its greatest value from a decorative point of view is as a pot plant. Cuttings rooted in summer, potted off singly into large 60's, or even small 48's, will make beautiful plants by the following spring, if kept in a cold frame. Heat is not essential at all, and plants so grown will flower later on. If brought into a little heat, however, they can be forced, so to speak, and had in flower even in March. Market growers have already made this discovery, as may have been seen by the handsome flowering specimens in Covent Garden Market for some time past. The plant is known in many gardens under the name of S. Wallacei, that name having been given to it about Edinburgh, out of a mistaken idea as to its origin. The accepted specific name was given in commemoration of Don Pedro del Campo. The flowers are large, pure white, and raised on stems about 6 ins. or 8 ins. high.

ODONTOGLOSSUM PESCATOREI.

The range of variation in this popular Orchid, while not so great as in O. crispum, is, nevertheless, very considerable in extent. There are, however, very few real gems, if we take the glorious variety Veitchianum as the finest known type. Next to this in point of merit is the very beautiful variety shown at the Orchid Conference by Messrs W. Thomson & Sons, Clovenfords, and of which a form was exhibited by H. M. Pollett, Esq., Fernside, Bickley, at the Drill Hall, on Tuesday last, when a First Class Certificate was awarded to it by the Orchid Committee of the Royal Horticultural Society. It had round and imbricating flowers of good size. The sepals and ovate petals are blush, tinted with a few deep purple blotches on the middle of each, while there is only one blotch as a rule about the middle of the lip. The basal part of the latter is furnished with a yellow disc, heavily stained with deep purple on the radiating fringes at the base. The plant was small, but the flowers were marvellously pretty and effective.

ARE HERBACEOUS AND ALPINE PLANTS DISTINCT?

Various responses could, and probably would be given to this question by different people; and this fact is well demonstrated at various horticultural exhibitions where prizes are offered in distinct classes for herbaceous and Alpine plants. In such cases one would expect to see some attempt at a distinction between one and the other; but actual evidence is all against it, and the rules, if there are any, are carried out in the loosest manner possible. Now this is neither creditable nor satisfactory, either to exhibitors or the public at large.

A definition of an herbaceous plant is that it is a soft-wooded one, or that in which there is but a small development of woody tissue. One occasionally hears that herbaceous plants annually die down to the ground; but such a view is very erroneous, because many strictly herbaceous plants are decidedly evergreen, such, for instance, as the Daisy, Thyme, Aubrietias, Helleborus niger, H. orientalis, many of the Veronicas, Sedums, Arabis, perennial Candytufts, Wallflowers, and many others. The lower parts of the stems of the last two mentioned may even be of a shrubby character. Even here the exact line of demarcation is very difficult to define. Herbaceous plants may range from the fraction of an inch in height to 12 ft. or 14 ft., or even more, and include subjects widely diverse in character. Woody plants, on the other hand, include shrubs and trees ranging from 3 ins. or 4 ins. in height to 100 ft., and upwards.

The term Alpine would refer to plants growing at considerable elevations, and may include herbaceous and shrubby subjects peculiar to mountains, hilly districts, or Arctic regions. It may be acknowledged that even such a definition is not strictly binding to anything like accuracy. If the term Alpine should be strictly reserved to plants affecting or confined to particular elevations, it would limit the number referable to that class, and would mean something tolerably definite; whereas at present the word Alpine may mean, practically, anything or nothing, according to individual views. Some may no doubt contend that such a view is too technical and impractical to be of any value, and that common sense can easily decide in such matters without the necessity of hair-splitting. But what common sense can, and may do, are two entirely different things on many occasions.

Some genera, tribes, and even families are peculiarly Alpine or mountainous in their habitats; but in such a genus as Primula, where a large proportion of the plants inhabit elevated regions, some of them, such as P. vulgaris, P. veris, P. elatior and others, are, strictly speaking, of the nature of meadow rather than Alpine plants, although the two former sometimes ascend to an elevation of 1,600 ft. They should nevertheless be strictly excluded from a collection of Alpines. Most of the Saxifrages, many of the Sedums, some of the Gentians only, as well as Anemones, Ranunculus, Campanulas, Potentillas, Dianthus, and many others would be admissible; while such things as Corydalis, Cyclamen hederæfolium, Anemone nemorosa, Grape Hyacinths, and many other lowland pasture or hedge-bank plants should be excluded.

As a matter of fact, however, according to the present custom, any dwarf plant may be exhibited as an Alpine, and no distinction can be made in some cases between an exhibit of Alpine and another of herbaceous plants. Other exhibitors are evidently guided by the relative heights of the plants, making the tall ones do service as herbaceous plants, and the dwarf ones as Alpines. From a common sense point of view this

would answer admirably, but unfortunately for the public, as well as judges and exhibitors, such a rule is not always observed. Then how is it possible to compare a collection entirely composed of tall, strong-growing subjects, with an equally large one consisting of dwarf plants? There can be no question as to which of the two collections is the most valuable, because, in the first place, a much greater number of dwarf subjects would be required to cover the allotted space, and, secondly, such plants are as a rule more valuable and more difficult of culture or preservation. On turning to the class reserved for Alpines, the case becomes complicated and bewildering when there is no evident distinction made between the plants exhibited in what should have been, or were intended for two distinct classes. It is quite time that the term Alpine should be more strictly defined than it is at present, if it is intended to convey any practical, definite, or useful meaning to the general public through the instrumentality of horticultural exhibitions.—*Alpine.*

A GOOD ZONAL PELARGONIUM.

One of the most useful Pelargoniums that I am acquainted with is Henry Jacoby. For Easter decoration in church, for mixing among Spiræa japonica, Callas, Palms, Cytisus racemosus, or Genista fragrans, this Pelargonium is without an equal. Cultivated in 6-in. pots, it is simply indispensable for indoor decoration, and for cut flowers especially I would earnestly recommend that it should be grown largely. Why it is not more frequently used for the above purposes I am at a loss to say, for its culture is of the simplest description.

My *modus operandi* is to strike cuttings outside with other bedding Pelargoniums about the last week in August, then pot them up in 3-in. pots towards the end of September, and place them on a shelf well up to the glass in a cool house, where the frost can be excluded, the object being to keep them through the winter and early spring without growing more than possible. Place them during the last week in February into 6-in. or 7-in. pots, using a mixture of fresh turfy loam, with a good sprinkling of sharp sand, and a small portion of leaf-soil and dried cow-dung. Place an inverted oyster shell over the hole in the bottom of the pot, together with a few lumps of charcoal about the size of Hazel nuts. Next finish up with a nice quantity of broken potsherds, care being taken to secure the drainage by placing a few rough leaves or a little fibry turf over all, and pot rather firmly. After this is completed give a gentle watering to settle the soil about them, and put them into a heated pit close up to the glass, where the lights can be removed entirely during favourable weather. Pinch them back as soon as practicable, and gradually harden them off.

About the middle of June stand them on a gravel walk, or, what is better, a good flagged open yard in the full sunshine. Attend to pinching and watering during the summer, care being taken never to allow the plants to flag; pinch off all the bloom-buds that show, until they are taken indoors, before the nights are too chilly and frost is expected. Weak, clear, liquid manure should be given regularly during the growing season to keep the plants healthy after they become pot-bound, because they appear very unsightly if allowed to lose their lower leaves. It also wonderfully improves the size and brilliancy of the magnificent trusses of dark crimson blooms, that will amply repay with compound interest any little extra trouble and attention bestowed upon them.

I am no advocate of the blue-ribbon principle as applied to plants in general, and Pelargoniums treated in the manner described will be hard to beat for blooming through the dull dreary winter months with our English fogs, and onwards far into the summer, or longer if desired. They may very advantageously be planted round the borders—these old plants that have been discarded for inside work; and this reminds me also, that I have not said a word in favour of bedding this variety out, but I can safely say that, for bedding out this Pelargonium is without a rival. Plants potted early in winter in 5-in. pots and plunged into beds at bedding time, or where it is practicable with a background of shrubs or Ivy-covered stumps, will make a grand show not often seen, but when once seen will be a thing to be appreciated. If taken up at the first approach of frost, their pots washed, and taken indoors, they will go on blooming for a considerable time. In conclusion, I may say, that I consider this most beautiful Pelargonium among its class what Gloire de Dijon is among Roses—a gem beyond comparison.—*Wm. H. Smith, The Gardens, Springfield, Alderley Edge, Cheshire.*

MUTISIA CLEMATIS.

In several respects this is a most remarkable Composite, of climbing habit, and pinnatisect leaves resembling those of some of the Leguminosæ or Pea family, such as the Vetches. The segments of the leaves also vary immensely in size on different parts of the stem, and if looked at apart from the plant, would hardly be recognised as belonging to the same species. The apical part of these singular-looking leaves terminate in branched tendrils, each branch morphologically representing a segment or its midrib; and these branches before they unfold are coiled backwards instead of inwards.

All the thirty-six known species are natives of South America, but only those inhabiting the warmer regions have the leaves so divided, others being shallowly cut, while some have entire leaves. All the first mentioned kinds are climbers, with the exception of M. viciæfolia, which is an erect shrub. The flower heads of M. Clematis are of large size, and borne singly at the apex of short lateral branches, or terminate the main shoots. From their weight they apparently assume a pendent habit, and have a singular appearance for a Composite, both from the tubular scaly-looking involucre, and the deep orange-scarlet rays. The disc florets are slenderly tubular, and two-lipped, an uncommon occurrence in the order, and the object of the same is rather problematical. The long cylindrical tube formed by the anthers projects beyond the corolla for about ⅜ in., terminating in five hard, somewhat bristly points, and collects the pollen, which ultimately gets brushed out of the tube by the two arms of the style, which do not seem to open at any time, but are clothed on the back with short soft hairs, and resemble two fine hat brushes placed back to back. The style in time projects beyond the anther tube for nearly ⅜ in.

The specimens from which this description has been taken were sent us by Mr. F. Ross, gardener to Sir George Macleay, Pendell Court, Bletchingley. The plant evidently flowers very freely, judging from the specimens exhibited by Mr. Ross, on two separate occasions at the meetings of the Royal Horticultural Society, at the Drill Hall, Westminster. It is also easily cultivated, and planted out in a peat bed in a cool conservatory at Pendell Court, has outgrown the space at its disposal, and adds one more to the rare, curious, and beautiful subjects grown in that unique collection.

WATER, ITS USE AND ABUSE IN THE CULTIVATION OF PLANTS.

(*Concluded from p.* 531.)

Atmospheric Moisture.

It has been shown that at times transpiration is so great that the roots cannot supply sufficient water. In the case of hothouse plants, this can be obviated by shading and by the humidity of the atmosphere. In general, plants do not thrive well in rooms, owing to the dryness of the atmosphere. An experiment, quoted to prove the absorption of moisture, showed that if a branch with matured leaves be taken from a tree, and one leaf kept wet, the water from this leaf will supply moisture to the nearest leaves, and this when communication through the bark has been prevented. More atmospheric moisture is required during the growing season than when growth has been completed, and annuals require more than woody-stemmed plants, and succulents with watery stems least of all.

To create this atmospheric moisture, the floor and stages should be damped down whenever dry. The stages should be covered with shells or something that will retain the moisture. Troughs or pans should also be placed on the pipes to supply moisture by evaporation. A discharge of steam into the house for this purpose is not commendable; all this must be regulated by circumstances, for the hotter the air, the greater the absorption, and the more moisture necessary. In summer the most will be needed, in winter the least. In the case of cool greenhouses, they cannot be kept too dry during the winter, and perhaps need little during the summer.

Water applied with the syringe is of great moment; it cleanses the leaves, enabling them to fulfil their work better, and is one of the most powerful preventatives of insect pests. The absorption of water by the leaves is denied by some scientists. Sachs says "rain revives withered plants, not by penetrating the leaves, but by moistening them, and thus hindering further transpiration." A simple experiment, affording much instruction, is obtained by placing a pot in which a leafy plant is growing into a glass or metal vessel, surrounding the stem so completely as to cover the earth in the pot. If the soil is dry the plant withers; if a bell-glass is then placed over it, the plant revives and withers again when it is removed. This shows that the withering is the result of increased and the revival of diminished evaporation from the leaves when the roots convey but little water to them.

This principle is acted on in striking cuttings, which are kept close, and the atmosphere well charged with moisture, to prevent them from flagging till they form roots. Cuttings may be struck by placing the stems in bottles containing water. Such should be potted as soon as possible after striking, otherwise the roots elongate and become weakly. The soil used should be fine, kept moist, and the plants carefully shaded. Crotons strike readily this way, the bottles being plunged in heat in a propagating frame; but the potting is a delicate operation, and from our experiments nothing is gained.

Aquatic Plants.

Aquatic gardening is very nice, and by the skilful arrangement of marsh plants a little paradise may be made of a small piece of water. In such places we can have to perfection beautiful plants like Spiræa ulmaria and Iris Kæmpferi. The water should be kept clear by a constant and fresh supply. In cases where Conferva is troublesome, fish have been found to keep the water quite clear. There is a large number of beautiful hardy aquatics. For indoor cultivation nothing can be more interesting than a house devoted to the beautiful Nymphea and other aquatics, while Victoria regia, as grown in some gardens, is a marvel. The water will require to be heated to from 65° to 75°, and be fully exposed to the sun. The heat of the water should be different at the various seasons of the year, as will be found when studying the culture of the various aquatics.

Concluding Remarks.

We must here conclude this anything but exhaustive treatise on water as applied to horticulture. There does not seem to have been much research made in this important branch of horticulture, and we should like to see the subject taken up and thrashed out. Had we been able we would have liked to have made some experiments as to the precise effect of different waters on various plants; for although hard chalk water is not good for general culture, still there are plants which are decidedly benefited by it. Such water would, we should say, be beneficial to plants which must have chalk in the soil—notably, the Vine. Of course, as a rule, in districts where the water is hard there is plenty of chalk in the soil, so if you find the water particularly soft in any district look well to your Vine borders, as there will most likely be a deficiency of lime, and Grape growers know what that means.

NATIONALITY OF PRODUCTS.

On the face of the demand that all foreign products offered for sale in this country should be distinguished as such, there seems to be that only which is reasonable. When thoroughly examined, however, the demand becomes absurd. Were everything imported deceptive and adulterated, there might be some good reason for the proposal that all purchasers should know the country from whence come all possible products; but it would hardly be more easy to cast ridicule upon suggestions of this sumptuary kind than in proposing, for instance, that no one shall offer for sale flowers, fruits, or vegetables from the Continent or the Channel Islands, or even from America or the colonies, without every such place or country being stated. We seem ever to be panting for protective legislation, even for the most trifling things; but there is a limit to human endurance, and any attempt to impose conditions upon the free sale of garden produce from the Continent, for instance, would soon be scouted as intolerable.

Our international trade has become of so competitive a kind. We trade with every nation and people of the world, and we deal in every possible object which people will purchase or consume in any way; therefore it must be obvious that there must be some common-sense limit imposed to the requirements of those who so strongly demand the country marking of imported goods. Such restrictions in trade would be specially unendurable in connection with all that relates to horticulture. To require that every seedsman should declare whether his seeds were of home or foreign growth, or the nationality of his bulbs, &c., would be so absurd as to become intolerable. Demands such as these made by protective enthusiasts serve, in time, to defeat their aims and bring their cherished theories into contempt.—*Y.*

THE DAHLIA.*

The Dahlia, of which there are several species, although probably not more than one is materially responsible for the varieties now cultivated in gardens, is a native of Mexico, where it was originally found growing in sandy meadows at an elevation of 5,000 ft. above the sea, by Hernandez, physician to Philip II. of Spain; and it is consequently natural enough that the plant should have made its first appearance in Europe at Madrid, where Dahlia variabilis was flowered by Professor Cavanilles in the Royal Gardens from seed received from Mexico in 1789, the Professor naming his acquisition in honour of Andreas Dahl, a distinguished Swedish botanist and pupil of Linnæus.

At that time Lord Bute was English ambassador at Madrid, and in the same year—that is to say just 100 years ago—Lady Bute sent seeds home to the Royal Gardens at Kew, and thus first introduced the Dahlia into England. Seed was also sent in 1804 by Lady Holland, who brought it in that year from Madrid; and it was among the seedlings then raised in the gardens of Holland House under the care of Mr. Buonaniti that the two first double varieties seen in Europe were obtained.

These varieties have been sometimes referred to as the first double Dahlias; but if report says true, double flowers must have been known in Mexico long before the Dahlia was introduced into Europe at all, for in the *Floricultural Cabinet* for 1858 it is recorded that "Figures of a single and double Dahlia have been found in an old work on the natural history of Mexico, published at Rome in 1651. In this work there is a very correct figure of a double Dahlia under the name of Cocoxochitl, with violet-coloured ray florets and a very conspicuous yellow disc."

Of other species the stately Dahlia arborea is not hardy enough to be grown out of doors in this country, and is not generally considered to be worthy of house room. It appears doubtful whether Dahlia coccinea can be maintained as a good species; and although frequent attempts have been made to employ the pretty little Dahlia glabrata (of which seeds were sent from Mexico to the Royal Horticultural Society by George Frederick Dickson, and of which a good figure was published in the *Botanical Magazine* in 1840) as a means of obtaining plants of dwarf habit, the varieties raised, while sometimes of small stature, have rarely been valuable, on account of their weak flower stems, whereby the flowers, being more or less pendulous, are ineffective on the plant.

A footnote to the page on which the description of Dahlia glabrata occurs in the 26th volume of the *Botanical Magazine*, giving the reasons why the name of the plant should be pronounced "Dahlia," and not "Dalea," is worthy of the consideration of the Dahlia-growing public.

For practical purposes, therefore, the Dahlias of gardens may be regarded as varieties of Dahlia variabilis—perhaps the best-named plant in the world; and a good figure of an early variety of this unstable flower may be found in the first volume of the *Botanical Magazine*, where a large single flower is portrayed having rich velvety crimson petals (as the ray florets are generally called by gardeners for convenience) 2 ins. long, but decidedly narrow, and with a not very conspicuous yellow disc, whose diameter is hardly more than a seventh of that of the whole flower. This plant is described as having been received from France, where, about 1800, the cultivation of the Dahlia was energetically undertaken for the sake of the tubers, which were said to be eatable. They proved, however, too acrid either for man or beast, and the French growers then turned their attention to the flower, with the result that for some years the number of new varieties imported from Paris was considerable.

As soon as double flowers were obtained the singles seem to have been entirely discarded; at any rate, they disappeared from the catalogues, and the florists waged a war of extermination against the yellow eye of the natural flower.

In the *Annual Dahlia Register* for 1836 there is an interesting series of excellent coloured plates of the Dahlias most in vogue among exhibitors at that time, but of all the three or four dozen varieties figured there are only three or four that have the quilled petals that characterise the modern Show Dahlia. Nearly all the flowers are flat-petalled, being of much the same character as what are now becoming so popular as "Decorative Dahlias"; and when it is stated that Picta formosissima was frequently seen in winning stands, at any rate up till about 1840, those who have grown that "grand old Dahlia" recently, will easily realise the extent of the development of the modern Show Dahlia.

This development must nevertheless have been rapid between 1840 and 1850, for in a treatise on the Dahlia, by Robert Hogg, published in 1853, there occur some coloured plates by Andrews of some of the flowers then most fashionable, which do not differ materially, except in point of size, from the present Show type, though nearly all lack finish and refinement.

A careful examination of these plates should make it easy to disprove the statement, which has been so often made, that Show Dahlias are no better now than they were thirty years ago. If the statement were true the question would immediately arise, Why are not these older varieties exhibited? For a glance at Mr. Mawley's careful records of the Dahlias exhibited for the last six years at the National Dahlia Show, reveals the fact that hardly one of these is of earlier date than somewhere in the '70's.

Very early in the day varieties with striped or spotted flowers seem to have been obtained, but they were generally inferior in form and size to the self-coloured blooms. Presumably on this account a distinction was made between "Show" and "Fancy" flowers, so that the latter might be exhibited by themselves, and their improvement encouraged. The distinction has been a puzzling one to many beginners in Dahlia culture at various times, not only because Fancies so often come self, but because a flower with a light tip is a "Fancy," but a flower with a dark tip is not.

In the *Floricultural Cabinet* for 1860, an article on new Dahlias signed "D." begins as follows:—"'Tell me where does fancy dwell?' (this is given in inverted commas, presumably as a quotation, but the author's name is not mentioned!), for certainly it is most puzzling to tell what are the principles on which the separation has been made—white with a purple tip is a 'Dahlia,' but purple with white tip is a 'Fancy.' Very odd! However, the division is made, and there I suppose it will remain, so we must abide by it." However, the distinction served its turn, and now that fancies have been raised to the level of the best show sorts, the separation of the striped and tipped flowers from the selfs has been to a great extent abolished at the exhibitions of the National Dahlia Society.

In addition to these two classes, now merged in one under the appellation of Show Dahlias, there are three other types, recognised in these days even by exhibitors—namely, the Pompon, the decorative (or Cactus), and the single Dahlia. Of these the first has flowers similar in form to the show type, but much less in size; the second are most admired when possessing flat petals, the type being Dahlia Juarezii, which was imported (I believe) direct from Mexico, by way of Portugal or Spain, and whose petals are flat, pointed, and slightly twisted; while the single Dahlias represent the natural form of the flower in the wild state, only greatly improved in outline and substance.

The culture of all Dahlias is simple in the extreme, as they will grow in almost any soil or situation, but in the case of the show type considerable experience is needed to know which varieties should for exhibition purposes be vigorously thinned out and disbudded, and which will only thereby be rendered coarse and ungainly. For the points of merit in a show Dahlia remain the same as when first laid down any number of years ago—namely, first form, then colour, and lastly size; for it is only "when other properties are equal that size will determine the preference," and "in no instance should either form or colour be sacrificed to size" (vide *Floriculture*, by J. Mantel, F.L.S., about 1834).

There is another important point that was insisted upon by the older florists, but which has often been neglected by modern raisers to the injury of the reputation of the Dahlia as a garden plant—namely, that "the flower should be erect and stand completely above the foliage." Varieties are not infrequently met with having flower-stems so weak that the flowers are pendulous and quite ineffective on the plant. In fact, habit of growth in Dahlias of all classes is a matter which ought to obtain the most careful consideration of all raisers.

It may perhaps be of interest to enumerate the twelve best fancies and eighteen best show Dahlias for exhibition, according to Mr. Mawley's analyses of the National Show for the past six years. They are:—Twelve best fancy—Gaiety, Mrs. Saunders, Rev. J. B. M. Camm, Chorister, Flora Wyatt, Henry Eckford, Mrs. N. Halls, Professor Fawcett, George Barnes, Duchess of Albany, General Gordon, John Forbes. Eighteen best show—Mrs. Gladstone, Hon. Mrs. P. Wyndham, James Cocker, Harry Keith, Henry Walton, William Rawlings, Goldfinder, J. T. West, Mr. L. Harris, Mrs. W. Slack, T. J. Saltmarsh, Ethel Britton, Prince of Denmark, Mrs. Langtry, Prince Bismarck, Colonist, Joseph Ashby, James Vick.

The mode of exhibiting show Dahlias on green boards is regrettable, but it is not easy to see what to propose instead, so it must go.

All the other sections, however—Pompon, decorative, and single—are exhibited with very telling effect in bunches of about ten (or six) flowers each; and now that ingenious wire frames have been devised for the staging and safe travelling of the bunches, there is comparatively little trouble in exhibiting them, and it may be hoped that amateur competitors will rapidly become very numerous in the classes provided for these sections at the autumn shows.

The statement frequently made that it is not worth while to grow named varieties of single Dahlias because just as good may be obtained from any packet of seed is absurd. Seedlings may be raised without the least difficulty by the thousand, but not one in a hundred will be worth growing, and intending exhibitors are counselled not to depend for flowers to show upon their own seedlings.

Among singles, no one should omit to plant Amos Perry, Enchantment, Formosa, Mr. Kennett, Walter Ware, and Mrs. J. Coninck; and some of the most beautiful of the decorative Dahlias are Charming Bride, Panthea, Prince of Wales, Henry Patrick, King of Cactus, Empress of India, Lady Marsham, and Mrs. Hawkins, in addition, of course, to Juarezii.

The year 1889 being the centenary of the introduction of the Dahlia into England, the National Dahlia Society propose to hold a Dahlia Conference on the first day (September the 6th) of their great exhibition of Dahlias at the Crystal Palace, when it is desired that there should be displayed as complete, and if possible historical, a collection of Dahlias as can be gathered together. It is confidently hoped that all florists will afford the National Dahlia Society their heartiest support, and then there will be no doubt that the celebration of the centenary of one of the most invaluable garden plants ever introduced will be worthy of the record and development in English gardens of what has been not inaptly styled the queen of autumn flowers.

* A paper read at a meeting of the Horticultural Club on the 9th inst. by Mr. T. W. Girdlestone.

NOTES FROM SCOTLAND.

Vegetable Marrows.—Where these have to be grown without permanent glass protections, failures in securing a supply of fruits may result from the plants being raised too early in the season, together with being pushed on rapidly in warmth, and finally planted in their fruiting quarters without being previously hardened off thoroughly, and in some cases left without even temporary protection. In cold backward districts where planting out is better left till about June 1st, the present time will not be too late to sow. Good seeds may be placed singly in 5-in. pots, putting them in moderate warmth till the young plants are well up, and gradually inuring them to cool treatment in a frame near the glass. Plants raised at this time and so treated will be much more likely to withstand the fluctuations of temperature they may have to endure afterwards, and yield a fair crop of fruit, than such as are raised some weeks earlier, and have become stunted or injured from too hasty planting out. Careful and regular attention as to watering must not be neglected, and occasional applications of tepid liquid manure when the plants are in their fruiting quarters will be of much benefit to them.

A simple but good system of raising Marrows in the open is by taking out a trench, as if for Celery, on a warm border, and after filling it with good manure, the soil is replaced, and the Marrows planted on the ridge thus formed. If a hand-glass can be placed over each plant for a few days so much the better. I have seen fine Marrows obtained from plants grown on a vinery border, but this is a most objectionable practice, more especially if roots are plentiful near the surface, as it is desirable they should be, and it is needless to say that if persisted in results more or less injurious to the Vines will be sure to follow. We have usually been fairly successful in the cultivation of Vegetable Marrows on dung beds without permanent glass protection; but hopeful of better results we have resolved in future to take advantage of parts of a pit recently erected for forcing Potatos, when these were lifted at the end of May. The bed of dung and leaves made up for Potatos, with the addition of a top-dressing of good soil, will form an excellent bed for growing Vegetable Marrows also. The variety known as the Long-fruited Marrow is commonly grown in the open, but the superior quality of Moore's Cream renders it a favourite with some growers.—*D. Mackie, Ayrshire.*

FLORICULTURE.

The Florists' Laced Pink.

If any reward is merited by me for the endeavours I have made towards reviving a more general interest in favour of the florists' laced Pink, I am fully recouped by the generous article of Mr. E. Ranger Johnson, which appeared in your last week's issue. I have not the pleasure of Mr. Johnson's acquaintance, but I venture to believe, from the general tenour of his remarks, coupled with his very liberal offers as to sharing the work of the secretaryship and becoming an annual subscriber, &c., that the long-hoped-for "National Pink Society" will, with his valuable assistance, now be established.

I have written to Mr. Barlow, asking him to see Mr. Johnson and Mr. Harry Turner when he is in London this week and as Mr. Horner will be there too, with our friend "Ben" Simonite, a committee of management can be easily arranged, and steps taken for the issue, as soon as possible, of a small schedule of prizes, &c.

With regard to the Pink "being strong enough to run alone," I would suggest that the exhibitions of Pinks this year be held in connection with some general shows in London, Birmingham and Manchester. The Pink time would be rather late for Pansies, but, nevertheless, a fair display of the latter might be produced. I exhibited Pansies with Pinks for many years in July, and invariably staged tolerably good specimens.—*James Thurstan, Finsbury House, Richmond Road, Cardiff, April 22nd*, 1889.

Gold-laced Polyanthuses.

With reference to recent remarks in your columns on the raising of new varieties, I may say that Mr. Adam Oldham, of this town, has been very successful in raising good new varieties, as will be seen from the following lots exhibited at the last Manchester Auricula show. Black, pan of three—*Black Cap, *Black Knight, and Exile; second pan of three—James Lees, and seedlings of same. Red, pan of three—*Mrs. F. D. Horner, and seedlings of same; second pan, two seedlings, viz., Regina and Ensign. Those marked with an asterisk all obtained First Class Certificates at the same show, and Exile was the only one shown of which Mr. Oldham is not the raiser. Mr. Brockbank, of Didsbury, near Manchester, now holds the stock of Black Cap, Black Knight, Regina, Ensign, and Mrs. F. D. Horner. In addition to the above, Mr. Oldham has some hundreds of seedlings, some of which will be shown at Manchester early in May.—*J. L., Middleton, near Manchester.*

CLIVIA MINIATA.

The merits of this plant for general decorative and exhibition purposes have been well recognised for a number of years by those who have known its value, and wherever grown it has almost invariably become a favourite, being just one of those things which are aptly described as "everybody's plants." It is suitable alike for the professional cultivator and the amateur, growing and flowering, with ordinary care, in either a greenhouse or window; indeed, for the latter purpose, it stands on a par with the Indiarubber Plant, the Aspidistras, and some of the Palms, which are better suited than many softer-foliaged plants often grown for a similar use. The foliage of the Clivias—more familiarly known, perhaps, as Imantophyllums—can so easily be cleansed by washing with clear water and a sponge, and as they will thrive for a long time in the same pots, they give but little trouble beyond watering and keeping the foliage clean.

When looking through a collection of improved varieties, it strikes one as being somewhat strange that this plant should have been under cultivation so long without any marked advance towards improvement being effected in it, seeing that in recent years it has proved itself amenable to improvement, both as regards habit of growth and size and form of the flowers. Although it will be urged by many that there is no decided departure in colour from the original type, there is a marked tendency towards the production of pure yellow selfs on the one hand, and scarlets on the other, so that in a few more generations of seedlings either of these results may, and most likely will, be attained. When this comes about they will be formidable rivals to the present race of florists' Amaryllis, over which they have the advantage of being evergreen, and the broad massive recurved foliage of some varieties gives them no mean claim to the title of decorative foliage plants.

The credit of making the first advances towards the improvement of this plant must be conceded to continental nurserymen, although I well remember seeing in the Dulwich Nurseries somewhere about the year 1874 a batch of seedlings of a very promising character, but have no knowledge as to what ultimately became of them; still, for the present revived interest in the plant we have, no doubt, to thank our continental friends, who have been more keenly alive to the merits of the plant than we have ourselves. But if what can at present be seen at the nurseries of Messrs. J. Laing & Sons, of Forest Hill, is to be taken as a fair sample of what is being accomplished, there is much reason to hope for still further improvement.—*W. B. G.*

DOUBLE PRIMROSES IN POTS.

So far my attempt to grow double Primroses in pots for exhibition purposes has not proved so successful as I had hoped. In September last I made up nine or ten pots of different varieties, putting two or three strong single plants in a 7-in. pot to make up a good stool. With only one exception they started into a free growth and have made excellent crowns, but they are not only late in flowering, but they do not promise to bloom so freely as I had hoped. The old double Crimson Velvet began to bloom in November and December, and I had to pick out the buds. It then had to put forth fresh crowns to make spring blooms, and the buds of the latter are only just discernible.

I think I made the mistake of keeping the plants too long in a cold frame open to the north, and they should have been sheltered in a north house sooner, and kept out of the reach of cold winds. I think also, only autumn, winter and spring is necessary in order to get the plants well established in the pots, and this neutralised a good head of bloom. Now it is my intention not to disturb the plants for a year to come. They are in a good compost that can carry them through another season, and I shall presently top-dress the plants with some well-decomposed manure, and then plunge them in a bed of coco-nut fibre for the summer. I intend to do this in the hope that the plants will yield good heads of bloom next spring. That is my hope and desire. Whether the plants will continue to prosper and live through the summer remains to be seen; if they do—and they will have all the attention I can give them—then I shall hope to score a success a twelvemonth hence.—*R. D.*

USEFUL SHRUBS.

Hibiscus syriacus, or Althæa frutex, as it is quite as often named, is not only one of our most valuable late autumn-flowering shrubs, but it is, likewise, one of the few that seem well able to do battle with the deleterious effects of an impure atmosphere. In many of the London gardens, and where the air seems to be constantly vitiated by emanations from shafts and chimneys, this pretty shrub may be seen in perfect health, with plentifully-produced foliage of the richest description, and quite a wealth of its showy flowers. Then the leaves are not only of an enticing shade of green, but they are beautifully shaped, somewhat after some of the finer Maples, being three-lobed and finely toothed.

Fortunately it is not a difficult subject to deal with either, for it grows quite freely in soil of very ordinary description; it may be trimmed in at pleasure, and suffers not thereby, and withstands frost in a very commendable manner. It is a shrub of which town residents should procure a lot—that is, if they have a bit of garden ground that they want to look rural and pretty.

The Wayfaring Tree (Viburnum lantana) is another shrub of no small merit, but one that unfortunately does not receive that amount of attention which its merits as a fruit and flower-bearing shrub entitle it to.

For town planting it is a boon to have such a shrub, for it succeeds in some of the most filthy and smoky districts of our largest cities. Then it blooms with great freedom, the flowers being succeeded by an immense wealth of the brightest and showiest of berries, and is as readily propagated as is a Privet or a Willow. No soil comes amiss to it, and it will flourish quite as well when hemmed in by equally fast and tall-growing plants as when allowed plenty of room.

In the Wig Tree or Venetian Sumach (Rhus cotinus) we have quite a neglected shrub, but one that for general usefulness is hardly surpassed. It is highly ornamental whether in flower or fruit, the feathery inflorescence rendering it of quaint and curious appearance, particularly when a well-grown plant of large dimensions is brought under notice, and is peculiarly well suited for planting in our large streets and squares of our larger towns and cities. A good sound loam, not too damp nor yet too dry, suits its requirements to perfection, but that it is not at all particular in choice of soil a look at some of the well-developed specimens in our nurseries and botanic gardens clearly demonstrates.

The Stag's Horn Sumach (R. typhina) though almost equally rare as the latter, must on no account be omitted, for it is a plant of pretty and curious appearance, runs about with perfect freedom, and is as hardy a subject as could well be desired. For town or seaside planting it is a most valuable adjunct to our rather short list of suitable plants for such situations.

Leycesteria formosa is a noble hardy shrub with hollow stems, large ovate leaves, and rather inconspicuous white or purplish flowers in pendulous racemes. More conspicuous than the flowers are the deep purple foliaceous bracts, these imparting to the shrub a distinct and very ornamental appearance. It is a capital town plant, shooting out fresh and green after being subjected to a winter's incessant fumes from the stacks and chimneys of the factories and dwelling houses of our great metropolis. Hardy it is as a Gorse or Birch, of unusually free growth, readily propagated, and altogether a valuable shrub for general planting.—*A. D. W.*

FRUIT-GROWING STATISTICS.

I should not be acting honestly in this matter if I were to withhold my opinion that most of the statistics lately put forward in favour of fruit growing in England are not worth the paper they are written on. They are ample enough on the score of returns, but meagre in the extreme when dealing with expenditure. But I would also distinctly say that I make no charge of wilful misrepresentation against the authors of them. I know from experience how carelessly such statistics are often made up, in answer to inquiries relating to the past, and how eagerly and inconsiderately they are received when they tend to strengthen the preconceived opinions of the inquirer. And beyond this, some men delight in making themselves appear cleverer than their neighbours, and to this end will give forth the results of one profitable year. But as one swallow does not make a summer, by the same rule of argument, one year's crop cannot be taken as an estimate of the future yearly income.

A heavy crop of one year is often succeeded by a light one in the next, and to place this estimate on a sound basis, the average of three, four, or five years should be taken. Statistics, to be of any value, should begin at the beginning. An account should be kept on both sides, from the first shilling spent up to the period when the trees give a marketable return. The sum total to this period may be treated as capital sunk. After this, the average of not less than four years should be taken as the probable yearly returns. Or the matter may be looked at in another way. The capital expended may be set down as money borrowed, on which a fixed interest is to be paid till it is returned. An orchard of the larger fruits may be estimated to last in a good condition from thirty to fifty years, according to the soil and management. Fruit trees come into bearing sooner, and die sooner, when planted on sandy and light soils than on soils of a heavier or stronger nature.

What I have advanced, however, should not discourage the planting of fruit trees. On the contrary, if I have been understood as I wish to be, fruit culture in England may be judiciously extended to a very considerable degree; but it should be guarded and guided by the appropriate selection of climate, soil, sorts, and, above all, a high system of cultivation directed by a knowledge of the business. With regard to the question of supply and demand, I believe that a much larger quantity of English fruit would meet with a ready sale if put before the public in a tempting state. I may also say that I am clearly and decidedly of the opinion that there are thousands upon thousands of acres of land in Great Britain, at present bringing little or no profit to owners or occupiers, which, if planted with fruit trees, might be made to return a good profit to both. Not that I think large fortunes are to be made by the enterprise, but that a fair remuneration will be secured for the outlay of capital, and the application of knowledge, and skill. Fruit-growing as a recreation, or for one's own use, is one of the most fascinating and diverting of occupations, and may be pursued with satisfaction by the uninitiated; but fruit-growing for

profit is a different thing. Here knowledge is wanted. The possession of it, rightly applied, will be attended with success; the absence of it with failure. It is the height of folly to suppose that this, any more than any other business or profession, can be made profitable without preliminary instruction and training.—*From a paper by Mr. William Paul, read before the Society of Arts.*

TOMATOS AND POTATOS IN OLDEN TIMES.

When we speak of large or small quantities it is necessary to make a comparison in order to be intelligible. Joseph Sabine, speaking of the Tomato or Love Apple in 1819, says, "The great use which has been made of the Tomato of late years for culinary purposes, has occasioned it not only to be regularly grown in private gardens, but has also rendered it an object of cultivation for the market of the metropolis." He might have used somewhat similar language at the present day, notwithstanding the enormous quantities that are now annually grown for the London markets alone.

In 1583 it was cultivated on the Continent, and eaten dressed with pepper, salt and oil, and sometimes in sauces by the Italians and Spaniards. Gerard, speaking in 1597, and Parkinson, in 1656, say that in England the Tomato was kept solely for ornament and curiosity; but in Sabine's time it was eaten when fresh in various ways in soups and sauces, and its juice preserved in the manner of ketchup for use in winter. The fruit was described as imparting an agreeable acid flavour to the ingredients in which it was mixed; but, as in the case of the Potato, there were prejudiced people who looked upon Tomatos with a considerable amount of suspicion, because they thought them unwholesome on account of "their great moisture and coolness, and that the nourishment they afford must be bad."

Phillip Miller, of the Chelsea Botanic Garden in 1752, described what he considered to be even distinct species of Tomatos, but a perusal of his descriptions shows that some of them were not Tomatos at all, or very doubtfully so, while the seventh kind was the common Potato, as then cultivated. One of the species was the Cherry Tomato, of which there was a red and a yellow variety even in those days, and both of them were cultivated for medicinal purposes. His second species he described as "Lycopersicon caule herbaceo, hirsutissimo, foliis pinnatis, incisis, fructo compresso sulcato." In the last three words—meaning with a compressed furrowed lip—we may recognise the Large Red Tomato as grown at the present day, or that from which the latter is directly descended.

Some idea of the quantity of Tomatos grown around London about 1818 may be gleaned from an account given by Mr. John Wilmot, a market-gardener at Isleworth. In that year he grew about 600 plants, yielding 400 half sieves of fruit, or in the aggregate about 8,000 lbs. He was in his day one of the largest growers. Tomatos were then mostly grown out of doors, and that year being particularly fine the supply exceeded the demand so that the London markets became glutted. The same grower calculated that on an average each plant produced 20 lbs. of fruit, while some produced 40 lbs., and many individual fruits weighed 12 ozs. His method was to plant seedlings which had been raised under glass at the foot of banks generally utilised for growing Lettuces and Endive. This he did about the beginning of May, and as the plants grew they were pegged down on the sloping banks of soil.

Miller considered that the Potato should be included in the genus Lycopersicon, because its fruit was divided into several distinct cells, although he says that Linnæus transferred it to Solanum, under which it had originally been classed. Speaking about 1752 he said that the plant had been much propagated in England within the previous thirty years, but although it had been introduced a hundred years previous to that, it made but slow progress owing to the prejudice that existed against it. He continued, "These roots being despised by the rich, and deemed only proper food for the meaner sort of persons; however, they are now esteemed by most people, and the quantity of them which are cultivated near London, I believe, exceeds that of any other part of Europe." Propagation was always effected by "roots," because seeds rarely ripened in England. He knew only two varieties, viz., a white and red, having correspondingly coloured flowers. —*F.*

JACK-IN-THE-GREEN PRIMROSES.

It is certain that some of the curious Primroses with an enlarged and leafy calyx, have been in existence for over three centuries, as they are mentioned by D. Rembert Dodoens, in his *Herball*, which was published in 1578. Since then, however, many forms or slight variations on the original have been obtained by seed raising; and both Primroses and Polyanthuses are subject to similar and peculiar developments of the calyx, which may be coloured like the corolla, as in the Hose-in-hose forms, or large and leafy as we see in that named Jack-in-the-Green. All the five segments of the calyx form a background, in the middle of which the corolla is seated. A fine group of this kind was exhibited by Mr. R. Dean, of Ealing, at the Drill Hall, Westminster, on the occasion of the last meeting of the Royal Horticultural Society. For decorative purposes they cannot be compared to his hardy Primroses and Polyanthus with normal flowers; but a considerable amount of interest will always attach to these singular forms, which in the opinion of the botanist would be considered as reversions. The upper and central figure of our illustration represents Jack-in-the-Green. The other flowers show a number of other variations akin to the latter, but less important. Pantaloons are a development on the Cowslip or Garden Polyanthus, where the leaves at the top of the common stalk are greatly enlarged, while the calyx segments of the individual flowers are also enlarged and leafy.

Jack-in-the-Green Primroses.

Planting Out.—All must be hurry and bustle in the indoor department to get the necessary quantities of cuttings rooted and ready for planting out; but there are many things which might be conveniently planted out now, and the planting of such things as Gladioli, Pinks, Carnations, and Picotees must not longer be delayed.

DOMESTICATED PLANTS GROWN FOR ORNAMENT.

When flowers are cultivated purely for amusement and decorative purposes, we probably reach the highest phase of horticulture as a development or accompaniment of civilisation. Probably this has always been the case with highly civilised nations. Single species of plants, when grown for a great number of generations, have given rise to a marvellous number of variations, to which there seems practically no limit. This is well exemplified in the Auricula, Chrysanthemum, Antirrhinum, Carnation, Tulip, Hyacinth, Dahlia, Camellia, Cyclamen, and others, which are all descendants from a single species, or mostly so. Reversion is endless, and is the expression of the excessive intermingling of the blood, so to speak, of different varieties by cross-breeding in those plants that have originally varied spontaneously under the influence of cultivation. The flakes, flames, feathers, stripes, mottlings, and so forth, met with in most of the above-mentioned plants may be described as the colours of various parents gone mad in the progeny. Carnations, Picotees and Antirrhinums are good illustrations of this. Exhibitors have gained prizes for different varieties of Antirrhinums where (to my knowledge) different forms have been obtained from the same plant. Pure self flowers are frequent on many of these plants usually or normally bearing striped or variegated flowers.

The vast number of Chrysanthemums now in this country have been obtained by cross-breeding and selection, and coloured varieties by sporting. Those in existence now have almost supplanted those in cultivation fifty or sixty years ago, as a reference to names indicates. As an instance of the tendency to sport, the past exhibitions amply demonstrate. Princess of Teck is a white variety, suffused with pink, and has sported into Hero of Stoke Newington (rosy pink), Mrs. Norman Davis (yellow), Robert Gibson and Lady Dorothy (shades of buff-yellow), and Lord Eversley (pure white). Mrs. W. Shipman, fawn colour, was a sport from Lady Hardinge, silvery rose, and last summer reverted to Lady Hardinge, or something almost identical, in several collections. Madame C. Audiguier frequently sports into several forms, even on the same plant. The double Chinese Primulas, as grown by Messrs. Sutton & Sons and Messrs. H. Cannell & Sons, are of different races or pedigrees. Those of the first-mentioned firm are loosely double or semi-double, and have all been derived evidently from cross-breeding and selection, whereby the tendency to double was infused into single varieties of different colours. Thus Reading Blue has leaves of the ordinary form, while Fern-leaved Reading Blue has the colour of the first with Fern foliage. In like manner there are plain-leaved and a Fern-leaved double blue varieties. The supernumerary segments appear to be outgrowths from the stamens, as the upper and most highly-coloured surface is reversed. The Messrs. Cannell's strain of doubles is different, and where fullest, not only the stamens, but sometimes the carpels are affected, even if they do not become petaloid.

Double Stocks are not perpetuated from doubles, but from those that exhibit a tendency to become so. When fully double the sexual organs are entirely destroyed. A remarkably similar case occurred recently in the case of Rhododendron balsamæflorum carneum, a flesh-coloured hybrid fading to yellow, with flowers as double as a Gardenia or Tuberose. The pollen parent exhibited a slight tendency to become double by developing one or two slightly petaloid stamens low down in the tube of the flower. R. Primrose, a soft yellow-flowered hybrid, was the result of crossing Maiden's Blush with R. Tyermanni, a small red-flowered species; but in the following cases the prepotency of the male parents in all cases determined the colour of the flowers of the progeny.—*F.*

The Amateurs' Garden.

Sweet Peas.

In the warm and dry atmosphere of the southern counties it is necessary to make successional sowings of this useful annual, in order to ensure a continuous supply of flowers, because the latter are liable to come into bloom all at once, owing to the stunting of the plants in dry soils. Towards the north of England, in Scotland, and those districts subject to a heavy rainfall, Sweet Peas grow and flower luxuriantly until cut down by the autumnal frosts. Sowings may now be made in any district, and in private gardens they might be more extensively employed to advantage than they are at present. Hedges may be made of them, staking them neatly, so as to screen those parts of the garden devoted to vegetable-growing from the rest. If desirable, a wire fence or neat trellis-work of some kind or other may be made and covered with Sweet Peas. Such may be tolerated in the close vicinity of the dwelling-house, and prove very ornamental and effective. In gardens where the soil is liable to get very dry during periods of drought, a little extra preparation may be made in sowing the seeds. Take out a trench about 10 ins. or 12 ins. deep, and in the bottom of this place some manure. Cover with soil, and sow the seeds a little below the general level of the ground. As the seedlings germinate, they may be gradually earthed up, always, however, leaving a channel for applications of water which may be necessary during summer. The trench will also favour the retention of rain-water there, rendering the plants when in full flower less liable to suffer from drought.

Calceolarias.

Where frame accommodation is limited, and some lights are occupied with bedding kinds, relief can be obtained by planting out Calceolarias in the places where they are intended to flower. Golden Gem and Floribunda will take no harm now if they have been well hardened off by the removal of the lights during the day. Some of the dark, and especially the large-flowering kinds used for bedding purposes, might be kept under cover for a little while longer; but little danger would accrue to them even now, as they are all tolerably hardy. One advantage of early planting is that the roots take thorough possession of the soil before drought sets in, so that they are better able to make growth, as well as flower. In hot dry soils they are liable to exhaust themselves, and to die by excessive flowering, without a due proportion of stem and foliage. In the event of rough weather intervening after planting them out, a Spruce branch or two stuck in amongst the plants would afford them sufficient shelter.

Antirrhinums.

Rooted cuttings of named plants or those saved from last year's selection should be planted out in beds without further delay. They are so nearly hardy that no harm will accrue to them now. A lesson might be taken from the fact that self-sown seedlings on dry banks and old walls outlive the winter in the most exposed positions. This is naturally their habit, and only the plants cultivated in rich moist soil are liable to die out. A similar case may be instanced in Carnations, and especially those fine kinds whose constitution has been weakened by high-class culture, and the selection (from the florist's point of view) of highly improved kinds, and also the coddling in frames and greenhouses to which they are generally subjected. There is a long season of growth before the plants if well-rooted cuttings are planted out now, so that except in the case of very dwarf kinds, they should be planted 1 ft. apart each way in the beds. Seedlings sown in July or August last may be treated in the same way. They cannot be depended upon to produce fine flowers all round, even if the seeds have been selected from the finest named kinds, although for ordinary decorative purposes a large percentage may be very good. Seedlings sown in heat some time ago may also be expected to flower this year tolerably well, provided they are about ready for planting out now. The best time to sow, speaking generally, is in July or August as above mentioned.

Box Edgings.

In some soils these are liable to get out of order, and become blanky by the dying out of pieces unless frequently transplanted. The common tree Box (Buxus sempervirens) is the best to plant in cold, heavy clay soils, as it is less liable to die out than the dwarf Box (B. s. suffruticosa), which is the most extensively cultivated variety for edgings, not only in British, but also in Continental gardens. The present is a very good time to lift and relay Box edgings. The best plan is to lift the whole along one side of any straight or even curved walk, and prepare the ground for relaying the Box by digging the soil one spit deep and quite evenly, then treading it down equally all over. Make up any hollows that may occur with other soil off the adjoining borders. Lay down a line, which should be stretched till it is perfectly tight. Level the soil with the spade, and see that the line rests on it equally throughout its length. This will apply where the walk is level, or where it slopes in any given direction. In going round corners pegs will be necessary to make the line follow a true and regular curve. Then with the spade cut out an even-sided trench, cutting straight down by the side of the line. The Box must then be prepared by breaking it up in small pieces, preserving some roots to each if possible. These pieces should then be laid evenly against the line with their roots in the trench. Fill in the soil and tread it down evenly. After completing these operations, a coating of gravel may be given to the walk, which should then be rolled.

Gardening Miscellany.

Primula cortusoides Sieboldii.

The Japan representative of P. cortusoides is by far the finer of the two, and when its hardiness is thoroughly recognised, we may expect to see it in every garden. There can be no question that the flowers come larger and finer when grown under glass than in the open air; but that need not deter any grower from having it in his garden, where it will be dwarf, and appear as sprightly as the best of spring flowers. Whether grown in a greenhouse or in a cold frame, it must be kept as cool and as airy as possible while close to the glass to prevent the petioles and the flower stalks from getting drawn. Being thoroughly deciduous it loses the whole of its leaves early in autumn in the southern counties, and remains naked till the following spring; but no fear need be entertained for its hardiness. Many improved varieties have been in cultivation for some years, but there is still an open field for the hybridist to improve old, and evolve new kinds. It is essentially a subject that may be grown by everybody, as when planted in the open border or on the rockery it will take care of itself for years. Messrs. Ryder & Son, of Sale, had a splendid collection at the Drill Hall on Tuesday.

Calyptrogyne Ghiesbreghtiana.

This beautiful Palm is hampered with several synonyms in gardens, including Geonoma Verschaffeltii, G. Ghiesbreghtiana and G. magnifica. We noticed some young specimens of it the other day in the nursery of Messrs. J. Laing & Sons, Forest Hill. It is notable for its dwarf habit, even in the adult state. The leaves are pinuate, arching, with numerous very unequal-sized pinnæ when the plant has attained some size. The segments are notably unequal in size, and blunt at the ends as if artificially cut short. These peculiarities are even more conspicuous in the young state, where the pinnæ are few and broad. The terminal lobe is deeply bifid, or divided down the middle, a feature which is characteristic of other species; and in young plants the whole leaf may be reduced to this two-lobed state. The young expanding leaves, and even till they have attained some size, are of a bronzy hue. It is a native of Mexico, and a highly ornamental species for stove culture.

Antholyza æthiopica.

Very little heat is required to grow this South African plant to have it in perfection at this season of the year, as may be seen in the case of some plants stood in the Peach house at Chiswick, where the trees have not yet been subjected to forcing. It is a vigorous-growing species, with stems ranging from 2 ft. to 3 ft. high, bearing at the top racemes of very curious, gaping, and highly-coloured flowers. They are tubular, curved, with the upper segment scarlet, not only to its base, but to the base of the tube; it is also about twice as long as the lower side of the flower, which is greenish yellow, and made up of the other five segments. All the lower part of the stems is furnished with strong-growing, sword-shaped, bright green leaves, very similar to those of Tritoma aurea; if anything, they are stronger even than those of the plant named. There are several species in cultivation, but with the exception of that under notice they are seldom seen, and A. æthiopica itself is not common. We have occasionally seen it grown and flowered in the open border, where, however, it is liable to get hurt from late spring frosts.

Hibiscus mutabilis flore pleno.

It is interesting to know that this plant is still grown in Britain, as we had evidence from a specimen sent us by a correspondent. The wild plant is a native of the East Indies, China and Japan, and was originally introduced in 1690. Before that, in 1632, it was raised at Rome from seeds imported from the West Indies, where, however, it was not a native, but had been largely grown there for the beauty of its flowers, which were nearly always double, just as in this country. Since 1690 the plant has no doubt been lost and re-introduced several times. Although double, only a few of the great mass of stamens have been transformed into petals, and seeds are therefore produced by such flowers as readily as by the single ones. Therefore the double-flowered form of the plant being the more ornamental, is by far the most commonly cultivated. The name Mutabilis has been applied to the species on account of the curiously changeable character of the flowers, which open in the morning of a greenish hue, soon changing to white. About noon they become pink, and towards evening red. They are not long lived. The specimen sent us was pink when it arrived, and gradually became red.

Drosophyllum lusitanicum.

While most closely allied to the Sundews, this plant s quito distinct in several respects, not only from all known Sundews (Drosera), but in the manner of folding ts leaves in the bud, in which it differs probably from all other members of the vegetable kingdom. They are linear, and when unfolding exhibit the peculiar anomaly of being rolled backwards, not inwards, as in Ferns, some of the Cycads, and other plants of that kind. They are densely covered with glandular hairs, furnished at all times with a crystal-like secretion at the tips, but they are devoid of the movements exhibited by British and other Droseras when irritated. The species under notice is the only one known, and is a native of Spain, Portugal, and the north of Africa, where it inhabits dry sandy places and rocks, both on the sea-shore and inland. The bright yellow flowers are borne on branching scapes that rise above the foliage, which forms a loose rosette on the top of short, naked, sub-shrubby-looking stems. A plant has been flowering for some time past in the cool porch of the Orchid house at Kew. It is one of the noted insectivorous plants.

Barlow and Horsefield.

Among the people I have met I may mention William Barlow, of Rooden Lane, who raised Delphinium Barlowii, which still holds its own in spite of the great influx of Continental Delphiniums, and I think it will do so. I shall never forget in 1848 a group of some half dozen plants we had in bloom at the same time. It was one of those sights we never forget. They impress themselves so much upon us that they form almost an era in our lives. He also raised a very fine Dodecatheon, the very finest I ever saw, which he called Barlowii. It was the result of a cross between Media and Elegans. In justice to Horsefield we ought to mention him. He may be said to have been our friend Percival's tutor to a great extent. He (Percival) is well known to most of you. Horsefield raised the Narcissus Horsefieldii, which is now, if not the finest, at least among the first half dozen, in spite of the Narcissus maula which has sprung up. He saw a large pod, and in that respect it reminds me of the fluke Potato. This pod of seed was on a plant of Narcissus bicolor, and he gathered it. He sowed this seed, and among the varieties there came the Narcissus bicolor Horsefieldii. It was considered to be a sort of N. bicolor grandiflora, and no great notice was taken of it, but after his death it was sold out at 1s. 6d. a bulb, and it raised between £3 and £4 for the widow. It was therefore put in circulation, and now all of you can tell what a large circulation there has been of it since, and that was raised from the humble source of Horsefield's garden. He was a man no one could help but like. He was possessed of a very large amount of information, and he had also the capacity of imparting that information in an impressive and a very pleasant manner. I remember a good many talks with him when I was a big lad. He further raised a Tiger Lily, not as we understand it, but Tigridia pavonia. It had a yellow ground, which was unique at that time, and he sold it to Watkinson, and Watkinson sent it out under the name of Watkinsonia, a thing which ought to be deprecated, for whatever may be the future of a novelty, I think if it is worth naming, it ought to bear the name of the raiser.—*From a paper on "Garden Gossip," by Mr. Barlow.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

Cœlogyne cristata and its varieties, having had a short rest since flowering, are now commencing to grow, and if it is absolutely necessary to give any of them more root room, the present is a very convenient time; but it must be borne in mind that they dislike pulling about, and when thoroughly broken up and re-potted they take a couple of seasons to become well re-established so as to flower as freely as before. Small plants which are much pot-bound will be greatly benefited by giving them a shift without disturbing them. Lycaste Skinneri may now be potted if the young growths are pushing. We use nothing but rough leaf-soil to grow ours in, and leave plenty of room for water, as we find they do well in it, and are potted annually about this time. They will thrive well in peat and sphagnum, or in the former alone, the main points being good drainage and copious waterings while in active growth. The young growths are very liable to be infested with green-fly, and as the plants dislike fumigating, the best plan is to keep them clean by dipping into tobacco-water made weak, afterwards laying them on their sides to drain.

Odontoglossum Rossii majus, O. aspersum, O. Humeanum, O. blandum, and O. nævium majus may also have larger pans or baskets if they require it, using good peat and sphagnum; and here I would mention the advantage of washing the sphagnum, after the rubbish has been picked out, in warm water. I am convinced that we have been very much more free from slugs, both small and great, since we adopted the plan of washing our sphagnum thoroughly in water at a temperature of 120° or 130°. It is useless to try to keep slugs down if a fresh batch are introduced in the moss. Some of the varieties of Dendrobiums which are later in flowering will require attention as they go out of flower, and this is a good time for a general look round at the various odds and ends which may require re-potting, and which have been put on one side through pressure of work caused by potting a quantity of things in early spring.

Oncidium tigrinum, having enjoyed a five months' rest, with Odontoglossum grande, O. Insleayi, O. I. splendens, and O. I. Leopardinum, is now on the move, but must be watered sparingly for a week or two. They greatly benefit by a long drought. After the bulbs are thoroughly finished keep them at the coolest end of the Cattleya-house, or warmest end of the cool-house, which with us are about the same.

Pilumna fragrans and P. nobilis, two very useful plants for flowering in early spring, well repay a little attention being bestowed on them, and really are much prized by many amateurs, as they are easily grown, and seldom fail to flower.—*W. P.*

Cattleya Mendelii, Arddarroch variety.

A plant was shown by Mr. R. C. Fraser, gardener to R. B. White, Esq., Arddarroch, Gærlockhead, at a meeting of the Royal Horticultural Society on Tuesday last, when it was awarded a First Class Certificate from the Orchid Committee. The sepals are spreading and white, while the broad petals stand nearly erect, are pure white with a faint tint of blush at the base, and beautifully crisped and undulated at the margin. The lip is large, well expanded, richly crisped round the margin, and pure white with a pale yellow blotch in the throat, and striated with orange lines. The variety is very much akin to C. M. Bluntii, and was shown under that name.

Cypripedium nitidissimum.

In general appearance this hybrid resembles C. grande, but the structure is considerably different. It was obtained by crossing C. caudatum with C. conchiferum, itself a hybrid. The sepals are large and yellowish, reticulated with brown. The petals are rosy, greenish towards the base, and droop almost perpendicularly downwards to the length of 1 ft. The lip is very large, and resembles the male parent in shape, while it is of a straw-yellow, closely reticulated with brown. The leaves are of great size like those of C. grande, and of a deep shining green. A plant was exhibited by Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, at the Drill Hall, Westminster, on Tuesday last, when a First Class Certificate was awarded by the Orchid Committee.

Oncidium concolor.

A very fine variety of this showy species has been flowering lately in the collection of Mr. P. McArthur, of Maida Vale. The plant, a small one, was imported with Oncidium Marshallianum, and bore a spike of five flowers of about three times the size of ordinary forms of O. concolor, and exceedingly pure and bright in colour.

THE GARDENERS' CALENDAR.

THE STOVE.

Aroids.—Every encouragement should be given to the fine-leaved Alocasias, such as A. Thibautiana, A. Veitchii, A. Lowii, A. metallica, and others, as well as to Anthurium crystallinum, A. Veitchii, and A. Warocqueanum, so as to get as fine a development of the foliage as possible in the early part of the season. A high temperature with a moist atmosphere can with safety be given now; and the third condition—namely, plenty of light—we may reasonably expect at no distant date, although for some time past sunshine has been an exeeedingly scarce commodity. The plants named require shading in bright weather, so that the want of sunshine for these at present need not be much deplored. Later on, however, when the leaves are attaining a good size, stronger light would be a great advantage to consolidate the leaves, and make them more durable for next autumn and winter. Whenever flower-spathes make their appearance have them removed at once, as they draw a large amount of nourishment from the reserve stores of the plant, and greatly interfere with a free and vigorous development of the foliage. Encourage a free development of the fleshy roots by copious supplies of water.

Poinsettias.—If the prunings of Poinsettias were preserved when the old plants were headed down, and then placed in coco-nut fibre in the propagating-house, they will now furnish cuttings for an early batch of plants. These will require somewhat different treatment from that usually given to cuttings inserted later on. The tops may be once stopped, which will favour the development of two or three shoots, furnishing the same number of heads of bracts, which can hardly be expected to attain the same size as those from single-stemmed plants, but the combined effect of a group of such plants is very effective. For a similar reason many cultivators preserve the old plants, which they head well down and grow on again. Such plants must not be allowed to become pot-bound till placed in their flowering pots.

THE GREENHOUSE.

Calceolarias.—Attend to these now in the matter of watering, ventilation, and a proper exposure to light. During bright sunshine, however, a little shading is advantageous, and enables the plants to be kept a much greater length of time in good condition. Their soft, watery, quick-growing leaves soon get spoiled if the plants are crowded. Fumigate on the slightest appearance of green-fly, or as a preventive do so before the flowers expand.

Chrysanthemums.—During the day the lights of the frames containing the young plants should be entirely taken off, so as to keep the plants dwarf and sturdy. If any are yet in very small pots they should be shifted on without delay. During sunless weather they do not require a great amount of water, but even then they must not be neglected in that respect, otherwise they will lose their lower leaves.

Primulas and Cinerarias.—Pot on an early batch of Primulas, and stand the plants in a cold frame on a bottom of ashes. For winter flowering another sowing of seed may be made. A sowing of Cinerarias may also be made, and afterwards treated in the same way as Primulas; they will come in for late autumn flowering.

THE FORCING HOUSES.

Muscat Vines.—Attend to the thinning of Muscats at an early date—that is, as soon as it can be seen which of the berries have set best. This will soon be indicated when the Vines are kept in a free, vigorous and healthy-growing condition, by the larger size of the best berries. It can be more expeditiously done in the early stages, and with less danger of rubbing the berries with the scissors in the operation. No encouragement should be given to the looping up of the shoulders of the bunches, as it spoils their appearance when cut and brought to table. Close the house early, damping down freely, especially in bright weather.

Peaches.—As soon as the fruits have got over the stoning period (which will of course depend upon the time forcing was commenced), the temperature may be allowed to run up to 80° or 85°, with sun-heat at closing time. Syringe freely, and keep the trees well supplied with moisture at the roots. Liquid manure may also be given more freely and stronger than on previous occasions.

THE KITCHEN GARDEN.

Celery.—The first batch should now be well advanced, and may be hardened off with a full exposure preparatory to planting out. Two methods are practised in the planting of this useful vegetable. The old system is to plant in trenches, which should now be dug out 4 ft. from centre to centre, piling up the soil on each side. The trenches should run north and south, so as to give the plants the advantage of an equal amount of sunshine. A rather newer method, which is largely practised in market gardens with good results, is to plant on the level ground that has been previously well manured and otherwise prepared for the reception of the plants, so as to encourage a vigorous growth.

HORTICULTURAL SOCIETIES.

National Auricula Society (Southern Section).

Notwithstanding the untoward character of the season, the annual exhibition of this society, held on Tuesday in the Drill Hall, Victoria Street, was an exceedingly good one, and far exceeded the expectations of the most sanguine growers. It is true we missed the familiar names among the exhibitors of several of the northern enthusiasts in Auricula culture, who have generally given the show their support, but this was entirely owing to the lateness of the season, and not from any falling off in their regard for the society. Mr. Barlow, Mr. Bolton, Mr. Ben Simonite, and others were unable to show a plant; but the Rev. F. D. Horner was again to the fore, securing the highest award in the class for a dozen show varieties, and several minor prizes in other competitions. The great features of the display were the successes of the "Reading men," a small band of enthusiastic florists who have been working hard for several years to obtain a leading position; and the unusually fine show of gold-laced and fancy Polyanthuses and Primroses, which were staged in greater numbers and in a higher state of perfection than we have seen them for several years. There was a strong muster of Auricula growers in the afternoon, Mr. Horner and Mr. Simonite representing the northern division, and the former had the largest audience of the season to hear his admirable paper on his favourite flower at the afternoon meeting. At mid-day the exhibitors and other friends of the society took luncheon together at the Windsor Hotel, Mr. Shirley Hibberd presiding in his usual genial manner.

Prize List.

Show Auriculas.—Twelve dissimilar:—First, The Rev. F. D. Horner, Burton-in-Lonsdale, with Daisy (Horner), a fine large plum-purple self; Nonsuch (Horner), green-edged; Melaine (Horner), black self; Reliance (Mellor), white-edged; George Lightbody (Headley), green-edged; Dimple (Horner), a grand dark purple self; Magpie (Horner), white-edged; Rev. F. D. Horner (Simonite), green-edged; Heroine (Horner), self; Green Plover (Horner), green-edged; Ebony (Horner), blue-black self; and Nigella (Horner), grey edged. Second, Mr. T. B. Henwood, Hamilton Road, Reading; third, Mr. James Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford; fourth, Mr. A. J. Sanders, gardener to Viscountess Chewton, Bookham Lodge, Cobham. Six dissimilar:—First, Mr. T. E. Henwood with Smiling Beauty (Heap); Rev. F. D. Horner (Simonite); Heroine (Horner); George Lightbody (Headley); Lancashire Hero (Lancashire); and Mr. Potts (Barlow), a lovely plum-purple self. Second, Mr. Douglas; third, Rev. F. D. Horner; fourth, Mr. A. J. Sanders. Four dissimilar:—First, Mr. W. L. Walker, Earley, Reading, with Black Bess (Woodhead), self; Dr. Horner, grey-edged; Rev. F. D. Horner (Simonite), green-edged; and Acme (Read), white-edged. Second, Mr. C. Phillips, Hamilton Road, Reading; third, Mr. R. Patterson, Ashburn Gardens, Sunderland; fourth, Mr. E. Adams, Queen's Road, Swalwell; and fifth, Mr. J. F. Kew, London Road, Southend. Two dissimilar: First, Mr. C. Phillips with Dr. Kidd (Douglas), grey-edged, and Black Bess (Woodhead), self; second, Mr. E. Adams; third, Mr. W. L. Walker; fourth, Mr. R. Patterson; fifth, Mr. R. Dean, Ealing. Single specimens, green-edged: First, the Rev. F. D. Horner; second, Mr. Douglas; third, Mr. Henwood; fourth, Mr. Phillips, with the Rev. F. D. Horner (Simonite); fifth, Mr. Douglas, with Abbé Lizst; sixth, Mr. Henwood, with Col. Taylor (Leigh); seventh, Mr. Phillips, with G. Lightbody (Headley); and eighth, the Rev. F. D. Horner with his namesake. Grey-edged: First, Mr.

Douglas, with Marmion (Douglas); second, Mr. A. J. Sanders, with G. Lightbody (Headley); third and fourth, the Rev. F. D. Horner with Atalanta (Horner); fifth, Mr. Phillips; and sixth, Mr. Henwood, with Lancashire Hero; seventh, Mr. Walker, with Marmion (Douglas); and eighth, Mr. Henwood, with Lancashire Hero. White-edged: First, Mr. Henwood, with Acme (Read); second, Mr. Douglas, with Conservative (Douglas); third, Mr. Henwood, with John Simonite (Walker); fourth, Mr. A. J. Sanders with Conservative; fifth, the Rev. F. D. Horner with Mrs. Dodwell (Woodhead); sixth, Mr. Phillips with Acme (Read); seventh, Rev. F. D. Horner, with Reliance (Mellor); eighth, Mr. Douglas, with Acme. Selfs: First and second, the Rev. F. D. Horner with Heroine; third, Mr. Douglas, with Sir W. Hewitt (Douglas); fourth, Mr. Phillips, with Pizarro (Campbell); fifth and sixth, Mr. Henwood, with Black Bess (Woodhead); seventh, Mr. Douglas, with Sympathy (Douglas); and eighth, Mr. Phillips with Mrs. Douglas. Fifty plants: First, Mr. Douglas; second, Mr. C. Turner, Slough.

ALPINE AURICULAS.

Twelve dissimilar:—First, Mr. T. E. Henwood with strongly grown and well-flowered plants of Sunrise, Defiance, C. Turner, Edith, Albion, Pallas, Miss Blackburn, Homer, Mungo McGeorge, Rosalind, and two seedlings. Second, Mr. C. Turner; third, Mr. Douglas; fourth, Messrs. Paul & Son. Six dissimilar:—First, Mr. C. Turner, with T. E. Henwood, Roland, Sunrise, Surprise, Emblem, and Flambeau. Second, Mr. Henwood; third, Mr. W. L. Walker; fourth, Mr. Douglas; fifth, Mr. R. Dean. Four dissimilar:—First, Mr. W. L. Walker, with Mungo McGeorge, Mrs. Meiklejohn, Miss Blackburn, and Mrs. Llewelyn. Second, Messrs. Paul & Son; third, Mr. A. J. Sanders; fourth, Mr. R. Dean. Single specimens, gold centre:—First, Mr. Henwood, with Hotspur; second and third, Mr. Douglas, with a seedling and Hebe; fourth, Mr. Walker, with Queen of the Belgians; fifth, Mr. Henwood, with Miss Mollie. White centres:—First and second, Mr. Turner with a seedling and Countess; third, Mr. Douglas, with T. E. Henwood; fourth and fifth, Mr. Henwood, with Toujours jaie and a seedling.

POLYANTHUSES.

Gold-laced, six dissimilar:—First, Mr. E Adams, with George the Fourth (Buck), Formosa (Burnard), Prince Regent (Cox), King (Nicholson), Cheshire Favourite (Saunders), and Napoleon. Second, Mr. Douglas. Three dissimilar:—First, Mr. Douglas, with Lancer (Bullock), George the Fourth (Buck), and a black ground seedling.

EXTRA CLASSES.

Twelve fancy Auriculas:—First, Mr. Douglas; second, Mr. R. Dean. Twelve fancy Polyanthus:—First, Mr. Douglas; second, Mr. R. Dean. Twelve single Primroses:—First, Mr. R. Dean; second, Mr. Douglas; third, Messrs. Paul & Son.

SEEDLING AURICULAS, &c.

Prizes in the seedling class were awarded to Mr. Douglas for Fanny Glass, a dark maroon self with good paste and bright tube; to the Rev. F. D. Horner for Laura, a fine violet-purple self; Firefly, a very dark reddish crimson self, very bright; Calliope, grey-edged, and Dragon-fly and Neptune, both green-edges, and closely resembling each other. Mr. R. Dean was awarded a First Class Certificate for a single Primrose named Brilliant, rich reddish maroon with a bright golden centre, and a white spot on the tip of each lobe; a very pretty variety.

Royal Horticultural.—*April 23rd.*

HARDY flowers, and particularly Primulas, were the chief features of the meeting in the Drill Hall, Westminster, on Tuesday last. Auriculas and Polyanthus, as might be expected, occupied a considerable amount of table space, and a fine effect was produced by a large group of Primula cortusoides Sieboldii. There were numerous but small exhibits of Orchids.

A Silver-gilt Banksian Medal was awarded to Mr. J. Walker, Whitton, Middlesex, for a large and effective group of Daffodils neatly arranged in bunches in glass vases. Amongst the finer kinds were Bicolor Dean Herbert, Captain Nelson (with a huge yellow trumpet), Empress, Princess Mary, Mary Anderson, and C. J. Backhouse. The three latter are forms of Narcissus incomparabilis. Leedsii Albion and N. odorus calathinus were also fine. A similar award was made to Messrs. Barr & Son, Covent Garden, for another extensive collection of Daffodils, including most of the above kinds, and a beautiful new sort, Her Majesty, with a wide-mouthed plaited trumpet. They also showed Doronicum austriacum, some species of Muscari and Scilla. A Bronze Banksian Medal was awarded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for a group of herbaceous plants, including Cypripedium calceolus, C. pubescens, Primula viscosa nivalis, a strain of hardy Primroses, Convallaria majalis prolificans, Habranthus pratensis fulgens with scarlet flowers, Lilium Thomsonianum, and others. Messrs. Paul & Son, Cheshunt, had a similar medal for herbaceous plants, amongst which were several hardy double Primroses, Waldsteiuia trifoliata, and Aubrietia Leichtlini with rose flowers, and which received an Award of Merit. The last-mentioned firm had some Amaryllis, and received an Award of Merit for one named Sea Nymph. A Silver Banksian Medal was awarded to Messrs. Ryder & Son, Sale, Manchester, for a remarkably fine collection of mostly new varieties of Primula cortusoides Sieboldii, shown in pans and superbly flowered. Awards of Merit were granted to General Gordon, rose; Queen of Whites; Mrs. Ryder, soft pink; and Miss Nellie Barnard, carmine, with lacerated segments. Charming Bride, blush, and Golden Queen were also very fine; and an Award of Merit was given for Primula rubescens alba, white. A Silver Banksian Medal was also awarded to Mr. Anthony Waterer, Knap Hill, Woking, for twelve boxes of Polyanthus. One box contained white kinds, another yellow, while the rest were of extremely beautiful mixed colours. A Silver-gilt Banksian Medal was awarded to Mr. William Rumsey, Joynings Nurseries, Waltham Cross, for a large and well-flowered group of forced Roses, including fine plants of Marquise de Castillane, Madame Hippolyte Jamain, Miss Hassard, Madame Lacharme, and some fine pieces of Adiantum Farleyense. A Silver Banksian Medal was awarded to Messrs. J. Veitch & Sons, Chelsea, for a group of Japan Maples, Staphylea colchica, Spiræa colchica, Chionanthus virginicus, and others. A Bronze Banksian Medal was awarded to Mr. J. Walker, Thame, Oxon, for an exhibit of Roses, including a box of Maréchal Niel, another of Niphetos, and another of mixed kinds, all well grown. A unique collection of plants was brought up from the Royal Gardens, Kew, including Lathræa clandestina, L. squarrosa, Rhododendron Kewensis, and many hardy Alpine Primulas, as well as Dicentra canadensis, Corydalis bracteata, Orchis longicornu, O. papilionacea, and Heuchera sanguinea.

The exhibits of Orchids were small. Sir Trevor Lawrence, Bart., M.P. (gardener, Mr. Bickerstaff), Burford Lodge, Dorking, showed a pretty Ophrys Bertolonii, which received a botanical commendation; also Cattleya Lawrenceana concolor, which received a vote of thanks. Mr. J. P. Leadbetter showed two fine branching spikes of Odontoglossum cirrosum, to which a vote of thanks was accorded. Dendrobium nobile Cooksonianum and a variety of Cattleya Mendelii were shown by T. Lang, Esq., Heathfield Lodge, Gateshead-on-Tyne, who received a vote of thanks. Other exhibits were certificated.

G. F. Wilson, Esq., Heatherbank, Weybridge, showed some half-a-dozen seedling blue Primroses raised from Scott Wilson. Two of them—namely, G. F. Wilson and Quakeress, received an Award of Merit. A fine spike of Alpinia nutans, a truss of Crinum asiaticum, and Saraca indica were shown by Mr. F. Ross, gardeuer to Sir George Macleay, Pendell Court, Bletchingley. An Award of Merit was granted to Messrs. Garraway & Co., Clifton, Bristol, for Garraway's White Mignonette; a similar award was made to Mr. Hill, Latimer Road, Forest Gate, for a box of Coleus Eureka, with rose and purple foliage; also to Messrs. Wm. Paul & Son, Waltham Cross, for a double white Rose, named Claire Jacquier; they also showed White Perle, a new Tea variety. Messrs. J. Laing & Sons, Forest Hill, exhibited a seedling Gloxinia, named Model. Mr. R. Dean, of Ealing, showed a hybrid Primula between P. ciliata purpurea and a variety of Auricula. Mr. Burrell, gardener to O. T. Hodges, Esq., Lachine, Chislehurst, showed Gentiana angulosa, for which a vote of thanks was given. Mr. W. H. Divers, Ketton Hall, Stamford, exhibited some cut flowers of Mackaya bella. Three small stands of Pansy blooms were shown by Messrs. Alex. Bailey & Son, North Hylton Road, Southwick. A basket of Alpines, including Haberlea rhodopensis, Saxifraga longifolia, Primula marginata and others, was staged by Mr. W. Harper, Millmead Nursery, Guildford.

At a meeting of the Fruit Committee a fine exhibit of Apples and Pears was staged by Messrs. J. Veitch & Sons, Chelsea. Amongst the Apples were fine samples of Lord Derby, Betty Geeson, King of Tomkins County, Alfriston, Stone's, Bismarck, Washiugton, Cox's Pomona, and others in a good state of preservation.

Notts Horticultural and Botanical.

THERE was a large attendance of the members of this society at the Arboretnm Rooms, Nottingham, on the evening of the 17th inst., to hear an interesting paper on Daffodils read by Mr. J. Dnncan Pearson, of Chilwell. Mr. J. H. Haywood presided. Mr. Pearson spoke of the word Narcissus as having been taken from a mythological character of that name, who was said to have slighted the nymph Echo in favour of his own shadow, and as a punishment for his self-esteem Nemesis changed him into this beautiful flower. As an English translation pnt it—

And looking for his corse, they only found
A rising stalk with yellow blossom crowned.

The origin of the word Daffodil was still a matter of doubt and controversy, some authorities averring it came from the old English Affodyl, which simply meant that which came early, whilst others said it was a corruption of Asphodel. Mr. Pearson spoke of the salient differences between the Narcissus proper and the Daffodil.

In regard to the colour of the flowers, all could see for themselves the variation to which they were snbject, but there was no telling what further freaks Dame Nature, assisted by a little art, might not give to them in the future. About twenty species of Narcissi had been found in a wild state, and out of these had sprung for chance or intended crosses a mnltitnde of varieties, many of which were to the uninitiated "very much of a muchness." In looking over a catalogue the other day he counted abont 260 varieties, which seemed a pretty fair array for this humble spring flower. The species were found wild nearly all over the Continent, and they strayed away into Asia, India, North Africa, Japan, China, &c. Perhaps the happiest hunting grounds for the collector were the northern and southern slopes of the Pyrenees—that was to say, if he were not caught by a party of banditti and everything taken but his much-prized bulbs. Mr. Pearson, dealing with the past history of the plant, observed that the Narcissus must have been cultivated in this country at a very early date, as J. Parkinson described ninety-six species and varieties grown in gardens in 1629. He also spoke of the suitability of the flowers for decorative purposes, and treated at length on the subject of cultivation, besides giving a list of the best varieties.

Hybridisation and raising from seed was, he said, a very important matter, though perhaps, more so for succeeding generations than the present. Still, as they were now reaping the benefits of the hard work and perseverance of men who had joined the great majority, it was only right that they should in their turn try and hand down something to posterity. There was nothing difficult or tedious in hybridising Narcissi, not a tithe as much as in Pelargoniums, Grapes, &c. He did not think that this beautiful class of hardy plants received the attention in this neighbourhood that it deserved. Around London, for instance, much more interest was shown in the matter. He did not expect every-one to be as cracked on Daffodils as he was himself, but he should like to see a little less apathy in relation to the subject among the neighbouring gardeners and amateurs. On the proposal of Mr. H. M. Pownall, a hearty vote of thanks was accorded to Mr. Pearson, and the First Class Certificate of the society was also awarded to him for a collection of Daffodils and Narcissi.

There was also an exhibition of blooms of this popular spring flower, and prizes were awarded as follows:—Centre piece: First, Mr. G. Wilson, gardener to E. W. Field, Esq., Aspley Hall; second, Mr. T. B. Hallam, Corporation Road, Nottingham; third, Mr. J. H. Walker, gardener to J. W. Lewis, Esq., The Park. Button-hole: First, Mr. T. B. Hallam; second, Mr. W. F. Hallam, St. Ann's Well Road; third, Mr. Meadows, Rock House Gardens, Basford. Bouquet: First, Mr. C. J. Mee, Wollaton Hall; second, Mr. G. Wilson; third, Mr. T. B. Hallam. To the extra exhibits, not for competition, Mr. R. C. Brown, gardener to G. Taylor, Esq., contributed a collection of Daffodils; Mr. C. J. Mee, a group of table plants; Mr. E. Massey, gardener to Mr. Bateman, cut Pelargoniums; and Mr. Baker, Basford, cut Cinerarias.

ROSE SHOWS IN 1889.

June 24.—Ryde.
,, 26.—Richmond (Surrey).
,, 27.—Farningham and Winchester.
,, 29.—Reigate.
July 2.—National Rose Conference at Chiswick, and Sutton.
,, 3.—National Rose Conference at Chiswick, Bagshot, Croydon, Maidstone, and Farnham.
,, 4.—Bath, Canterbury, Hitchin, and Norwich.
,, 6.—Crystal Palace (National Rose Society).
,, 9.—Diss, and Hereford.
,, 10.—Dursley, Ipswich, and Tunbridge Wells.
,, 11.—Gloucester.
,, 13.—Eltham, and New Brighton.
,, 16.—Birkenhead, and Carlton-in-Lindrick.
,, 18.—Sheffield (National Rose Society), and Helensburgh.
,, 19.—Ulverston.
,, 20.—Manchester.
,, 23.—Christleton, and Tibshelf.

Obituary.

From a Cape paper we regret to learn of the death, on March 25th, in his sixtieth year, of Mr. John Wilson, Superintendent of the Municipal Parks at Port Elizabeth. Mr. Wilson, who was a native of Scotland, went to Port Elizabeth in 1861 from Rondebosch, where he was gardener to the Rev. John Fry, and was engaged by the municipality to lay out a public park, and from that time until his death held office under the Council, with advantage to the town and honour to himself. St. George's Park, which is shown with pride to visitors, is the result of his indomitable energy and perseverance. When he took the site in hand it was like the veldt surrounding it, fearfully rocky, with no depth of soil, and to lay out a park there appeared to many the very essence of absurdity; but Mr. Wilson knew better, and against enormous difficulties succeeded in literally making the wilderness "blossom as the Rose." He was held in very general respect and highly esteemed for his many estimable qualities, and in token of such respect the Mayor and Town Councillors, many of the municipal employes, also members of the Scottish Association, and other friends followed his remains to their last resting-place in the Presbyterian burial-ground.

We also regret to record the death, on the 17th inst., of Mr. James Dickson, gardener to R. Jardine, Esq., Castlemilk, Lockerbie, Dumfriesshire, aged fifty years. From twelve to twenty years ago, the name of "Dickson, of Arkleton," was familiar as a household word among gardeners in the north, he being the grower and exhibitor for several years in succession of monster bunches of Syrian, White Nice, and other varieties of Grapes, the largest of which was the bunch of Syrian, which weighed when cut 26 lbs. 8 ozs., and which was exhibited in 1876 at the International Fruit Show held in Edinburgh. Mr. Dickson commenced his gardening career at Portmore, Peeblesshire, in 1853, and subsequently served as a journeyman at Cunnoquhie, in Fifeshire, and Moredun, Liberton, near Edinburgh, and in 1862 went to Arkleton, where he laid out the gardens in the two following years, and planted the Vines which subsequently brought his name into high repute among his confreres. A few years ago Mr. Jardine transferred his gardener to Castlemilk, where he died much respected by a wide circle of friends.

LAW NOTES.

Preparation of Plans by Landscape Gardeners.

Vertegans *v.* Mason.—This was an action brought in the Birmingham County Court, before Judge Chalmers, to recover £9 9*s.*, the cost of a plan. In 1884, a conversation took place between plaintiff and defendant about laying out and planting St. Thomas's Churchyard, and plaintiff alleged that he received an order from defendant, upon that occasion, to prepare plans and specifications. These were duly prepared, and an offer made to do the work for £274 5*s.* Plaintiff sent in his account to defendant for £23 3*s.* 3*d.*, being £9 9*s.* for the plans, and 5 per cent. commission on the £274 5*s.* The plans were not used, and defendant refused to pay for them, alleging that he did not give the order. The claim for the commission was withdrawn, and on examination of defendant it appeared there had been an understanding as to the work being done. Judgment was given the plaintiff for £5 5*s.* and costs, His Honour remarking that it was too often the case that people went to professional men and expected them to give advice free.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending April 13th was 29·32 ins.; the lowest reading was 29·11 ins. on Monday evening, and the highest 29·55 ins. at the end of the week. The mean temperature of the air was 43·5°, and 3·5° below the average in the corresponding weeks of the twenty years ending 1868. The mean showed a slight excess on Monday, but was considerably below the average on each of the other days of the week. The general direction of the wind was easterly, and the horizontal movement of the air averaged 8·9 miles per hour, which was 3·2 miles below the average in the corresponding weeks of sixteen years. Rain fell on five days of the week, to the aggregate amount of 0·56 of an inch. The duration of registered bright sunshine in the week was 8.6 hours, against 14·2 hours at Glynde Place, Lewes.

QUESTIONS AND ANSWERS.

Name of Phlox.—*R. Bentley:* Several have been misled by the numerous names attached to this plant in gardens. The true name is Phlox reptans. Owing to its creeping habit it is also occasionally sold under the name of P. stolonifera. Another name given to it is P. crassifolia, the application of which is not particularly apparent. As you say, the plant may be found in many gardens under the name of P. verna, which is, however, merely a garden appellation, and should not be used, although the plant does flower in spring. Different individual plants vary with purple or pale violet flowers, the former being the more plentiful, but otherwise they are not distinct in any way.

Names of Plants.—*J. Boulton:* 1, Vanda tricolor; 2, Cymbidium Lowianum; 3, Odontoglossum sceptrum; 4, Aërides crispum. *Pembroke:* Crassula coccinea, a handsome summer-flowering plant, and certainly worth growing.

Orchids.—*F. S. W.:* 1, Dendrobium Wardianum, a good average variety; 2, Dendrobium densiflorum albo-luteum; 3, Dendrobium chrysotoxum; 4, Dendrobium densiflorum, a poor variety.

Pansy and Viola.—*Pansy:* There is no difference botanically between a Pansy and a Viola, because all of them are descended from species of the genus Viola. The recognised difference is that taken from a garden point of view. Pansies, both show and fancy, are descendants of garden origin from V. tricolor, and, as is generally supposed, crossed with some allied species. Violas, popularly speaking, is the name given to Viola cornuta, V. tricolor lutea, and their numerous improved forms, which are now much used for bedding purposes, especially in Scotland. They are more strictly perennial in character than the Pansies, more easily preserved and propagated. They are also of more robust constitution, and more easily grown. The first ones sent out were generally of some shade of yellow or blue, the latter kinds perhaps being the most plentiful, and represented by V. cornuta, Perfection, Cliveden Blue, Blue King, Enchantress, Holyrood, and others. The yellow kinds were represented by V. tricolor lutea grandiflora and others. There are no end of colours now, and apparently some of the so-called Violas to be seen now have been obtained by crossing the original bedding kinds—descendants of V. cornuta—with the Pansy.

Polygonum for a Bank.—*R. J. Smith:* There are two or three very strong-growing kinds in gardens that would suit your purpose of forming a screen during the summer months. If the bank consists of light soil, you had better remove some of it, or simply add a quantity of fresh and richer material, and plant Polygonum cuspidatum (also known as P. Sieboldi) on the top of it. P. sachalinense is a stronger growing kind, but as far as the flowers are concerned, the first-named is the more ornamental.

Shrubs for Town Planting.—Will some readers of The Gardening World give me the names of a few uncommon shrubs that they have found to be suitable for planting in our large towns and cities?—*A. D. W.*

Tree Pæonies.—*H. Stuart:* You complain of their not being hardy in the south, whereas in the northern counties they not only stand in the borders unharmed, but flower freely without any protection whatever. As a rule the winter and early spring is milder in the southern counties, thus causing vegetation to get excited. Tree Pæonies are very easily started into growth, as those who force them well know, so that mild weather acts upon them in the same way. Should spring frosts occur, the young shoots and flowers get destroyed. At some places the plants are covered up with mats, or protected in some way, and this has the effect of starting the shoots into growth prematurely. Should the covering-up at nights be neglected, and frost occur, the young shoots inevitably suffer more than if the plants had been wholly unprotected. In the colder parts of the country they are much later in starting into growth, and accordingly escape the spring frosts.

Communications Received.—W. B. H.—M. R.—J. W. D.—W. B.—Rev. G. S.—C. F.—D. O.—J. A. C.—T. B.—O. G.

TRADE CATALOGUES RECEIVED.

E. H. Krelage & Son, Haarlem.—List of Hyacinths.

Rawlings Brothers, Old Church, Romford.—Dahlias.

R. B Laird & Sons, 17, South Frederick Street, Edinburgh.—General Plant Catalogue.

COVENT GARDEN MARKET.

April 24th.

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	6 0	18 0	Heliotrope ..per doz.	6 0	9 0
Arum Lilies..per doz.	9 0	18 0	Hyacinths ..per doz.	6 0	9 0
Azalea.....per doz.	18 0	42 0	Lilies of the Valley, per doz.	9 0	18 0
Cineraria ..per dozen	6 0	10 0	Marguerites per doz.	6 0	12 0
Cyclamen ..per doz,	9 0	18 0	Mignonette, doz. pots	6 0	12 0
Cyperus, ..per dozen	4 0	12 0	Palms in variety, each	2 6	21 0
Dracæna term., doz.	30 0	60 0	Pelargoniums, scarlet, Pinks, &c., per doz.	6 0	9 0
— viridis, per dozen	12 0	24 0	Pelargoniums, per doz.	12 0	18 0
Erica, various ..doz.	9 0	24 0	Primula sinensis, doz.	4 0	6 0
Evergreens, in var. ,,	6 0	24 0	Roses, H.P., per doz.	12 0	24 0
Ferns, in var., per doz.	4 0	18 0	Roses, Fairy, per doz.	9 0	12 0
Ficus elastica ..each	1 6	7 0	Spiræa .....per doz.	9 0	15 0
Foliage Plants, various .....each	2 0	10 0	Tulips ..... per doz.	6 0	9 0
Genista ....per dozen	9 0	12 0			

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus....per 100	14 0		Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	3 0		Lettuces ..per dozen	1 6	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages .... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes ..per dozen	1 6	
Celery ....per bundle	3 0		Small salading, punnet	0 4	
Cucumbers ....each	0 4	0 10	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos ....per lb.	2 0	3 0
			Turnips ....per bun.	0 6	

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Grapes .....per lb.	2 0	6 0	Pine-apples, Eng., lb.	1 0	1 6
Grapes, new .. ,,	4 0	6 0	Strawberries.. per lb.	2 0	4 0

Canadian and Nova Scotia Apples, per barrel, 7*s.* to 17*s.*

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Anemone, French, per doz. bunches.	1 0	4 0	Pelargoniums, 12 sprys.	1 0	1 6
Arum Lilies, 12 blms..	2 0	4 0	— scarlet ..12 sprays	0 4	0 6
Azaleas ....12 sprays	0 6	1 0	Primroses..doz. buns.	0 6	1 0
Bouvardias, per bun.	0 9	1 0	Primula, double, bun.	0 9	1 0
Camellias, white, doz.	2 0	4 0	Ranunculus, French, per doz. bnchs.	2 0	4 0
— coloured..... ,,	0 6	1 6	Roman Hyacinths, French, 12 bun.	1 0	2 0
Carnations, 12 blooms	1 0	2 0	Roses, Tea, per dozen	1 0	3 0
Cyclamen..12 blooms	0 4	0 9	— Red .....per doz.	3 0	6 0
Daffodil, dble., 12 bun.	2 0	4 0	— Red, French, dozen	1 6	2 0
— single, various	4 0	9 0	— Saffrano ..per doz.	1 0	2 0
— or Lent Lily ,,	1 6	3 0	Tuberoses, per dozen.	1 6	2 0
Eucharis ..per dozen	3 0	6 0	Tulips ....12 blooms	0 6	1 0
Gardenias, 12 blooms.	3 0	6 0	Violets ..12 bunches	0 6	1 0
Heliotropes, 12 sprays	0 6	1 0	— Parme, French, bun.	2 6	3 0
Lapageria, 12 blooms	2 0	4 0	— Czar, French ,,	1 6	2 0
Lilium longiflorum, 12 blooms	4 0	6 0	— Dark ,, ,,	0 9	1 0
Lily of the Valley, 12 sprays	0 6	1 0	Wallflowers, 12 bnchs,	4 0	6 0
Maidenhair Fern, 12 bns	6 0	9 0	White Lilac, French, per bun.	1 0	1 3
Marguerites, 12 bun.	3 0	6 0	White Narciss, French, doz. bunches	3 0	6 0
Mignonette, 12 bun.	4 0	6 0			

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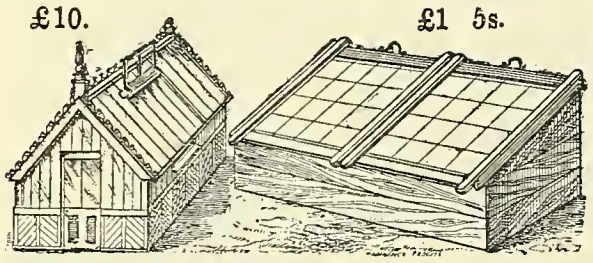

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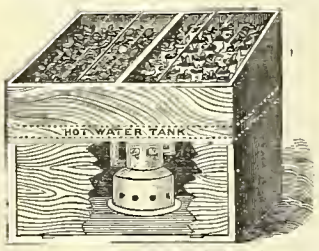

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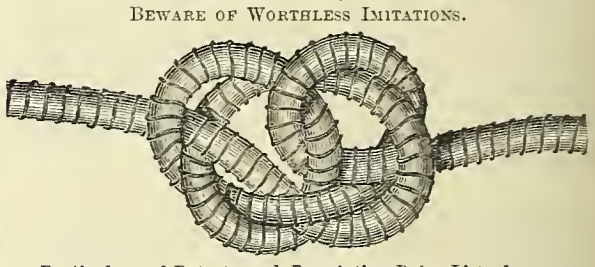

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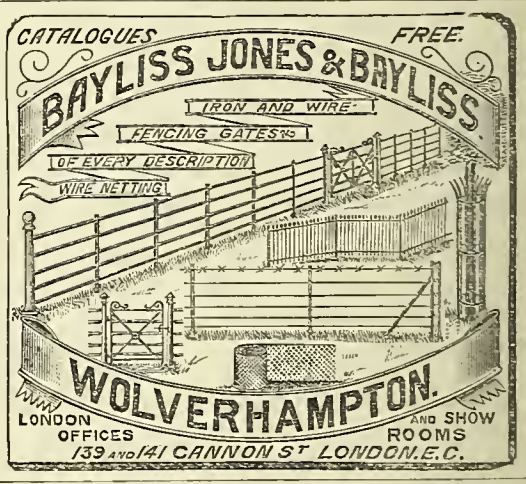

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The last day for lodging objections is the 1ST JUNE, 1889, after which date the rates and charges (unless altered by the Board of Trade) will have the force of an Act of Parliament.

It is hoped that Members of the Nursery and Seed Trade from all parts of the country will attend and protect their interests, which are seriously threatened.

A Meeting of the Committee will be held on the same day, at 5 O'CLOCK, to formulate the objections.

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TUESDAY, May 7th.—Sale of the late Mr. Bath's Orchids at Protheroe & Morris's Rooms.

WEDNESDAY, May 8th.—Scottish Auricula and Primula Show in Edinburgh. Sales of Greenhouse Plants, Palm Seeds, &c., at Protheroe & Morris's Rooms. Sale of Mr. H. J. Buchan's Orchids at Stevens' Rooms (2 days).

SATURDAY, May 11th.—Crystal Palace Flower Show.

For Index to Contents & Advertisements, see p. 569.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MAY 4, 1889.

CURRENT TOPICS.

EARLY-BLOOMING RHODODENDRONS.—Whilst late summer-flowering Rhododendrons will give but a very moderate bloom, the early-flowering hybrids, and notably the rich scarlets, are blooming profusely. Thus these furnish double gain, for they give flowers in rich abundance in the spring, when other bloom outdoors is somewhat rare; and because of the early blooming they make early growth, and that is fully matured and well ripened to produce flower-buds for the succeeding year. In those favoured localities where Rhododendrons grow luxuriantly, not only are dense banks or masses of green foliage permanent, but a glorious bloom is invariably produced also.

Of all hardy shrubs, whether evergreen or deciduous, we have none which can excel in splendour and richness the Rhododendron; but it is almost certain that plants in flower, especially the florid scarlets just now, seem to bear the palm for beauty, because they show such contrasting beauty with the greenery almost universal. Later on, when summer bloomers of every hue and colour are in flower, grand as many are, they have not only themselves, but Azaleas, Kalmias, and many other rich-flowering shrubs, as well as trees to compete with. Where soils are specially favourable to American plants, there is rather too much tendency to plant them and little

else, so that when June is over, the beauty of the place has departed also. That error should be avoided just as much as a wise planter will repress the too common tendency to overdo Coniferæ, ornamental-foliaged trees, and shrubs.

A tremendous blaze of Rhododendrons may be something to be proud of for the moment, but the blaze may be a little overpowering after all, while it does but serve to bring out in all the greater contrast the general absence of bloom or colour in the place afterwards. For that reason we like to see early-blooming varieties planted with a fairly liberal hand, as then the gorgeous tints of the flowers are found over a long season.

LIGHT ON FLOWERS.—Whilst our town friends intensely admired the beautiful Auriculas, Primroses, &c, at the Drill Hall, Westminster, last week, it will be well to advise them that one-half only of the beauties of these exquisite flowers is seen in that dull building. Light is the very life and soul of colour in flowers. It hallows them with an effulgence which is almost divine, it produces in them the reflex of that which is loveliest in nature, and without light the soul of flowers seems to be wanting. Those rich yellows, reds, crimsons, indeed, all and every hue come out in the bright sunlight of the country with wondrous fullness and beauty.

Every now and again, while the exhibition was open, when a kindly gleam of sunlight, so rare a visitant in that gloomy Hall, fell upon some flower here and there, it was at once seen that a new and more glorious beauty lit it up, and created for the onlooker new joys. What a lovely show would the collection of plants and flowers seen at Westminster have made in the big vinery at Chiswick, where, with ample light falling upon them on all sides, they would have been seen as they are by the growers in their various rural homes!

The Auricula proper is a flower so quaintly and yet so artistically constructed, that full light is specially needful to enable all its distinctive characteristics to be fully brought out. It is sometimes said that Auriculas are good town flowers. That may be so, but the town dweller rarely realises the wealth of beauty found in them which the rural grower does.

KEW GARDENS.—Since the throwing open of the whole of the outer grounds of these gardens, and thus giving to the public ample room for perambulation and freer intercourse with nature than can be found in the gardens proper, Kew has become exceedingly popular, and is now one of the specially favoured resorts of the masses on holidays. The addition of a refreshment chalet to the other attractions of the grounds is a great gain, because it indicates some regard for the comfort of the people, as well as for botanical interests.

Having regard to the enormous number of people who frequent the gardens on certain occasions there seems to be no reason why some two or three other chalets might not be erected in diverse and retired parts of the outer grounds, thus offering such accommodation as tired sightseers naturally require, the temperate nature of the viands dispensed in these chalets affording ample guarantee that no harm will result to anything from the privilege. But we go a little further, and venture to suggest that some music should be added to the garden attractions on specified days. The Government has an ample number of military bands at command, and some of these might well be utilised as suggested, or bands which could be engaged for the purpose at moderate cost; the expense incidental thereto being partially recouped by the sale of programmes to the public. The strains of instrumental music floating softly and sweetly through the grounds would detract nothing from the scientific work conducted at Kew, whilst it would add enormously to the happiness of myriads of people. It is a great reflection upon our public life that we find so little real musical harmony associated with it. We cannot imagine such harmony to be more pleasantly dispensed than in the beautifully wooded groves and glades of the noble gardens at Kew.

SIEBOLD'S PRIMULA.—The fine group of these pretty Primulas brought up from Sale, near Manchester, and exhibited at the Drill Hall on the 23rd ult. by Messrs. Ryder, merited wider notice and greater attention than perhaps it received. The enterprise which could thus send up such a big lot of those plants in full bloom, and all grouped into large pans, merits all praise. We hope it may lead to the wider culture of this interesting member of a very cosmopolitan family: one that is hardy and pleasing, as it is also somewhat varied. Very effective under outdoor culture are several of the varieties, notably the reds and deeper mauves, as also the pure whites — colours always acceptable in the spring, the two former being rather scarce at that season. Messrs. Ryder perhaps robbed their collection of some charms by arranging it so flatly, but those who grow pots of P. Sieboldi in variety well, and use them for greenhouse decoration, know their value for such purposes.

THE SPRING.—It is too early to determine the nature of the weather which the merry month of May will give us, but we part with April without regret. It has been a very ungenerous, dull, cold month generally, and the latter portion unusually wet, whilst the sun has been coy in exhibiting its face almost beyond precedent. Lateness in the general aspect of nature is still the order of the day; indeed, it is long since April closed upon such a remarkably sluggish state in nature's operations. Remembering the very sharp frosts which destroyed all tender things last October, we are alarmed to realise how evidently the spring and autumn are shutting out summer; indeed, almost how winter calls to winter, and is apparently aiming at mutual embrace. If May shows no more relative progress than April has, we shall find midsummer with us long before growth has attained to its ordinary perfection.

Destruction of English-grown Tobacco.—A large quantity of English-grown Tobacco, belonging to Mr. O. E. Newman, wine merchant and farmer, Rayne, near Braintree, was burned on the 25th ult., under an order from the Excise authorities. The crop was of last year's growth, and a very fine one, but damaged in drying. The owner preferred burning it to paying the duty, which would have exceeded its market value. The plants in bundles were piled in a field, and destroyed by fire in the presence of the owner and Excise officers. The crop was an experimental one.

The Season.—At the last meeting of the Scientific Committee, Mr. Dyer presented a note from Mr. Scott, the Director of the Meteorological Office, relating to the "useful" temperature as reckoned in "day degrees," and to the amount of sunshine since January 1st of the present year, as compared with recent years:—

Results from the Weekly Weather Report. Total since January 1st.

	Accumulated Temperature in Day Degrees.		Sunshine: Total Hours.
	Above 42°.	Below 42°.	
Up to April 7th, 1884...	394°	119°	218
,, 6th, 1885...	238°	368°	234
,, 5th, 1886...	141°	557°	207
,, 11th, 1887...	208°	468°	300
,, 9th, 1888...	88°	556°	195
,, 8th, 1889...	180°	435°	210

This shows that the present season has been much better than the last, except as regards the amount of sunshine, in which there is not much improvement. The figures are not rigidly comparable, because the weeks of different years, of course, do not end on the same day.

The Railway Rates Question.—We learn from Mr. Goodchild, the secretary of the Nursery and Seed Trade Association, that a public meeting of the trade will be held in the Rooms of the Horticultural Club at the Hotel Windsor, on Tuesday, May 14th, at 3.30 p.m., to consider the proposed Railway Rates and Charges, with a view to lodging objections with the Board of Trade before the 1st of June, after which such rates and charges, unless altered by the Board, will have the force of an Act of Parliament. Mr. Goodchild has been at great trouble to prepare a valuable classified summary of the rates and charges which affect the nursery and seed trade, and we hope the meeting will be well attended, and that some action will be taken in the matter ere it is too late.

The Late Mr. William Court.—The friends of the late Mr. William Court (for so many years with Messrs. Veitch, at Chelsea) will be pleased to hear that his young son, left slenderly provided for, was elected, on the 26th ult., to the benefits of the Royal Masonic Institution for Boys—thanks, in a great measure, to the unwearied exertions on his behalf of Mr. E. R. Cutler, secretary of the Gardeners' Royal Benevolent Institution. On the boy's behalf, we tender our best thanks to all who favoured us with their votes.

Novelties in Garden Hose.—Amongst recent improvements in garden hose, Merryweather's Sphincter Grip has taken a high rank. This firm's latest introduction, however, seems to be another advance in the right direction. The "Non-kinkable Red-Grey" is the well-known Red Rubber Hose armoured with a flexible coating of strong grey india-rubber. It is claimed for it that it is very durable, non-kinkable, and easily coiled, while the materials used are of high quality to pass the Government tests.

Gardeners' Orphan Fund.—At the meeting of the Committee, held on the 26th ult., satisfactory progress was reported with regard to the arrangements for holding the Floral Fête in the Covent Garden Flower Market on the 22nd inst., and which will be opened, at 8 p.m., by the Baroness Burdett Coutts. The secretary read a goodly list of contributions received during the previous month, and which included donations of £5 from Mr. Dunn, Dalkeith, and Mr. Elliott, Senr., Fulham Fields; and £8 17*s.* collected by Mr. Henry Allen, gardener, Brookhill, Kingswear, Dartmouth. The financial resources of the fund were carefully considered, and it was unanimously agreed that another sum of £500 should be invested at once. Mr. John Lemon, Miles' nursery, Dyke Road, Brighton, was appointed a local secretary for that district. The Committee also carefully considered the applications of fourteen candidates for the benefits of the fund, and as each complied with the rules in every respect, the whole were accepted, and the voting lists will be issued at an early date. Five candidates will be elected in July at the annual meeting, and we may remind those whose subscriptions are in arrear, that Mr. Barron would be glad to hear from them before the end of June, when the financial year closes.

Primroses from Wantage.—A boxful of Primroses and some Polyanthuses has reached us from Mr. William Caudwell, The Ivies, Wantage. They were tied up in small trusses or bouquets, each accompanied by a leaf, and the effect produced was lively and striking. The flowers were of large size, good substance, and presented a considerable range of variety, including white, with a five-lobed yellow eye, yellow, pink, mauve, rose, red, purple, and crimson up to the deepest maroon shades. Yellow is considered by some people to be the colour most suited to the present dull time, on account of its brightness and warm appearance. For ordinary decorative purposes, however, we prefer a goodly proportion of mixed colours, by reason of the pleasing variety they afford, and the interest attached to a frequent examination of the beds or borders in which they are grown, so as to detect and preserve varieties of superior merit, both for preservation and also for seed-producing purposes, to afford seedlings for selection of improvements upon those already existing. Some of the crimson varieties were mottled with yellow at the margin, while others of the Polyanthus kind exhibited some lacing, but both kinds might be improved.

Choisya ternata.—It is rather to be regretted that the popular name of Mock Orange has been applied to an altogether distinct plant—in fact, to one which does not belong to the Orange family at all—namely, Philadelphus, a member of the Saxifrage family. The pure white sweet-scented flowers of Choisya bear a strong resemblance to those of the Orange, with the exception that they are more

spread open, and borne in large axillary trusses or umbels. All parts of the plant are thickly beset with glands containing an essential oil such as prevails throughout the Rue wort family, of which the Orange is a member. The leathery deep green leaves are cut up into three leaflets, and should not be bruised, as they smell somewhat strongly, just as does those of the Orange. Whether used as a greenhouse plant or grown in the open air, it is valuable for the quantity of blossom it produces. Plants should not be subjected to forcing in the ordinary acceptation of the term, but merely stood in an intermediate house, or a greenhouse where a temperature is maintained sufficiently high to enable the ordinary occupants to flower. It is sufficiently hardy against a wall in the south of England to outlive our winters and flower freely. We received a magnificent truss the other day from Mr. P. Davidson, The Gardens, Iwerne Minster, Blandford.

Thunbergia laurifolia.—At Boston House, Brentford, the seat of Colonel Clitheroe, a specimen of this plant may be seen, which has been flowering since September last. It is grown in a pot of very moderate dimensions, so that the root room must be very much restricted. Mr. Jeffries complains that he cannot induce it to make fresh growth until late in the season, owing to its determined tendency to produce flowers. The latter are produced in axillary clusters or panicles towards the upper end of the shoots, are of large size, and of a soft or light blue with a white throat. The slender or weak and useless wood had all been removed some time ago, to favour the development of young growth, but we failed to see any signs of the buds moving. The pot containing it is stood on a bench, and the shoots trained to wires under the roof of a house with an intermediate temperature. Close by were some specimens of an altogether different species, with twining stems, orange flowers, and a black eye. This was T. alata, which is annually enjoying a more extended cultivation.

Two Useful Clerodendrons.—One of these is C. Thomsonæ, now so widely cultivated that hardly anything need be said in its praise. It is a regular exhibition plant, and on that account is more grown than any other of the seventy known species of the genus. The contrast produced between the large white inflated calyx and the scarlet or crimson corolla is very striking; and the calyx continues a long time in perfection after the somewhat ephemeral corolla has dropped. In gardens it generally passes under the name of C. Balfouri, while some believe this to be merely a fine variety of C. Thomsonæ. It is a native of Old Calabar. Both this species and C. speciosum we noticed recently in full bloom on the roof of a stove at Boston House, Brentford. The latter is a garden hybrid with a pink calyx (which is smaller than that of C. Thomsonæ) and a scarlet corolla. The latter obtains more prominence than in the species flowering alongside of it. Both are good-sized plants, and have been flowering for the past seven weeks, giving the house a gay appearance.

THE FLOWERS OF SPRING.

Possibly no better evidence of the lateness of the season is to be found than is afforded by the tardy flowering of the hardy border plants of our gardens. On taking a stroll round our vicar's garden, we found many of the Narcissi much more backward than we expected. Some of the leading varieties had a few fully-expanded flowers—notably Emperor, Sir Watkin, and N. cernuus, while the common double Daffodil was in all its glory, and just right for the Easter decorations. Primroses and Polyanthuses abound, and are most charming. The varied coloured Primroses are invaluable among spring-flowering subjects; and Scilla siberica, with its rich deep blue, contrasts admirably with the yellow of the Narcissi. These, when once planted, will take care of themselves, and only gross carelessness will render the planting of fresh bulbs necessary.

The white Arabis and blue Aubrietias are now in full bloom. These, with a few Primroses, would make many a garden which at the present season is destitute of flowers, gay for a long time. We know a wall where the Aubrietia has established itself, and is hanging in clusters, one of which we recently found to measure about 18 ins. down and 9 ins. across. When the sun is shining on these, the effect is unique. It seems marvellous how they could have got into the position they have on the face of the wall. Another gem among early-flowering plants is Triteleia uniflora, but it is not quite so accommodating as the foregoing subjects, which will grow in almost any soil, although there are few places in which it will not thrive with ordinary care. It will well repay all true lovers of things beautiful for any extra attention bestowed upon it, for it is, without exception, one of the most beautiful flowering hardy bulbs we have.

Turning for a moment to hardy flowering shrubs, among which are some of the most lovely things we have blooming in the spring months, we may note, as one of the most common and beautiful, the Mahonia aquifolia, which, taking it all round, is the best of the family, although some will claim for M. Fortunei the first place on account of having the more handsome foliage. We think that as its flowering season is of much shorter duration, and its foliage sometimes has a sickly hue, it must stand second to its plebeian relative, which will thrive almost anywhere, and has a prolonged flowering period. It is much benefited by an occasional pruning. Another real gem is Andromeda floribunda, of which many practical gardeners seem ignorant, but when seen at its best it is second in beauty to no other dwarf hardy shrub we are acquainted with. Another dwarf flowering shrub of great merit is Erica mediterranea, which lasts a remarkably long time in bloom. Prunus triloba is very useful for forcing, and being very beautiful, deserves to be more widely cultivated than it is. Of Magnolia conspicua we have some very lively recollections, dating back a longer period than we sometimes care to think about. It is appropriately named, for the specimens we have in mind might well be called conspicuous. It was then some 20 ft. in height and wide in proportion, and when laden, as it frequently was in early spring, with its massive white blooms, they looked like so many birds' eggs attached by some means to the points of the shoots. This is one of those grand old shrubs we seldom see in good condition.—*W. B. G.*

SYDENHAM'S IMPROVED LAYERING-PIN.

We have much pleasure in introducing to the notice of our readers an improved layering-pin, which has been put into commerce by Mr. Robert Sydenham, of Tenby Street, Birmingham, and which promises to become an indispensable garden requisite, on account of its utility and cheapness. As shown in the accompanying illustration, the pin is made in two patterns; the double-looped one being intended for the strongest layers. They are made of galvanised wire, and the ring-handle at the top makes the pin much easier to use, while not being so liable to cut or poison the finger, as in the ordinary home-made wire pins. The handle also shows where the pin is when in use, so that it can easily be taken out when the rooted layers have to be removed, and thus obviate much of the damage done by cutting or breaking the roots while searching for the ordinary hair-pin. The double-looped pin has a great advantage over the single one inasmuch as it has a stronger grip of the layer, and is not so liable to break the shoots when layering. Of course, the new pin is not intended solely for use when layering Carnations and Picotees; it is equally useful for pegging down Pansies, Verbenas, and other things. The price of the pins per hundred is, we understand, 9*d.* for the single, and 1*s.* for the double-loop.

GRAPE THINNING.

The most tedious and delicate operation in connection with fruit growing is, unquestionably, Grape thinning, and it would be difficult to mention one of greater importance, for where the production of fine, well-finished bunches is aimed at, the paramount importance of carrying out the thinning skilfully and carefully is undeniable. It takes a long time, which must be afforded, so as to have it well done. A novice may do much to mar the beauty of the crop by roughly handling the bunches, bruising the tender skin of the berries, and so producing rust. We mention this as one cause of rust, though it is by no means the only one. Thinning is just one of those operations which requires a considerable amount of practice to perform it skilfully and expeditiously. A novice who is anxious as to the number of berries to retain on a bunch will take them singly, and for beginners this is advisable; but an old hand will often take from a bunch of Hamburghs two and three at a time, though to do this a steady hand and a quick eye are requisite.

We have sometimes seen suggestions as to what can be done with the Grapes taken out in the thinning, some suggesting wine, and others Grape jelly, which, if well made, is excellent, and a third recommended their use in tarts, but we think few will give them a second trial. Our own contention is that they ought never to be available for either purpose, because to allow the berries to become large enough for use is a great waste of the energies of the Vine, which should all be utilised in the perfecting of the crop, and maturing of the wood for the coming season. Thinning should be begun when the Vines are out of flower, and sometimes before, so that all their fruit-producing energies can be thrown into the crop retained. Black Hamburghs being the most extensively grown, it may be of service to amateurs and others to observe that in thinning these, two-thirds of the berries can be safely removed at the first going over, and in some instances rather more. In thinning out, keep an eye on the symmetry of the bunch, and if there are any growths that would make it unshapely remove them at once. This severe thinning is often commented upon by those who are strangers to it, but if it be remembered that when ripe the berries should be at least 1 in. in diameter, it will readily be seen that unless the thinning is well done there will not be room to allow the berries to expand to their full size.

Black Alicante and other close-setting varieties may be partially thinned before the flowers open; this will lead to greater economy of labour, and those which have smaller berries (such as the Royal Muscadine) must be left closer than others. There are two great mistakes frequently made in Grape thinning, and sometimes a third. The first is leaving the berries too thickly set in the bunches, and the second, leaving too many bunches on the Vines. Instances of the latter, perhaps, are not so frequently seen, for many who reduce the number of bunches to something near an adequate proportion to the strength of the Vine, lack either the nerve or patience to reduce the number of berries to the required extent to ensure fine fruit. Some few will overstep the bounds of prudence and remove too many berries, the result of which is loose, straggly bunches, which cannot properly be dished up when cut for dessert, but fall open and roll about on the dish, suggesting the idea that an attempt had been made to cut off all the berries, a few being left by chance; happily, instances of this kind are comparatively rare.

Overcropping is a serious evil, detrimental to the fruit the Vines are carrying, and exhaustive of the energies of the canes, so that they can neither mature fruit nor produce firm, well-ripened wood with fruitful plump eyes for the next season's crop. The reduction of the number of bunches should be set about at the earliest possible period after the fruit is set, if not done before, seldom leaving more than one to a spur. If this is much exceeded, the results are detrimental both to the crop and the health and longevity of the Vines.—*W. B. G.*

USEFUL TOWN SHRUBS.

The Flowering Currant (Ribes sanguineum). Too much praise can hardly be bestowed on this handsome, free-flowering shrub, for the planting of town gardens and shrubberies. There it succeeds in a most commendable way, flowering with the greatest freedom even after a dry, hot, and otherwise trying season to plant life generally. In early spring it breaks out fresh and strong, seeming as if stimulated by the noxious fumes of the impure town atmosphere. Well planted at first it rarely fails, striking out its roots far and wide, and soon becoming a dense, pleasantly-habited shrub of medium proportions. Then what can surpass it for quantity, colour, and lasting quality of its showy flowers, for ease of culture, or rapidity with which it can be propagated?

Skimmia Japonica is another low-growing shrub that I have seen doing well, even in the heart of our great metropolis. Smoke or other impurities of the town atmosphere do not seem to affect it in the least, for it grows quite as quickly, and produces just as healthy-looking foliage when subjected to such as I have found it to do in the nursery on the hillside. For beauty of flowers it is not remarkable, but as a handsome berry-bearing shrub it can well hold its own with any other of my acquaintance. A north aspect and half-peaty soil would seem to suit its requirements to perfection. Even the colour of foliage—a dark, almost black-green—seems suited for smoky localities.

The Snowy Mespilus (Amelanchier botryapium), with its racemes of pure white flowers and desirable outline, is another shrub of which too much can hardly

be said as to its value for planting in the town garden. In early spring, too, the flowers are produced—a valuable quality when our gardens and lawns look dull and cheerless. Of very free growth, this pretty shrub succeeds in any fairly good soil, and soon forms a handsome specimen several feet in height.

LILACS have few equals as town shrubs; indeed, taking everything into due consideration, it would, in my opinion, be good advice to plant these first, whatever else might follow. They succeed admirably in the worst and most smoky parts of London, and there put on an appearance during early summer that it would be difficult to match even in the sheltered country garden. To stick to the commonly cultivated species (Syringa vulgaris) is quite unnecessary, for recently-carried-out experiments clearly prove that many of the finer forms are equally applicable. I would particularly recommend the Siberian and Persian. All are of free growth, non-fastidious as to soil or site, and easily propagated.

THE KENTUCKY COFFEE TREE (Gymnocladus canadensis) can ill be spared from any list of suitable subjects for the town garden, it having been proved to be an excellent plant for withstanding smoke and the generally deleterious effects of an impure atmosphere. The racemes of white flowers are particularly showy and interesting.—*A. D. W.*

THE LUNGWORTS.

MANY of the old-fashioned border plants might with advantage be brought into greater prominence than they are at present. Whether in flower or not, the foliage of such as Pulmonaria officinalis and P. saccharata are beautifully blotched with white spots, and this is seen to best advantage on the leaves that are produced in summer after the flower-stems have died away. The generic name is taken from pulmo, pulmonis, a lung, and has reference to the spotted foliage, which was considered by our superstitious ancestors to resemble diseased lungs, for which they were supposed to be a remedy. For every disease that afflicted mankind there was supposed to be a remedy in some plant, generally, if not always, to be found in the locality in which the particular ailment originated. Hence we find the common species, P. officinalis, retaining its name as the Lungwort of the shops, or the officinal Lungwort. We can still, however, admire the plants for the beauty of their changeable flowers when there is comparatively little variety in the open borders in spring. A considerable number of species have been described in old botanical books, but after the separation of the smooth glaucous-leaved species to form the genus Mertensia, and the reduction of many names to mere synonyms, the number of distinct species became reduced to four. All have rough hairy leaves, and in general are easily recognised.

P. SACCHARATA.—The amount of spotting on the leaves is variable, but on some forms is really beautiful. It is the first species to come into flower when winter gives place to spring, and has already been in bloom a month or more. The radical leaves are the largest of any in the genus, and are oval, tapering to both ends, while those on the stem are long and linear. The flowers expand in varying shades of pink or red. We frequently meet with this plant in gardens under the name of P. siberica, but the latter is a Mertensia with quite a different aspect. Other synonyms are P. grandiflora, P. stiriaca and P. oblongata. It is a native of Europe, and was introduced to this country in 1817. This as well as other species are easily cultivated in any good garden soil, and are propagated by division of the somewhat fleshy rootstock, before growth has made any considerable advance in spring.

P. OFFICINALIS.—This is no doubt the most widely distributed species in gardens, and may frequently be found in villa as well as cottage gardens, where it enjoys a variety of names, such as Sage of Bethlehem, Joseph's Coat, Thunder and Lightning. The second of these names has no doubt reference to the spotting of the leaves and the changeable character of the flowers, which expand of a pink or red hue, and ultimately become blue. It would be difficult to assign a reason for the last name, unless the flowers have been fancifully compared to the livid flare of lightning under certain conditions of the atmosphere or distance from the spectator. The leaves are variously spotted, rarely without spots at all. There is a white-flowered variety (P. officinalis alba) frequently met with under cultivation and occasionally in a wild state on the Continent. It is a native of Europe, including England and Scotland, but in this country, however, it is not very common in a wild state.

P. ANGUSTIFOLIA.—The narrow-leaved Lungwort is far less common in gardens than the last named, although its distribution is somewhat similar in a wild state. It is very local, however, in this country, and occurs in Hampshire, including the Isle of Wight, where it is now flowering handsomely. Some authorities consider it a variety of P. officinalis, but it is very distinct, and may be recognised by its narrow unspotted leaves and lively blue flowers. They are pink when they first expand, but soon change to a bright blue, and has not inaptly been called the Blue Cowslip in popular nomenclature. It grows from 6 ins. to 12 ins. in height, and the radical leaves are narrow and have long stalks. It has been named P. azurea by one botanist, and P. tuberosa by another.

P. MOLLIS.—In general appearance this species is intermediate between P. angustifolia and P. saccharata, having the narrow unspotted leaves of the former with more of the size of those of the latter. The plant grows generally about 10 ins. in height, flowering in April and May, with bright blue flowers. Another distinction by which it may be separated from P. angustifolia, is that the calyx is longer than the tube of the corolla. The species is a native of Europe and Siberia, and was first introduced in 1805. It is sometimes named P. dahurica, or the Siberian Pulmonaria.—*F.*

GARDEN INSECTS.*

THE subject which claims our attention this evening is one of vital importance to every gardener. If he has only one plant under his care, that is liable to the attack of one or more species of insects, which will delight to feed on its nutritious constituents. They are ever a source of care and worry to the horticulturist, and our chief object is not only to destroy them when we observe their presence, but to keep our plants in such a condition as not to harbour, or encourage insects. Knowing then the evils and dangers of those insects we desire to know more about their structure and habits, so that we may be better able to deal with our enemies. This, then, being our chief object, we desire to have a rough syllabus which we can follow in a systematic manner, and impress it upon our minds, so that we may put it to practical use.

DEFINITION OF AN INSECT.

A true insect possesses six legs, has normally four wings, and is divided into three sections—viz., head, thorax or chest, and abdomen or the lower parts. We cannot keep to this strict technical definition, for it would exclude a good many of our injurious pests, such as Onion-fly, Cabbage-fly, Carrot-fly, and Turnip-leaf fly, which possess only two perfect wings instead of four; and we find the red-spider in possession of eight legs, whilst a true insect has only six. There are many other minor differences, which will, however, not deter us from examining those that are the most mischievous to gardeners. In this great division alone we have something like 180,000 species of insects, each having a remarkable history of its own.

PARTS OF AN INSECT.

An insect is divided into three important parts—namely, the head, the thorax, and the abdomen. To the head belongs the proboscis, the eyes, and the antennæ. The proboscis, or mouth of insects, is of two kinds — those which exist by biting, as beetles, earwigs, thrips, and many others which belong to the division called Mandibulata, from the Latin *mando*, to chew. The other kind of mouth or proboscis is for sucking purposes, and though in possession of the same organs as the Mandibulata division, yet only in a modified form. These insects belong to the Haustellata division, from haustellum, meaning a trunk for sucking. Examples in bugs, green and black-fly, scale, and many other insects. The eyes are fixed in the head, that is, they are immovable. They are also of two kinds, simple and compound. The simple ones are placed three together, and form a triangle on the top of the head, which guide the insect in its flight. The compound eyes are two in number, and are made up of facets or simple eyes to the number of thousands. These compound eyes are on the side of the head. The house-fly has 4,000 facets, the cockchafer 9,000, the dragon-fly 24,000, and in one species of butterfly 34,650 facets have been counted. From experiments it has been proved that the simple eyes, or ocelli, as they are technically called, are designed for looking upwards, whilst the compound or facile eyes are for horizontal and downward vision.

ANTENNÆ OF INSECTS.

Antennæ in Latin means a sail-yard. They are commonly termed feelers, and are valuable acquisitions to the insect family. When at rest they are placed in various positions—sometimes above, at other times beneath, whilst again we find them placed alongside the body of the insect, and, in other instances, receptacles are prepared for their reception and protection. In some insects they are long and slender, in others short and thick, with very few segments compared to those of the former. In the larval state they are imperfectly formed. They are used not only as feelers, but for smelling and hearing, also to balance them in their flight, and as organs for communication with their brethren.

THORAX.

The thorax of a fly is divided into three segments, each carrying a pair of legs. The first segment is termed the pro-thorax, which is from the Greek, and means the first or anterior part; the second is called meso-thorax, the word *meso* signifying middle; and the third is termed meta-thorax, from the Greek meta, meaning the latter or posterior part. The wings are also attached to the thorax.

ABDOMEN.

This part contains the organs of reproduction, which are of two kinds. Eggs are produced by oviparous insects, as the beetle; and young are produced alive by the viviparous insects, such as Cabbage green-fly (Aphis Brassicæ).

STAGES OF INSECT LIFE.

There are four stages of insect life, the first being the egg from which proceeds the larva, a vague form of what the perfect will be. In this stage they are often vivacious, and will consume in a very few days many times their own weight. The pupa is a still higher development of the larva, and is of four kinds, one being semi-complete, active, resembling the parent, but having only rudiments of wings as in locusts, beetles, crickets, and dragon-flies. A second kind is incomplete, inactive, but with rudimentary wings and legs as in bees and beetles. A third kind is termed Obtected, with only the thorax and abdomen distinct, inclosed in a scaly covering, including butterflies and moths. A fourth form of pupa is termed Coarctate, that is, enclosed within a plain, globular or oval case, formed of the last skin of the larva, such for example as flies. In this stage there is the arranging of the parts. The imago signifies the image or likeness of the perfect insect. After the pupa has fully developed, the outer skin gives way, and then the insect issues forth on the last stage of life. This work is not performed in an instant, but slowly.

USES OF INSECTS.

It is a common opinion amongst gardeners that insects are of no good whatever, an opinion which is a great mistake, though some of them had better be outside than inside our gardens. The great uses of insects are as scavengers of dead matter, as food for insectivorous plants, and to promote fertilisation. They also feed upon one another, and so lessen their numbers when too plentiful. We are all familiar with the Droseras or Sundews, the Dionea muscipula or Venus' Fly-trap, and the Pitcher Plants, which are the principal, though there are many other insectivorous plants. Without entering fully into a series of experiments, I will briefly give you the results of Charles Darwin's researches, which were carried on with great care and accuracy, and are now of great value to all horticulturists and scientists in general. Insectivorous plants fed on insects along with other nutritious subjects are healthier, more prolific, and heavier than those deprived of such rich food. If an unfed plant possess 100 leaves, one fed with insects would average 156·9. If an unfed plant has 100 flower-stems, one fed would have 149·1. If the total weight of a plant after the flower-stems had been taken average 100, one fed on insects would average 121·5. If the total number of seeds average 100, one fed by insects would average 122·7. More than that, if the average weight of a seed is 100, one that had been favoured by insects would average 157·36. These and many other experiments all go to prove the value of insects to a certain class of plants.

Their value as assistants to fertilisation is undoubted. Each species has its own work to perform—one cannot do it for another. This cannot be better proved than in the fertilisation of Clover, which requires the presence of the humble-bee, the proboscis of the hive-bee not being long enough to effect the object. On this alone depends, to a great extent, the possibility of a large crop of seed. The same is the case with Scarlet Runners in Nicaragua, according to a Mr. Bell. This fertilisation is not only carried on by insects, but an authority says by even spiders and snails. The reason why such assistance is required is because of the ripening of the anthers and the readiness of the stigma to accept the

*A paper read by Mr. S. Heaton, Claye House Gardens, before the Keighley and District Gardeners Association.

pollen grains being at different times. Gooseberries are entirely dependent upon bees for fertilisation. Cross-fertilisation is proved to be more valuable to the products of the seed-vessels than self-fertilisation.

Dependence on each other to a large extent for sustenance and existence, is a feature we observe throughout all nature. We are told that the number of bees in a district depends to a great extent upon the number of field mice, which destroy the combs and nests; and the number of mice will be largely dependent on the number of cats to be found in the neighbourhood; then the fertilisation of flowers is really modified by the domestication of the cat. Ants, which are so destructive and unsightly, have their use. "Fred" watched a nest of these ants, and he found they cleared the plants of dead insects and other noxious subjects to the extent of about twenty-eight per minute. These little insects work in warm weather during the night as well as the day; this being so, they will clear away an incalculable number of small insects from the plants during a season. Of the many uses of insects there is perhaps not one so important as that of clearing away accumulated decaying matter. Each one has its functions and uses to perform, however small they may appear to us.

STIMULATION TO CLEANLINESS.

If for nothing else, insects are serviceable to us as stimulants to activity and cleanliness. A clean, strong, healthy plant is free from disease, an immunity obtained only by continued diligence and perseverance in keeping down the insects, and otherwise maintaining the vigour of the plant. Knowing their voracious and destructive habits, our desire is to exterminate them as far as lays in our power, a desire which cannot be entirely fulfilled.

NOTES ON VEGETABLES.

READ'S NEW HEARTING BORECOLE OR KALE.

Those of your readers requiring a really good late Kale who have not yet grown this variety would do well to give it a trial, for it has proved itself here to be very hardy, and without that tendency to bolt which makes some late Kales of so little use. We have used it now for three seasons, and this year it is better than ever. Though Purple-sproutiug Broccoli has been half killed, we have not lost a plant of Read's Kale. It produces compact heads, which are of first-rate flavour, and after these are cut the stems sprout out for a long time before going to seed.—*W. P.*

GARDENING NOTES FROM IRELAND.

SPRING SHOW OF THE ROYAL HORTICULTURAL SOCIETY.

THE spring show of this society was held on the 25th ult. in the Royal University Buildings, Earlsfort Terrace, Dublin, and on the whole was a most successful exhibition. Financially, I believe, it has been the best show held for some years past, and although some of the classes showed a falling off in competition, there were others which lacked none of that element. The falling off was most noticeable in pot Roses, and of Pelargoniums there was one lot of six exhibited. The latter exhibit was sent in by Mr. Richard Pim, of Stradbrooke Hall, and proved to be a well-grown and finely-bloomed lot. In the classes for

STOVE AND GREENHOUSE PLANTS,

Mr. Flynn, gardener to L. G. Watson, Esq., Newstead, Blackrock, and Mr. Coughlan, gardener to Richard Pim, Esq., Stradbrooke Hall, staged some fine lots, and for the special prize offered for a mixed group of nine foliage and flowering plants Mr. Flynn was first and Mr. Coughlan second. The latter also got first prize for six stove and greenhouse plants in flower. For the Lord Lieutenant's Cup, which was offered for six Azaleas, Mr. Watson was the only exhibitor, but the group was flowered and brought out in a style that left nothing to be desired. In another class for six Azaleas Mr. McMasters obtained the first prize with a small lot of plants, but which were profusely bloomed. The competition for a single exotic in flower was of a very poor kind, but a first prize was secured by Mr. Phelan, gardener to Miss Millner, Cherbury, Booterstown. Specimen Orchids in flower were shown by Mr. Watson and the Marchioness of Headfort, who were first and second in the order named. In the class for six plants Mr. Tandy was first, the second falling to Mr. Mahony, gardener to Mrs. Jury, Greenfield, Donnybrook, for a very excellent lot.

NARCISSUS.

If one may judge by the number of visitors who lingered around the beautiful stands of the flowers set up by J. T. Poë, Esq., of Riverston, Nenagh, there is no appearance as yet of the Narcissus losing its well-deserved popularity. As in the case of Hyacinths it is a great trial on the skill of the grower to be able to keep back these flowers so late, and as a matter of fact the public do not see the best of them on the show stages; all the best blooms are gone when the showing time arrives. However, notwithstanding such drawbacks, I must say that Mr. Downes, Mr. Poë's gardener, put up in all the classes in which he exhibited a rare lot of remarkably fresh blooms. In the class for twenty-four blooms, not less than twelve varieties, three of each, and which is the annual prize offered by Messrs. Drummond & Son, seedsmen, Dawson Street, Mr. Poë's lot was first; Major Hall, Narrow Water, Warrenpoint, co. Down, being second. In another class Mr. W. Baylor Hartland, seed merchant, Cork, offered a special prize. This was for a stand of twenty-four distinct varieties, and to include not less than eighteen Grand Trumpet sorts. For this prize Mr. Poë was again to the front with a lot showing the least blemish. For a stand of twelve varieties, three of each, a prize was offered by the society, and was awarded to Laurence McCormick, Esq., Rowlestown House, Killsallaghan; Mr. Poë being second. One fine box of Emperor was shown by Mr. Poë, but as there was no competition, no prize was awarded. In Mr. Poë's collections there were fine blooms of Bicolor grandis, Emperor, Dean Herbert, J. B. M. Camm, Sulphur Phœnix, Cernuus, Maximus, Horsefieldii, Mrs. Camm, and Golden Spur. In the nurserymen's classes, the Messrs. Henderson, Fortfield Nurseries, Templeogue, exhibited in pots two nice lots of six and nine, for which they were awarded two first prizes. The plants were very fresh in growth, and the blooms well coloured and dwarf.

ROSES.

Numerous lots of cut blooms were staged, but they were much below in point of merit those exhibited at former shows. Maréchal Niel, for which there is always a special class open, was in very poor condition, and in the class for twenty-four there was no entry. For twelve Maréchal Niel's, first and second prizes were awarded to Mr. E. D'Olier and Mrs. Jury respectively. A mixed box of twenty-four obtained first prize for Mr. Pim, Stradbrooke Hall; they were a nice lot, but there was no competition. For a class of twelve, Captain Cusack was first, and Mrs. Millner, second. Tea Roses were fairly good, a stand of twelve blooms obtaining first for Mr. Langlois Lefroy; Mr. George McMasters coming second.

HYACINTHS IN POTS.

The competition with these was both strong and keen. Shapland M. Tandy, Esq., Clarinda Park, Kingstown, came in a good first for nine plants; Mr. James Jameson, Airfield, Donnybrook, securing the second prize. Notwithstanding the extreme lateness of the season for showing Hyacinths, it was very remarkable how fresh and stout Mr. Tandy's lots looked; and seeing that even out of doors they have long since been on the wane, I think that very great credit is due to that gentleman's excellent gardener, Mr. McGuinness. There was a special prize offered for twelve Hyacinths, and here again Mr. Tandy was first, Mr. George McMaster coming second with a very good lot indeed.

AURICULAS, &C.

The groups of Auriculas staged were very good, and much admired by visitors. As usual in these classes, Mr. Short, gardener to F. W. Leland, Esq., Beltichburne, Drogheda, outdistanced all competitors. Mr. Short is a veteran in the art of growing all kinds of florists' flowers, and it would be hard to say in which he excels most; be this as it may, his nine Auriculas on this occasion were fine specimens of their class, and for which he was awarded first prize. Mr. D'Olier, Knockliu, Bray, was second with a good lot, and James Jameson, Esq., Airfield, Donnybrook, received a Commendation for a third group of very good plants. The class of six brought out two beautiful lots, and in which Mr. Leland was again first; Mr. Jameson obtaining second prize. Alpine Auriculas were also good, Mr. Jameson and Mr. Langlois Lefroy being first and second as named. The exhibits in hardy Primulas and gold-laced Polyanthus were very numerous and well grown, Captain Cusack, W. F. Leland, Esq., J. Jameson, Esq., and the Rev. F. C. Hayes being the chief competitors. Two prizes were awarded for spring Tulips, each stand consisting of twenty-four blooms; the first prize fell to Mr. Leland, and the second to Mr. McCormick. In this class Mr. Poë exhibited a very good box of fresh blooms.

FRUITS AND VEGETABLES.

These were not so good as might have been expected, the show of fruit being very meagre indeed. There was one good dish of Strawberries, put up by the Marchioness of Headfort, which was given a first prize, those in pots not being deemed worthy of a prize. Mr. Cassells, Harolds Cross, was awarded a prize for baking Pears, and for which he put in a nice lot of Uvedale's St. Germain. Dessert and baking Apples were shown by J. T. Poë, Esq., Miss Millner, and others, Mr. Poë getting first prize for a nice dish of Ribston Pippins, and for baking Apples Miss Millner was first. For a brace of Cucumbers, Mr. Poë was also awarded a first prize, and the Marchioness of Headfort a second prize. Only a few collections of vegetables were shown, but Mr. Mahony, gardener to Mrs. Jury, showed a good box of ten varieties, for which he got first place.

NURSERYMEN'S COLLECTIONS.

The Messrs. Henderson & Son, of Templeogue Nurseries, exhibited a large and varied collection of beautifully-flowered, well-grown plants. It was a wonder to visitors who surrounded this stand all day, how such small plants could be made to flower profusely, and at the same time to show such health and robust growth.

From Mr. T. Smith's nursery, Daisy Hill, Newry, came a large mixed collection of cut flowers and hardy plants. This collection was also very attractive to visitors during the day, and from the interest taken in Mr. Smith's beautiful specimens of various Primulas, Polygalas, Gentians, &c., we are glad to know he succeeded in securing a large amount of patronage.

NOT FOR COMPETITION.

A very fine collection of Palms, Orchids in flower, as well as other stove and greenhouse ornamental plants were sent in from the gardens of the Royal Dublin Society, at Glasnevin, and contributed in a great measure to beautify the three large halls in which the display took place. Another beautiful collection of plants came from the gardens of J. H. Nutting, Esq., Gortmore, Dundrum, and contained some rare and very handsome specimens of Caladiums. These were much admired, and Mr. Knowldin, the experienced gardener, may well be congratulated on the effect they produced. —*Cor.*

NOTES FROM SCOTLAND.

Daffodils at Vallyfield, Penicuick.—Admirers of this now popular family had a great treat provided for them last Saturday afternoon. Mr. C. W. Cowan (himself an enthusiast) issued an invitation to horticulturists in and around Edinburgh to "come and see" his fine collection. Our party leaving Waverley at 1.25, were hospitably received at Penicuick Station by Mr. Cowan, and a personally-conducted tour was at once entered upon, and, note-books in hand, a busy and profitable two hours were spent. It is not our intention to enumerate the endless varieties (Mr. Cowan grows between 200 and 300), suffice it to say that to one and all the sight was extremely interesting, and an opportunity was offered to Scotch growers of noting varieties suitable to our climate, as also the conditions under which they thrive best—for example, some varieties refused to grow in the border, while on the grassy bank adjoining they were growing and flowering in robust health. For others, again, Mr. Cowan had a specially-constructed deep frame, with abundant drainage. Before separating, Mr. Hugh Fraser, Leith Walk Nursery, in a few well-chosen remarks, conveyed to Mr. Cowan the hearty thanks of all present for the pleasant afternoon's outing so kindly provided.—*D. P., April 29th*, 1889.

Rhubarb.—There has been a good deal of correspondence during the past season respecting early Rhubarb. I have for many years past made a practice of turning this useful esculent to the best account, by having abundant supplies from kinds of well-known excellence — beginning at first with Prince Albert during the first fortnight of November. Even were there no other kinds in existence than this well-known variety, one might calculate on having an abundance throughout the season, as well as the best quality. Sorts which have been sent to me to prove have been discarded, and were I to grow for sale (I hope I never shall in a private establishment again), Prince Albert would form a large portion of my stock. From experience gained in market establishments, the earliest produce of all kinds is the most profitable to grow. We got Prince Albert Rhubarb in the ordinary garden ground this season early in March, by covering with pots alone during January, and unprotected crowns came in for use about the end of the month. Victoria (still an old favourite) is about three weeks later. What we have had given us for trial as Martins has always turned out to be the true Prince Albert.—*M., Stirlingshire.*

FLORICULTURE.

The Northern Auricula Show at Manchester.

This took place at the Town Hall on the 30th ult., and was a great improvement upon that held in London a week ago. The flowers were numerous and decidedly better in point of quality, while many of the leading grey edges, which scarcely put in an appearance in London, were in their best dress. The flowers, though lacking smoothness, were yet in much more refined character than when seen in London, though not a few would be better still a week hence. There was a good representation of northern growers, and while no one from the north competed in London, so no one from the south entered the lists at Manchester.

The largest class at Manchester is for six varieties, and out of ten competitors, the Rev. F. D. Horner, Kirby Lonsdale, was placed first with green-edged Rev. F. D. Horner, Attraction and Plover. Grey edge: George Lightbody. White edge: Mrs. Dodwell; and self: Mrs. Potts, in fine form. Second, Mr. Kyrke-Penson, Ludlow, with green edge: Rev. F. D. Horner. Grey edge: George Lightbody. White edge: Heather Bell, Conservative and John Simonite. Self: Sapphire. Third, W. Brockbank, Esq., Didsbury. Mr. Tom Lord, Todmorden, had the best four plants out of ten competitors, having a very fine Prince of Greens, superbly finished. Grey edge: George Lightbody. White edge: Acme, and self: Mrs. Potts. Second, Miss Woodhead, Lightcliffe, with green edge: Prince of Greens. Grey edge: George Lightbody. White edge: Conservative, and self: Black Bess. Third, Mr. H. Wilson, Halifax.

In the class for two plants of show varieties there were thirteen competitors, Mr. E. Shaw, Mostyn near Middleton, being first with grey edge: George Lightbody, and white edge: Acme. Second, an exhibitor whose name did not transpire, but who had grey edge: Lancashire Hero, and white edge: Acme. Third, Mr. J. Beswick, Middleton. There was also a class in which "maiden" growers showed two plants, which is very wisely provided for the encouragement of those growers who have not as yet won the amount of their subscription at the society's show. Mr. G. Middleton was first with self: Lord of Lorne, and white edge: Trails' Beauty. Second, Mr. E. Walker, with green edge: Rev. F. D. Horner. The trustees of the Turner Memorial Fund offered prizes for four show Auriculas, seven competitors entering the lists. The Rev. F. D. Horner, was placed first with green edge: Rev. F. D. Horner. Grey edge: George Lightbody. White edge: Magpie, and dark self: Dimple. Second, Miss Woodhead with green edge: Prince of Greens. Grey edge: George Rudd. White edge: Acme, and self: Black Bess. Third, Mr. B. Simonite, Rough Bank, Sheffield.

Of single specimen Auriculas there were a large number. The premier green edge was Orion, from the Rev. F. D. Horner; Mr. S. Barlow, Stakehill, coming second with President Royds, a large and striking variety of excellent promise; third, Mr. W. Taylor, with Mayflower; fourth, the Rev. F. D. Horner with Green Globe; fifth, Mr. W. Taylor with Talisman. The premier grey edge was George Lightbody, from Mr. Penson; Mr. J. Woodhead coming next with George Rudd; the Rev. F. D. Horner next with Rachael, and fourth with George Lightbody. The premier white edge was Miranda, from the Rev. F. D. Horner; Mr. Penson coming second with John Simonite, Conservative, Acme, and Beauty, following in the order of merit. The premier self was Heroine, from Mr. G. Clements; the Rev. F. D. Horner following with Dulcie; Mr. W. Brockbank coming next with a dark seedling; and Mr. H. Wilson with Black Bess.

The premier Auricula was Mr. Tom Lord's fine Prince of Greens in his winning stand of four plants. Alpine Auriculas were also in strong force. The Turner Memorial Prizes were offered also for four Alpines. Mr. J. Beswick, Middleton, was first with Diadem, Racer, Queen Victoria, and a seedling; Mr. S. Barlow coming second with Charles Needham, Vesuvius, a seedling, and Mr. Dodwell; Mr. W. Brockbank was third.

In the society's class for four varieties Mr. T. Butterworth, Middleton, was first with Unique, Mr. Dodwell, John Leech, and Mr. Ball, a very fine lot; Mr. J. Beswick was second with Diadem, Emir, and seedlings; third, Mr. W. E. Brockbank. In the class for the best yellow-centred Alpine, Gorton's Diadem was first, second, and third, Messrs. Brockbank, Clements, and S. Barlow taking the prizes in order of their names. The best white-centred Alpine was Queen Victoria from Mr. Beswick, and he was second and third with seedlings; Diadem and Queen Victoria were very finely shown indeed.

Gold-laced Polyanthuses were in good character. The best three black grounds were Cheshire Favourite, Exile, and George IV., from Mr. T. Butterworth; Mr. J. Beswick coming second, with Cheshire Favourite, Exile, and a seedling; Mr. Brockbank was third, with Black Knight, Jubilee, and Cheshire Favourite. The best three red grounds were George IV., Prince Regent, and Lancer, shown by Mr. T. Butterworth; second, Mr. George Thornley, with Prince Regent, Sidney Smith, and George IV.; third, Mr. G. Middleton, with Lancer, President, and Prince Regent. The premier red ground was Ensign, shown by Mr. W. Brockbank; Mr. S. Barlow coming second, with William IV; Mr. Brockbank being third, with Regina. Sidney Smith, and Prince Regent in its red form was also shown. Cheshire Favourite won first and second in the black ground class, Messrs. Beswick and Butterworth being the exhibitors, the former coming third with Exile. Black Knight and Blackbird were also shown.

Mr. S. Barlow was first with twelve fancy Auriculas, and also with twelve fancy Polyanthuses and twelve Primroses, among the latter being the old Crimson Velvet. Mr. W. Brockbank was second in both the latter classes.

First Class Certificates of Merit were awarded to the following new Auriculas:—Orion, from the Rev. F. D. Horner; and President Royds, from Mr. S. Barlow.

Alpine Auriculas.

When looking over the leading collections of Alpine Auriculas shown at the Drill Hall on the 23rd ult., one could not help being struck with the dimensions of the trusses and the size of the individual pips; but the impression was present in the mind of the observer—are we not sacrificing refinement in the attainment of mere size, and in doing so introducing the quality of coarseness? The two collections of twelve Alpines shown by Messrs. Henwood and Turner were marvels of successful cultivation, but they seemed to lack the brilliancy and symmetry that used to characterise the varieties of this section of Auriculas. When an inspection was made of Mr. Turner's new variety John Bright, with its large and striking pip and noble truss, it seemed as though the maximum of size, had been reached, and any further attempts in this direction must inevitably tend to a rank coarseness. More's the pity, for nothing can be more attractive than a collection of refined Alpine Auriculas, in which brilliancy, harmony of colours and freshness are found combined. How cold and dead-looking some of the new white-centred flowers are! It is very difficult indeed to get a good white-centred Alpine Auricula; those that have the whitest grounds soon put on a death-like pallor that imparts to the flower a lifeless appearance, and when this is in combination with heavy dull purple shades all cheerfulness seems to have departed from the flower. If we are to have good white centres, the latter must be of such a character as to maintain a life-like and lasting appearance. I am not at all satisfied with the white-centred Alpines of late years, and I think Turner's George Lightbody, when at its prime, is yet the best of all. I have it now in charming character, with its bright violet-blue shading to a dark velvety ground. This, with Beatrice and old Conspicua, can still hold their own when well grown and presented in their best character. White-centred flowers, to be effective, require marginal shadings that will neutralise any coldness in the centre, and they should be mauve, blue, rose, pink, or any attractive and bright-looking tints.

In crossing Alpine Auriculas, Mr. James Thurstan used Beatrice as one of the parents. Out of the batch of seedlings he so kindly gave me I have one that I venture to think is an improved George Lightbody. It was always a plant that lagged behind the others, but it has flowered this season. The centre opens white, not like Beatrice and George Lightbody, with a tint of sulphur or cream. The centre and marginal colours correspond in dimensions, and the shaded margin is brighter and more enduring than the last named. Such are my impressions of the flower from the two pips which have expanded, but another year's culture is necessary to confirm or disappoint my present good opinion. I shall be glad to learn what other lovers of the Alpine Auricula have to say in reference to the white-centred flowers.—*R. D.*

LARGE-FLOWERING PELARGONIUMS.

Not infrequently a gardener may be heard to say, "I have given up the cultivation of these; somehow they are not satisfactory, the plants become drawn and covered with green-fly, and the flowers do not come up to the sizes and quantity of those seen on plants grown for exhibition." This is not to be wondered at. Pelargoniums are seldom satisfactory when mixed up with other plants thickly on an ordinary sloping plant stage. To do Pelargoniums justice, they should either have a house to themselves, which is what very few gardeners indeed can give them, or they should have one side of a house to themselves. Those who have seen Pelargonium houses—structures in which specimen plants are grown for exhibition purposes, will know that the stages are high and pretty near the glass, so that the plants can have the full benefit of the light, while they have plenty of room given them to allow the specimens to be turned round and flowered equally on all sides. It is only in this way perfect specimen plants can be secured. Tying out is also of the first importance, so as to get a shapely specimen, and a good deal of judgment is necessary. I remember, many years ago, Mr. Turner exhibiting from the Slough collection a plant of Mocharia, then a popular exhibition variety that measured over 5 ft. in diameter when it was tied out, and this process occupied a man nearly three days. But those were the days of very sharp competition, and when Pelargoniums were largely and finely exhibited.

Plants that are intended for early flowering should now be expanding their blossoms. Unless, however, it is a question of time—as, for instance, getting them ready for exhibition by a certain date—the plants are best when not hurried into flower, as time is necessary to permit the pips to expand thoroughly, and to attain a necessary size. If good symmetrical specimens be wanted, the matter of tying out is a continuous one. A plant cannot be got into a good shape by one attempt; it is necessary to untie and re-tie a shoot, which must be done carefully, a little at a time, as the shoots lengthen.

As the sun has now gained some power, shading is necessary at mid-day. The rays falling directly upon the flowers through the glass, will sometimes burn and otherwise disfigure them. The pots should be carefully examined twice a day in drying weather, to see that the plants are not suffering from want of water. When the branches of a specimen cover the pot, it is difficult to bring the eyesight to bear upon the soil; but a rap on the pot with the knuckles will soon demonstrate if the plant needs water. A clear hollow sound denotes that the soil is dry, a dull heavy one that it is moist. In bright weather it is an advantage to keep the floor of the house moistened with water.

One thing should be borne in mind, that too much shade will lessen the brilliancy of colour in the flowers. This is a matter of the first importance in the case of plants required for exhibition purposes. Therefore the shading should not be put on until absolutely required, and be removed as soon as the purpose for which it was placed on is answered.—*R. D.*

HARDY PLANTS IN FLOWER.

Bank Holiday is not one of the best days of the year for a gardener to visit Kew, as his attention must naturally be very much distracted from those objects of interest which he meets with at every step owing to the vast crowds of people who flock to this place of popular resort on those days; yet it is very pleasant to see the numbers of happy-looking faces bent upon such innocent and healthy amusement, roaming about the various glass structures, the museums, and the spacious grounds. Easter Monday was no exception to the general rule, as notwithstanding the heavy showers of rain and hail which occurred at intervals during the day, vast numbers of people found their way there.

Not many of the herbaceous plants are in flower, as it is early yet, but we came across a few, amongst which are several old favourites, such as Arabis alpina, the Dog's-tooth Violet (Erythronium dens canis), varieties of Corydalis, Dentaria digitata and pinnata, Anemone blanda, and the lovely blue A. apennina. Primula rosea is a gem. Several of the Saxifrages are in flower, amongst which are S. Rocheliana var. coryphylla, S. lactea, S. Lindleyana, S. Camposii, and S. Milei. A group of Doronicums catches the eye at once upon entering the herbaceous grounds. The most showy are D. Pardalianches, with varieties grandiflora and minor, D. excelsum, and D. caucasicum. A variety of D.

plantagineum, called excelsnm, was in flower in the rockery. The herbaceous grounds look rather bare yet, but they will soon spring forth into full life and beauty. —*Alfred Gaut.*

THE PLEASANT SPRING TIME.

The closing days of April are doing wonders in developing spring flowers and tints, while trees and shrubs, the hill side and the valley, are putting on their wondrous dresses of green, and overy shade of the latter too. Not a few spring flowers are now in perfection. The white Arabis albida, Aubrietias, Pulmonarias, Anemones, Alyssum saxatile, the Wallflowers, Pansies, Daisies, Honesty, the fine blue Myosotis dissitiflora, Polyanthus, Primroses, and many others, are seen furnishing their quota to the general sum of floral beauty. The golden Alyssum makes a very fine and showy spring plant, but it is only in warm and sheltered nooks that it has as yet unfolded its flowers. Who can say too much in praise of Anemone fulgens? I saw a large bed of it at Cliveden the other day, and when the flowers were fully expanded under the April sunshine it was a sight to be remembered.

The Alyssum can be easily raised from seeds, while the Anemones should be grown from bulbs, which are now imported in very large quantities to this country. Most of the subjects named above can be raised from seeds. The main thing is to sow the latter at the right time, and treat the seedlings in a proper manner. As a rule, all seeds may be sown in the spring, at midsummer, and in autumn. I am strongly in favour of raising all seeds that are not sown in the open air on a bottom-heat—gentle to suit some, stronger to suit others. The kind of soil they are sown in does not so very much matter. A compost to suit all kinds of seeds sown under glass can be made up of half good garden soil and half leaf-soil, with some silver-sand added. I think that many amateurs commit the mistake of sowing their seeds too deeply. Very small ones should be sown on the surface, with scarcely any covering; others of large size may be ½ in. below the surface.

I have found it an advantage to soak hard-skinned seeds like Cannas, Everlasting Peas, &c., twelve hours before sowing, but not putting them in until a like period has elapsed since they were taken out of the water. One gardener that I know uses the silvery-leaved Centaurea candidissima largely for planting in his flower beds, and as I have known people confess to failures in getting the seeds of this useful subject to germinate, I may state that the method he adopts is to sow the seeds on the surface of the soil placed in shallow boxes or pans. No water is given either before or after sowing, but a hand-light or bell-glass covers them, and is kept there until the seedlings are through and becoming strong. As a matter of course, it is necessary to have the soil fairly moist at the time of sowing. I may mention that this plant can be increased by slipping off the side shoots in autumn, putting them into the ground in a cool shady place, and covering them over with a hand-light. Treated in this way nearly every cutting will strike, and very little trouble is given to the cultivator.

What a charming bed can be made with Auriculas! At this time of the year I bloom a good many seedlings, and all that are of an inferior character are planted out in a bed. They will live through one winter and give a capital head of bloom in the spring. The second winter settles a good many of them, but I do not trouble, as there are always plenty of seedlings to take their place. —*R. D.*

AMARYLLIS FINETTE.

In plants that normally have red, pink, or rose flowers, hybridists have no difficulty as a rule in obtaining white ones; indeed, under a state of nature, albino varieties are of frequent occurrence. From this point of view it is rather singular that the efforts of the hybridist have not yet been rewarded with a pure white Amaryllis. The illustration above shows a near approach to the desired object. From the florist's point of view the flower is greatly improved, the tube being very short with a broadly expanded lamina, and broad, much-imbricated segments. The whole flower is white, with slender lines of scarlet radiating from the base of the three upper segments, and similar lines on the upper side of the two lateral ones of the three lower segments, while the sixth segment is pure white. The stamens are also white, so that in Finette we have a really splendid acquisition, and from which we may expect to get a pure white form. It grows vigorously, and produces from four to six flowers on each scape. It was certificated by the Floral Committee of the Royal Horticultural Society, on the 10th of April, 1888; and are indebted to Messrs. J. Veitch & Sons, Chelsea, for an opportunity of figuring it.

Amaryllis Finette.

The Amateurs' Garden.

Chinese Primroses.

These are not so difficult to maintain in a healthy flowering condition in the atmosphere of dwelling-houses as many people would imagine. The great secret is to maintain the roots in a suitably moist condition at all times, neither too wet nor too dry. To enable them to grow slowly and flower freely, they should be kept in the windows of rooms where fires are kept burning all day, but more particularly during the evening. This, of course, applies to winter and early spring, when cold weather or frost is of frequent occurrence. During damp weather the fires will benefit them by keeping the atmosphere of the room in a suitably dry state. Under these conditions they will flower profusely for some months together, and produce a cheerful and enlivening effect. If obtained from the nurserymen or market-grower, some care will have to be taken of them for a time, till they become inured to their new surroundings. Cold, cutting draughts of air must be avoided, and the leaves will harden considerably, while still maintaining a fresh appearance.

Spiræas and Lily of the Valley.

These are now plentiful and cheap, so that those having the convenience of gardens may obtain plants with a double object in view. After serving their time in the greenhouse or in the windows of the dwelling-house, they may be transferred to some part of the garden where the soil is moderately rich and moist. The Spiræa will flower more or less next year if encouraged to make a fairly good growth during the summer. It is a marsh or semi-aquatic plant, and should receive liberal supplies of water during the summer. After two years' growth it may be potted up again for forcing. The Lily of the Valley will, perhaps, require longer time before it is again fit for use in this way, but it will afford a quantity of bloom in the open air that will be useful for cut-flower purposes.

Chrysanthemums.

The great bulk of the large-flowering Chrysanthemums grow too tall to be easily accommodated in small greenhouses or conservatories when propagated in autumn and grown on in the usual way. Dwarf and useful decorative plants may, however, be obtained by striking the tips of growing shoots now, or even a month later. Those struck now may have their tops pinched out to encourage the development of several shoots, each of which will yield a cluster of flowers in the autumn. They must be thinned to a greater or less extent if moderately large flowers are desired; but as a rule a profusion of heads of no great size is preferred for making a display.

Solanums.

Amateurs might well possess themselves of a few plants of this berry-bearing plant. Very little heat is required to keep it in the best possible condition during winter, while the production of fruit is not half so difficult a matter as is generally supposed by those who have only a greenhouse or window in which to grow them. No glass at all is necessary to grow and fruit them well. If not previously done, the plants should be hard cut back, and planted out of doors in a fully-exposed and sunny position as soon as the weather becomes favourable. After cutting back the shoots little or no water should be given till the buds have again fairly well started into growth. All that need be considered is to prevent the soil in the pots becoming so dry as to kill the roots, until such time as they can be transferred to the open ground. Little attention will be required during the summer beyond an occasional watering and keeping the ground free from weeds.

Scarlet Runners.

Owing to the continued cold unsettled weather it has been unsafe to sow Kidney Beans or Scarlet Runners, but either of them could now be sown in boxes of soil containing a quantity of leaf-soil or well-rotted stable manure, which will adhere to the roots when transferred to the open border, and so give little check to the roots. Runners so treated may be well forwarded in frames, and be ready to grow away vigorously when warm weather comes. If needful, later sowings may be made in the open ground to succeed those sown in boxes. Where the soil of the garden is moderately moist during summer, the runners will continue flowering and fruiting till frost cuts them down.

Marrows.

The manure or other heaps on which it is intended to plant Vegetable Marrows should be made up without further delay, and a quantity of soil placed over them in which to plant the Marrows. As soon as all danger of violent heating is over, the plants may be inserted. Cover them with hand-lights, bell-glasses, or other convenient objects till the young growths entirely fill them, after which they may be entirely removed, allowing the Marrows to ramble over the entire space at their disposal. In many instances pots or boxes are placed over the young plants; but these must be removed during the day, thus entailing considerable attention, whereas if glass frames in some form or other can be used, growth will proceed rapidly, even if the weather is not very warm. Water as occasion may require until they become established.

THE GLOXINIA AND ITS CULTIVATION.*

Some brief remarks on this now deservedly popular and charming flower may prove of interest. There may not be much in the forms of the blooms to excite our admiration, but I think you will agree with me when I say if we have not all that can be desired in the forms, we have cause for gratification in the colours of the flowers. There are three distinct types of Gloxinia; the drooping strain is the oldest, and is gradually giving place to the horizontal and the erect sections. These display their flowers to so much greater advantage than the drooping class that there is substantial reason for the increasing favour shown them. When they are in full bloom, who can help stopping to admire some of the beautiful colours, and ask the question, What artist is there able to paint them properly? The blendings of some of them are indeed wonderful. We may well ask, How came such a variety of colours? Some will say it is Nature's work. Yes, true, but it is not until man works with Nature that we get such a rich and varied harvest of colour; and I say there is great praise due to the men who have given up their time and skill to the work of cross-fertilisation for the public benefit.

Gloxinia is a genus containing six species of elegant stove plants, natives of tropical America. If we take into account the ease with which they can be had in flower from spring till autumn, we must admit that there are few stove plants so well deserving of attention. Its cultivation is very simple, provided you have a suitable house or pit to grow the plants in, and a light position with shading from sunshine, which will ensure a sturdy growth, and eventually produce flowers of good substance. Air should be carefully admitted. The plants require plenty of water when growing; a good syringing with tepid water morning and evening will be found very beneficial. The plants can be raised from seed or leaves; seed is the more general means employed to increase stock, except in the case of very choice sorts, which can be propagated very freely by cutting the ribs of the leaves and placing them on light sandy soil. Put in some copper wire pegs or small stones to keep the cuttings firm on the soil; keep the latter damp, and place the cuttings in a temperature ranging from 65° to 75°, and in a very short time they will have formed small tubers.

Seed Sowing.

Sow the end of August, or as soon as the seed is ripe, for early spring-flowering, and again in January for succession, in equal proportions of sifted loam, peat, and leaf-soil, adding a liberal portion of sand. Use 6-in. pots in which to sow the seed. The pots should be clean and carefully drained to half their depth with clean broken crocks, placing over them a little moss or leaves to keep the drainage open; fill the pots to within half-an-inch of the rim, pressing the soil moderately firm and even. Scatter the seed thinly and cover slightly with fine soil; then water through a fine rose watering-pot, and place the pots in a temperature of 65° to 75°. Cover them with a piece of glass, and that again with paper to exclude the light and prevent the soil from becoming dry. In a very short time the seedlings will appear, and should be exposed to the light to keep them strong and sturdy. As soon as the plants are strong enough to handle, prick off into pans or shallow boxes three inches apart, using soil similar to that employed for sowing the seed. After this operation they should be returned to the same temperature, kept close, and damped overhead once or twice daily according to the weather. As soon as the plants have filled the space allotted to them in the pans or boxes, pot off into large 60-sized pots, using the soil a little rougher than that advised for sowing the seed, so that the water can have free passage, as this is most essential to successful Gloxinia cultivation. Be careful not to break the small leaves in the operation, as they are very brittle; pot moderately firm; place the plants back in the same temperature, giving water when required, and keeping the bed damp round the pots by the liberal use of the syringe in bright weather. As soon as the roots appear through the soil they should be shifted into large 48 or 32-sized pots, in which they should be allowed to flower, unless they are intended for exhibition; then they should have another shift into 8-in. pots.

Artificial manure or manure water is very beneficial when the flowers appear, but it should be kept from the foliage. The flowers will last much longer if the plants are kept in a cool temperature and more air be given at their flowering season. But they should never be subjected to a too dry atmosphere, or they may be attacked by some unwelcome visitors, such as thrip and green-fly, which, if allowed a footing, are difficult to get rid of. There is a saying, "prevention is better than cure"; it is so in this case, and to prevent it a moist atmosphere must be maintained during their growing season. After flowering, keep the soil damp so long as there is any vitality in the leaf. After the leaves die down, put the pots on a shelf in a dry atmosphere at about 50° through the winter. As soon as new growth appears, give water and place the plants near the light for a few days; then shake out the old soil from the bulbs and pot them into fresh, using as small pots as possible in which to start them, and grow on in the same way as advised for the seedlings.

Different Strains.

Just a few remarks here as to the different strains of Gloxinia. I suppose every grower thinks he is growing the very best. I once heard a man discussing the merits of different beers, and the conclusion he came to was, that there was no bad beer, only some was better than others, and this is the conclusion I have come to upon the different strains of Gloxinia. There are no bad strains now, they all have their merits, only some have greater recommendations than others.

In my opinion there has been too much stress laid on the strong recurved foliage. Those whose leaves turn down over the pots are too strong. I have observed when growing them side by side, the flowers on the strong recurved-leaved plants drop when in a fresh condition, while those on the other types will remain on the plants until they are picked off; and on examining the flowers you may see the reason for their dropping so soon—the ovary swells too rapidly and so pushes off the flowers.

I have a list of the best sorts that will make good parents for the production of seed. If any member would like to grow a few for seed purposes, my advice is to get the undermentioned, and you will then be on a level with any of the florists. Some people will tell you that they have worked up their strain from very poor parents; it may be so, but there is no reason why we should go over the ground already trodden by our forefathers. No, let us begin with the most advanced varieties and try to excel in our work.

Select List of Varieties.

The Moor, purple; Virginalis, white; Flambeau and Comet, scarlet; Mdlle. Jeanne Muiret, one of the best spotted that our friends have sent us from "across the water"; Cordelia and Marchioness of Abergavenny, spotted; Cygnet, white bordered with violet; Ivanhoe, purple with white margin; Vulcan, purplish crimson; Rajah, purple; Duchess of Connaught, white with scarlet edge; Lustre, deep scarlet. The following are new ones—namely, Orion, Orestes, Marmion, Sultana, Neptune, and Octavia.

* A paper read by Mr. T. Bones, The Gardens, Tower House, Chiswick, at the Chiswick Gardeners' Mutual Improvement Association, March 15th, 1889.

THE ITALIAN SQUILL.

In some old-fashioned gardens the Italian Squill (Scilla italica) is grown in considerable quantity, and a pretty effect it has during the months of April and May. It is as hardy as the English Bluebell (S. nutans), and although the flowers are much smaller, they nevertheless have a very pretty effect when seen in a mass. The segments of the flower are spread out nearly flat, not erect as in S. nutans, so that the truest character of a Squill is represented by this species. From thirty to forty flowers are borne in a raceme by each scape, so that the effect produced by clumps of large size is very effective. The herbaceous border is, perhaps, the best place for it, or round the margins of shrubberies, where the flowers could not fail to be appreciated. A bunch of it was sent us by Messrs. Richard Barker & Co., Frampton, Boston, Lincolnshire. The flowers during the day were scented somewhat similarly to those of the Hawthorn.

THE LONDON NURSERY,
MAIDA VALE.

THIS nursery has been established for about a century, and during that time must have witnessed many changes of the fashion for particular kinds of plants. Those that rule the day now are chiefly plants that will supply a large quantity of cut flowers, and also Orchids. Of the latter a fine collection is now being got together from various parts of the world.

ORCHIDS.

In spite of the inconveniences for Orchid growing produced by the London fogs, horticultural science will always strive to surmount these difficulties even in the heart of the metropolis. Many established as well as recently imported specimens here appeared quite happy on the occasion of our visit the other day, and many were flowering. Odontoglossum nebulosum is by no means one of the most popular species, yet we occasionally see some very distinctly marked varieties. Here a plant bore flowers, the lip of which was spotted all over with dark brownish yellow blotches, while the petals were almost wholly covered with markings of the same kind. We could not fail to admire a piece of Oncidium concolor, whose bright yellow flowers exhibited a lip of unusual size; O. Harrisianum is another, but smaller-growing kind, that is pretty in its way, but comparatively rare in cultivation. Amongst the Odontoglossums in flower were O. Cervantesii decorum, O. maculatum, and O. Harryanum, which is gradually finding its way into every collection. Allied to this genus is the beautiful Mesospinidium roseum, with graceful sprays of rosy flowers.

Several Dendrobiums contributed largely to keep the houses gay, including D. Wardianum and D. densiflorum albo-luteum (better known under the name of D. thyrsiflorum), whose bright yellow lip contrasts well with the white sepals and petals. A variable plant is D. chrysotoxum, and some bore flowers of unusual size. To these may be added D. Bensoniæ and D. eburneum, in small pots hung up near the glass. One pseudobulb and scape of Lælia cinnabarina, bearing seven blooms, stood 2 ft. high. Several other pieces, also in baskets, showed equal vigour. The pretty Warscewiczella discolor, with its violet and white flowers, was suspended from the roof, as was also Trichopilia suavis, one of the best and freest-flowering species. The blooms were well marked and good. Of the Cœlogynes, with medium-sized flowers, few surpass C. corrugata in decorative effect. A large and healthy piece of it in a pan covered the space of a yard each way or more. Surrounding the door of the Orchid houses was a device made of wire, and containing soil in which Ferns were planted. Pieces of Asplenium marinum were both pretty and interesting.

THE CONSERVATORY.

As might be expected, this stands nearest the public highway, and is filled with the commoner and more useful flowering subjects, such as Marguerites, Cinerarias, Rhodanthe Manglesi alba, Hyacinths, Spiræas, Cytisus racemosus, small pieces of Hydrangea hortensis with large trusses, and Mignonette, all of which kept the house gay, and many were highly fragrant. Erica perspicua and E. ventricosa were also gay. On the centre stage stood three huge plants of Mary Morris Carnation, measuring about 6 ft. in height. Close by this was a house chiefly filled with Indian Azaleas, which have made excellent growth. A large batch of Adiantum cuneatum, after having made five weeks' growth, is now a beautiful mass of green. A quantity of seedlings were notable for the breadth of their pinnules.

FERNS AND PALMS.

Formerly these were grown together, mixed up in the same house, but as might be expected, they give far greater satisfaction when grown by themselves in separate houses, and this is now done. Several of the popular market garden Ferns are largely grown, including Pteris serrulata magnifica (a strong-growing kind), P. s. compacta, Nephrolepis exaltata, Davallia bullata, Doryopteris palmata, and Cyrtomium falcatum. Useful also, as well as beautiful, are Asplenium bulbiferum and Osmunda regalis palustris, with the young fronds red. Popular decorative plants grown in this house are Oplismenus Burmanni variegatus, better known as Panicum variegatum, Aspidistra lurida variegata, Ficus elastica, and Acorus gramineus variegatus. The latter takes on a fine colour in heat.

Amongst Palms the graceful Cocos Weddelliana is grown in ever-increasing quantity in sizes ranging from 6 ins. to 18 ins. and 24 ins. in height. Another that is exceedingly graceful in the seedling stage is the Cabbage Palm (Euterpe edulis). Areca lutescens is never absent from collections of decorative Palms, on account of its graceful, slender habit, yellow petioles and stems, and its elegantly divided leaves. Kentia Forsteriana is equally indispensable where variety is desired, and has shorter leaves with broader pinnæ; while Areca sapida is distinct from either, and comes to be very useful when the leaves measure from 5 ft. to 8 ft. long. Besides the last, there were large and bulky specimens of Latania borbonica, with leaves 7 ft. in diameter, and also Chamærops excelsa. Aralias were represented by A. Veitchii and A. leptophylla.

GARDENING MISCELLANY.

Fruit and Flowers for the Hospital.

THERE are many people who cannot give money, but who would willingly spare fruit, flowers, evergreens, shrubs, &c., from their gardens if it would help the Grosvenor Hospital for women and children. Will you very kindly permit me to say to them that we need a plentiful supply of such things for sale or decoration at the Al-fresco Fayre and Floral Fête, which is to be held in the South Kensington Conservatory and Royal Albert Hall at the end of May for the benefit of the hospital. Promises of assistance in this way will be accepted quite as thankfully as money contributions, so that I trust that I may receive many letters from your readers, to whom I will send full particulars.—*F. C. Howard, Honorary Secretary, Vincent Square, S. W.*

Is Lilium Harrisii Hardy?

WE have about 150 plants in pots and boxes here that have stood in an old greenhouse all winter, and they have had no fire-heat since the new year. In February we had 14°, 16°, 18°, and even 22° of frost, and in the morning the leaves were all hanging, but I syringed them with cold water. That is all the attention they received, and now they are flowering and look as fresh as ever.—*Lilium.*

Tropæolum, Ball of Fire.

FOR winter and spring-flowering probably none of the forms of Tropæolum majus is more floriferous or more easily managed. Mr. Taylor, gardener to Sir John Lubbock, Bart, M.P., High Elms, Kent, grows it in pots, and trains the shoots along wires under the roof of a house with an intermediate temperature. The main stems are now from 10 ft. to 20 ft. in length or more, and thickly furnished with bloom for a great part of their length. After the main stems have ceased flowering they throw out short lateral spur-like branches. Large quantities of bloom are continually being cut from them, yet at the present time they are laden with bloom, and impart a gay appearance to the roof. The flowers are of a clear bright scarlet, and quite distinct from the mixed or uncertain colours occurring amongst seedling forms of the species. Growers might with advantage use this Tropæolum more frequently on the roofs of their conservatories than is at present the case, both for the decoration of the same and for cut flowers.

Saxifraga Camposii.

APROPOS of your interesting remarks on p. 545, anent this very superior mossy-leaved Saxifrage, I would humbly add that it also possesses one other rare characteristic not therein mentioned, and not inherent generally in this family of plants—namely, perfume. In addition, therefore, to its fine large-lobed foliage and hardy constitution, its flowers, which are above the average size of mossy Rockfoils, are redolent of that peculiar odoriferous principle so much sought after by lady lovers of flowers and floriculture. Undoubtedly fragrance in a flower, generally speaking, lends a charm and imparts an importance to its domestication, which lacking that desideratum it might not otherwise enjoy. Else how does it happen that the cherished Mignonette (Reseda odorata) is so much in demand to the exclusion of those other flowers which are less fragrant or wanting altogether in perfume, but whose compensating qualities are referable to their exquisite form, their delicate tints, or their brilliancy of hue? That the market growers have found out the commercial value of S. Camposii is another point in its favour, and this implies extended cultivation. Moreover the flowers are freely produced, continue over a large period, and thus render, in consequence, the plant an effective one for the decoration of the greenhouse, the frame, or the window. To amateurs who possess a bit of glass accommodation I would suggest that this noble species of Rockfoil be forthwith introduced to the other occupants. —*C. B. G., Acton, W.*

Myosotis dissitiflora.

ONE pleasing feature about the grounds at Cliveden, Maidenhead, is the attractive clumps of the pretty blue Myosotis dissitiflora met with in warm nooks and corners, and in close companionship to a tuft of Primroses. In the large beds planted with spring flowers, the later-blooming M. sylvatica is employed, being better suited to stand the winter for the purpose of forming bold masses. This is not yet in bloom, as it is always later than M. dissitiflora; but no garden in which it can be grown should be without the latter, as it is so pretty and effective. It will seed itself, the plants coming up about the spot where the parent ones stood, and it is a simple matter to transplant them to other places where their floral service is needed.—*R. D.*

Campanula garganica.

FOR early work this is a very serviceable kind, requiring merely to be kept in a warm greenhouse, which starts it into growth. As the stems elongate they assume a drooping or pendulous habit, and commence blooming very early. Flowers are therefore produced in succession for a considerable length of time. There are several forms of C. garganica in cultivation, amongst which is C. g. hirsuta, so thickly furnished with long woolly hairs as to present a hoary appearance. It is equally suitable for indoor culture as is the more typical form, such as we noted the other day at Boston House, Brentford. This has dark green foliage and rather small but bright blue flowers. The plants are grown in small pots, and stood along the front of the staging in the greenhouse. When in full flower they also prove serviceable for putting round the edges of vases used for decorative purposes in the mansion itself.

Narcissus moschatus cernuus.

A VERY abnormal form or rather specimen of this garden Daffodil has reached us from Messrs. R. Barker & Co., Frampton, Boston, Lincolnshire. The pale creamy white colour of the flower was quite normal, but the corona was torn up in such a way as to show a tendency to doubling. It was cut up into numerous segments, extending for a half or three-quarters of its length, and in one case to its insertion on the perianth. This in itself would not constitute a case of doubling, but there were twelve segments more or less overlapping one another, while other smaller segments were produced both outside and inside the main segmeuts and at the base of the fissures. Should this prove constant as a variety it would well deserve a place in collections, on account of the distinct appearance of the corona from the usual tubular or trumpet form, while it is far more graceful than the clumsy and lumpy double varieties under cultivation.

Brownea coccinea.

HARD-WOODED plants, both stove and greenhouse, do not find much favour, as a rule, in private establishments at the present day. This is a native of several parts of tropical America, and was originally introduced to this country in 1793, where it has probably been grown more or less since that time, and has no doubt been many times re-introduced by private enterprise. Visitors to those parts of America where it grows, and who are enthusiasts in plant collecting, get taken by its gay appearance under its native skies, and bring home specimens. Under cultivation it proves one of the most regular and easily-flowered of all the species, not even excepting B. grandiceps, which produces huge trusses of flowers with tolerable freedom. The blooms of B. coccinea are scarlet, and produced in smaller clusters, which, however, are more plentifully scattered over the plant. A small specimen was brought from Jamaica to Boston House, Brentford, about six or seven years ago, and is now flowering in one of the stoves there.

Gladiolus Colvillei alba Planted Out.

CONVENIENT places might often be found for planting out this beautiful variety in the houses of private establishments. Being hardy, the matter of temperature becomes a secondary question. If flowers, however, are required early, the corms might be planted in a warm pit, Peach-house, or vinery at work, by which they will be hastened and come into flower long before they do so in the open air. By planting out, the labour of potting and shifting about of the plants is avoided, while the plants may be left in the same position for years, where they will flower annually. A quantity is so planted out in an early Peach-house at High Elms, Hayes, Kent, and the corms have not been disturbed for the last three years. They are now coming into bloom, and will presently afford a large quantity of cut bloom. There are now many beautiful

forms of G. Colvillei in cultivation, but the pure white one, generally known as The Bride, is still the most popular.

Dracontium gigas.

This curious Aroid is better known under the name of Godwinia gigas, but it very seldom flowers under cultivation, as the growers of it are but few. The so-called flower—or, rather, spathe—is extremely curious, and by no means to be considered beautiful, whereas the leaf and its petiole are of great ornamental value. The latter rises to a height of 8 ft. or 10 ft., bearing a broad, much-divided, umbrella-like blade. The foot-stalk is generally looked upon by the uninitiated as a stem, because cylindrical and of great size. It is curiously corrugated, straw-yellow or grey, and marbled with brown. A flowering specimen might have been seen quite recently in the Victoria house at Kew. The singular-looking spathe was 21 ins. long, rolled together at the sides, and hooded at the top, leaving only a small opening at the side for the entrance of insects, which we presume do visit the flowers in a state of nature, judging from the disagreeably strong and fœtid odour they give off at a certain stage of their development. The flower-stalk, unlike that of the leaf, was only 1 ft. in length. The species is a native of Nicaragua.

Should Vines Setting Fruit be Syringed.

I noticed in one of your contemporaries this question answered by Mr. Baines some time since in the affirmative. I am not an authority on the question myself, but am interested just now, as my Vines are showing incipient or embryo bunches, and I should like to be satisfied whether it would be judicious to continue syringing, and if so, under what circumstances? Whether the house had better be muffled [?]—lightly or heavily? Whether the house, having a naturally moist atmosphere, would render syringing less desirable? and if syringing is desirable, what precautions are requisite as to doing it during strong sunshine in the early morning, or later in the evening when the sun has declined?—*W. J. Murphy, Clonmel.* [Syringing the Vines while in flower is practised by some successful growers, but not by the majority, and we regard it as an extreme measure only to be resorted to, perhaps, in the case of such shy setters as the Cannon Hall Muscat. It is better on the whole not to use the syringe, but to assist the distribution of pollen, the canes may be tapped with the hand about mid-day, when it will be most potent in its action if the atmosphere be dry.—Ed.]

ORCHID NOTES AND GLEANINGS.

Cattleya citrina.

This beautiful Cattleya merits much more attention from Orchidists than it generally receives—in fact, even at the present day there are numbers of growers who are prejudiced against it; some say it deteriorates, others that it is "a bad doer," and a few declare they cannot grow it. I sympathise with the latter class, and admire their honesty. No doubt, therefore, there were just grounds for the prejudice, as the requirements of these pretty Orchids were not fully understood, but I am glad to say that a brighter day has dawned in this respect. I had an opportunity a little time ago of seeing some fine masses over twenty years old, the bulbs each year showing larger and finer growths in every way than their predecessors, and proving beyond doubt that where the plants receive proper treatment they neither deteriorate nor are short-lived. Now is the time to purchase newly-imported masses, which are the best to commence with, and if they are fastened to a raft or block of wood with copper wire (Poplar makes an excellent block, so does Teak, Maple or Apple), grown cool, and allowed a fair proportion of sunshine, I am confident they will give satisfaction.—*J. McNab.*

Cattleya Lawrenceana and its Varieties.

The darker and more typical forms of this beautiful Cattleya appear to be held in most esteem, but those who admire Orchids generally cannot fail to recognise the beauty of C. L. concolor and C. L. oculata for their distinctness and chaste appearance. They have been flowering for some time past in the fine collection of F. G. Tautz, Esq., Studley House, Hammersmith. The sepals, petals, and lip of C. L. concolor are of a uniform pale or soft mauve, with the exception of the lip, which has a white throat. The sepals and petals of C. L. oculata, on the contrary, are pale rosy purple, with the tube of the lip of the same hue. The expanded portion of the lamina, however, is of a rich or intense purple, bringing out the white throat very distinctly, and suggesting the varietal name, which meanseyed—the white spot on a dark ground resembling an eye.

Double-flowered Orchids.

The inseparation of two flowers developed in close proximity to one another, whereby they appear in a more or less monstrous condition, is a peculiar phenomenon, and although tolerably common, seems to be most frequent amongst Orchids, even those that have not been improved by hybridisation and culture. A specimen of Odontoglossum crispum, consisting of two flowers grown together, has been sent us by Mr. Stanton, The Nook, Wilberforce Road, The Hyde, N.W. The two ovaries were completely amalgamated, and the upper sepals of the respective flowers bifid at the tip only. One of the lateral sepals was entirely suppressed, while two out of the four petals were also wanting. The two lips were perfect, and the two columns nearly so, but united to the apex. The whole flower had a pretty effect. A similar case occurred at Devonhurst, Chiswick, in the case of Dendrobium Devonianum. Curiously enough, all the six sepals were present, as well as the four petals and two lips. The ovaries and columns were completely united, and what seemed unaccountable was the presence of three anther caps, all seemingly perfect. Two of them were rather close to one another, and placed face to face. The fringes of the lips and the lively violet-purple tips to the sepals and petals gave this double flower a charming appearance.

Dendrobiums at Misarden.

At Misarden Park, Cirencester, the seat of E. A. Leatham, Esq., I saw recently a few fine examples—viz., Dendrobium fimbriatum oculatum with seventy racemes, and having an aggregate of 1,200 flowers of immense size; D. Brymerianum, a very fine variety with several splendid blooms; D. Wardianum, D. thyrsiflorum, D. macrophyllum, and several Cattleya citrina, all of which are in the best of health. Great credit is due to Mr. W. F. Excell, the gardener, for the care and attention he so freely bestows on his pets.—*J. McNab.*

Cœlogyne pandurata.

Seldom has it fallen to my lot to see a finer variety of this lovely Cœlogyne than came under my notice the other day in the collection of A. T. Plane, Esq., Longford, Minchinhampton. It has a spike fully 18 ins. long, and many of the flowers have a diameter of 8 ins. No description affords any conception of its real beauty. Cœlogyne ocellata finds a happy home here too, and the remarkably pretty Deudrobium pulchellum brightens up a dark corner with upwards of 100 modest flowers. Mr. W. Driver, who is the gardener in charge, is an enthusiastic Orchid grower. —*J. McNab.*

A Fine Odontoglossum triumphans.

As years go on we find a wonderful amount of variation in this species, and although it may never equal O. crispum in that respect, yet we may expect wonderful improvements upon the original. The chief variation consists in differences of the shade of colour, but we noted a very fine form the other day at Devonhurst, Chiswick, the flowers of which showed great breadth of segment, making them on the whole as round and regular as some of the best forms of O. crispum. The sepals were elliptic, bright yellow, and heavily banded transversely with deep chocolate-brown, except at the top. The petals were broadly ovate, overlapping the sepals, and similarly coloured. The lip was unusually short and broad, white on the lower half, with a submarginal line of brown spots on each side, while the upper half was deep chocolate. On the whole, then, the flowers gave evidence of a marked improvement over the greater bulk of the forms in cultivation.

Cypripedium bellatulum.

Beautiful as C. Godefroyæ is generally considered to be, it is surpassed by its more recently-introduced relative, C. bellatulum. We noticed a fine batch of plants in one of the Orchid houses at Studley House, Hammersmith, the residence of F. G. Tautz, Esq., under the care of Mr. C. Cowley. The flowers are larger in every way than those of C. Godefroyæ, with rounded and blunt petals of great breadth. The ground-colour of the flowers during expansion is of a pale creamy yellow, but soon becomes of a pure white, heavily blotched with dark or blackish purple. The spots on the lip are somewhat smaller than on the rest of the flower, but in all cases are more pronounced than in its relative already mentioned. Some blooms showed rose markings, as if varying towards C. bellatulum roseum, also to be seen in this fine collection. The lip or pouch in some cases was of unusual length, and when the plant becomes fully established in this country we may expect to see some splendid samples, the beauty of which it would be hard to over-estimate.

Odontoglossum Cervantesii and its Varieties.

Three very distinct forms may at present be seen at Studley House, Hammersmith, in the fine collection of F. G. Tautz, Esq. The typical form has the usual transverse brown markings on the base of the sepals and petals; but the lip is pure white. The variety O. C. decorum, on the contrary, has a larger lip, which is more or less dentate or incurved at the margin, and blotched nearly all over with brown. The variety O. C. Morada is less common than either of the other two, but is very pretty and merits extensive cultivation. The ground-colour of the whole flower is a soft rose, with darker markings scattered here and there over the sepals and petals, while there are the usual transverse markings at the base. Being of dwarf, compact habit, all the forms of O. Cervantesii may be accommodated in small space; and they give most satisfaction when grown in small pots or pans and hung up near the glass, or stood on a shelf equally well exposed to the light. They are not in any way difficult to cultivate, while their flowers are appreciated at any time.

What is a Species?

The rage for something new amongst Orchids is at a climax at present; but whether the forms produced by hybridisation are always improvements or not is another matter. Science is not satisfied with hybrid plants, but in the case of the so-called bi-generic productions at least, it hybridises the names as well. Zygopetalum crinitum × Colax jugosus resulted in a plant now named Zygocolax Veitchii; and as the female and male parents are indicated by it, science may be allowed to reap the benefit of such a composite name. In like manner Sophrocattleya Batemaniana was derived from Sophronitis grandiflora × Cattleya intermedia, although it is structurally a Lælia, or nearly so, and was named such by Reichenbach. Phaiocalanthe Sedeniana was obtained from Phaius grandiflorus × Calanthe vestita. All are intermediate between the parents, and are botanically very interesting from the fact of their being the inter-blending of two plants considered by botanists not only specifically but generically distinct. After all, however, it raises the question I have frequently debated — namely, whether there is any such thing as a species or a genus in nature? It may entail upon me a renewal of the argument, but I have always contended that there are no such distinctions made by nature, and that all organised life is comparable to a chain—continuous from the commencement, but from which one or more links recurrently go amissing as time advances.—*J. F.*

The Gardeners' Calendar.

THE STOVE.

Fine Foliaged Plants.—It is often very inconvenient in small places to give different subjects the proper treatment, owing to the want of several houses, or, at least, several compartments. In the matter of shading, the best may be made of the circumstances by arranging the plants which require shading at one end of the house, while those that do not require it may be grouped by themselves. It is usual to shade Caladiums, but if otherwise properly cared for in the matter of heat and moisture, the leaves will be greatly improved by a considerable amount of exposure during the greater part of the day. By so doing they will be thicker, less papery in character, and better able to withstand a dry atmosphere when transferred to the exhibition room or elsewhere as they may be required. Crotous, Dracænas, and many other things will be similarly benefited by like treatment, and in addition the leaves will be more highly coloured.

Gesneras, Achimenes, &c.—Tubers and rhizomes of these started now, will come in useful for late autumn and winter use. Where the convenience of a hot-bed or Melon frame is at command, the tubers may be started without the necessity of putting them into pans. The best should be sorted out by themselves and laid on the bed, covering them with moist leaf-soil till they are fairly started into growth, after which they can be potted singly or put into their flowering pots, pans, or baskets, according to the requirements of the establishment. Should it be necessary to increase the quantity of any particular kind, the tops may be taken off after the plants have made a few inches of growth, and struck as cuttings. If properly looked after they will flower in autumn.

THE GREENHOUSE.

TUBEROUS BEGONIAS.—Early sown seedlings should now be far enough advanced to be placed in an intermediate house, where above all things they should be well exposed to light, giving at the same time plenty of ventilation. Those who are in the habit of keeping their plants growing for the greater part of the summer in a close, moist atmosphere, with a high temperature, can never compete with those who grow their plants with cool treatment. Long leggy stems scantily furnished with foliage, and which can last but a short time in bloom, is the only result of coddling these beautiful subjects that delight in a freer atmosphere. The last and previous years' tubers, now well started into growth, should also be treated like seedlings at a corresponding stage of growth. The late-flowering kinds, such as John Heal, Adonis, Winter Gem, B. Frœbelli and similar kinds may still be kept in a dormant condition. See, however, that they are neither getting too dry nor rotting from drip in the pots.

THE FORCING HOUSES.

LATE GRAPES.—Attend to such kinds as Gros Colman and Lady Downes; loop down the young shoots before they get injured against the glass, and stop them at the second leaf beyond the bunch when that can be discerned. Owing to the heavy rain which has fallen lately, no watering of outside borders will be necessary. Feeding with some of the many kinds of artificial manures will stimulate the Vines. Use some of the manures whose value is now well known, and which can be depended upon.

MELONS.—Maintain a dry atmosphere in the earliest house where the fruits are now ripening or fast approaching that condition. A chink of air must also be left on all night, otherwise well-flavoured fruit cannot be obtained. Within the radius of the London fogs, the ripening of fruit has been greatly retarded by the deficiency of light, so that the earliest batch will be later than usual. Notwithstanding this, the proper and requisite treatment must be attended to, even if ripe fruits cannot be obtained as early as desirable. A night temperature of 70° will be quite sufficient for later kinds, and as the thermometer rises in the morning a little ventilation must be given, increasing it as the sun gains strength. Close early in the afternoon, allowing the temperature to rise to 90° with sun-heat, while everything should be kept moist by damping down and syringing.

FIGS.—As the earliest crop matures, the fruits should be kept as dry as possible by avoiding a free use of the syringe. Owing to the plants being laden with fruits in all stages, the plants must receive copious supplies of tepid water at the roots. The foliage in the lower part of the plants may still be syringed, and after the ripe fruits have been gathered, advantage may be taken to give the foliage a good syringing to keep it in health and check red-spider, to the attacks of which the leaves are very liable.

THE KITCHEN GARDEN.

STONE FRUITS.—The disbudding of Peaches, Nectarines and Apricots must now receive due attention, for it is no advantage to allow the development of shoots that must ultimately be cut away. Remove all breast wood and such shoots as will not be required to form the fruiting wood next year. The lowest shoots must, of course, be reserved for this purpose. Keep down insects by a free use of the syringe or garden engine. A solution of soft soap at the rate of four ounces to the gallon may be used in very bad cases. This should be done early in the afternoon so that the foliage may get dry before nightfall, in case of cold or frosty nights.

APPLE AND PEAR TREES.—Early and valuable kinds on walls had better be protected with tiffany in case of late frosts when they are in bloom, and to ward off the effects of heavy downpours of rain and hail, which knock the flowers to pieces.

THE WEATHER.

AT the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending April 27th was 29·62 ins.; the lowest reading was 29·28 ins. on Wednesday morning and the highest 29·85 ins. on Friday morning. The mean temperature of the air was 47·5°, and 0·9° below the average in the corresponding weeks of the twenty years ending 1868. The mean showed an excess on Monday, Friday, and Saturday, while it was below the average on each of the other days of the week. The general direction of the wind was south-west. Rain fell on six days of the week to the aggregate amount of 0·75 of an inch. The duration of registered bright sunshine in the week was 31·3 hours, against 34·7 hours at Glynde Place, Lewes.

THE NURSERY AND SEED TRADE.

From Tuesday's GAZETTE.

RECEIVING ORDER IN BANKRUPTCY.—Lewis Isaacs, Mansell Street, Whitechapel, importer of bulbs.

BANKRUPTCIES, &c.—April 24th.—Stringer & Co., Brighton, public examination, debtor passed. April 25th.—William Fisher, meeting of creditors, held at Birmingham; Mr. Goodchild represented the majority of creditors. Debts £350, assets £100. Composition of 5s. in the £ offered. Payable in two months.

QUESTIONS AND ANSWERS.

CANTERBURY BELLS.—*A. D.:* They will not flower till next year.

LEMON GRASS.—*J. Jeffries:* The sweet-scented grass is the Citronella or Lemon Grass (Andropogon Schœnanthus, also known under the name of A. citratum). It is a native of India, where the leaves are put through a baking process by the natives, and then used for medicinal purposes. In this country the expressed oil is used in perfumery. The plant is also grown in conservatories for the agreeable odour of its leaves, and which is the more powerful when the latter are rubbed or bruised.

MANURE FOR CHRYSANTHEMUMS.—Having a quantity of manure, the refuse of a blacksmith's shop, consisting of horse-droppings, hoof-parings, and a large amount of iron-filings, I should be glad if any of your readers who have tried the above upon Chrysanthemums, either as a top-dressing or mixing with the potting soil would state their results. First, what effect it had upon the plants, if beneficial or otherwise? and secondly, in what proportion it was used, and when? I may state that the natural soil in this neighbourhood is largely impregnated with iron, so that I am afraid I should not gain any benefit by using the above. Any information concerning it would oblige—*Country Mum.*

MELONS GOING OFF.—*Constant Reader:* The leaves and young shoots of your Melons are affected with a small mite allied to the red-spider. The mite can be detected by means of a lens, and is of a pale yellow or whitish appearance. We have frequently seen it both on Melons and Cucumbers. The best preventative is to keep your plants well syringed, and the atmosphere of the house should be kept thoroughly moist, especially at night, commencing when it is shut up in the afternoon. There are also several remedies, including sulphur, which is one of the best. It is sometimes applied to the leaves in a dry powdered condition, but the following solution is better:—Into four gallons of clean water put 1 lb. of sulphur and 2 lbs. of quicklime, and boil the whole together for a short time; allow the mixture to cool, and syringe the plants with it. Painting the hot-water pipes with a mixture of sulphur and chalk in water is another method that may be recommended.

NAMES OF PLANTS.—*W. Hayward:* 1, Phylocactus sp.; 2 and 5, Begonia insignis; 3, Gasteria verrucosa; 4, Sedum Sieboldii; 5, Cereus sp.; 6, a monstrous Gloxinia (which we have seen before, but which is by no means common), having a petaloid outgrowth from the base of the corolla. *Anxious to Learn:* 1, Corydalis solida; 2, Scilla siberica; 3, Veronica Buxbaumii; 4, Cardamine hirsuta; 5, Chrysosplenium oppositifolium; 6, Mercurialis perennis. *W. Latimer:* 1, Berberis Darwinii; 2, B. stenophylla; 3, Aubrietia deltoides Hendersoni; 4, Sedum acre aureum; 5, S. rupestre.

PRIMROSE.—*A. B.:* A very large flower certainly, but coarse and pin-eyed. By raising seedlings from it, and growing in rich soil, we think it might be improved. In any case, see what it will come under garden cultivation.

VINE SHOOTS AND LEAVES.—*J. Jeffries:* We failed to detect any fungus to which we might ascribe the crippled appearance of the young leaves. The cobweb-like felt on both surfaces consisted of long interlacing hairs, such as are natural to several varieties of the Vine, such as Lady Downes, and the evil cannot in any way be ascribed to that. Many of the young leaves presented an appearance similar to what we have repeatedly seen in Cucumbers and Melons, which sometimes entirely fail through being attacked by a pale-coloured mite, similar to the red-spider. We should be much interested to know whether the evil continues to exhibit itself during the whole of the summer. Is the atmosphere of the house kept sufficiently moist at all times, but particularly so at night? We should also be glad to receive fresh leaves that exhibit the phenomenon later on.

TURNIPS AND LETTUCE FOR AUGUST 7TH.—*T. Skyrme:* Turnips of the White Stone type, sown from May 22nd to the 28th, will be of a nice size, not over old, and in good condition for exhibition on August 7th. Lettuce require about the same time to develop fully, and if you are growing some of the largest kinds, you may allow them a little more time, and sow about May 20th; but in all cases it is better to have them young and tender than very large and too old.

COMMUNICATIONS RECEIVED.—J. A.—Donald & Co.—T. R. S.—W. H. E.—J. P.—W. B. H.—J. T.—W. W.—M. T.

COVENT GARDEN MARKET.

May 1st.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.
Anemone, French, per doz. bunches.	1 0	4 0
Arum Lilies, 12 blms..	2 0	4 0
Azaleas ....12 sprays	0 6	1 0
Bouvardias, per bun.	0 6	1 0
Camellias, white, doz.	2 0	4 0
— coloured..... ,,	0 6	1 6
Carnations, 12 blooms	1 0	2 0
Cyclamen..12 blooms	0 4	0 9
Daffodil, dble.,12 bun.	2 0	4 0
— single, various	4 0	9 0
— or Lent Lily ,,	1 6	3 0
Eucharis ..per dozen	3 0	6 0
Gardenias, 12 blooms.	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0
Hyacinths, in boxes (Holland)	1 0	3 0
Lapageria, 12 blooms	2 0	4 0
Lilium longiflorum, 12 blooms	3 0	6 0
Lily of the Valley, 12 sprays	0 6	1 0
MaidenhairFern,12bns	6 0	9 0
Marguerites, 12 bun.	3 0	6 0
Mignonette, 12 bun.	4 0	6 0
Pansies ..12 bunches	1 0	3 0
Pelargoniums,12spys.	0 6	1 0
— scarlet ..12 sprays	0 4	0 6
Polyanthus, 12 bnchs.	1 6	4 0
Primroses..doz.buns.	0 6	1 0
Primula, double, bun.	0 9	1 0
Ranunculus, French, per doz. bnchs.	1 0	3 0
Roman Hyacinths, French, 12 bun.	1 0	2 0
Roses, Tea, per dozen	0 6	1 0
— Red .....per doz.	3 0	6 0
— Red, French, dozen	1 6	2 0
— Saffrano ..per doz.	1 0	2 0
Stephanotis,12 sprays	3 0	4 0
Tuberoses, per dozen.	1 6	2 0
Tulips ....12 blooms	0 3	0 4
Violets ..12 bunches	0 6	1 0
— Parme. French, bun.	3 0	4 0
— Czar, French ,,	1 6	2 0
— Dark ,, ,,	0 9	1 0
Wallflowers,12 bnchs,	4 0	6 0
White Lilac, French, per bun.	3 0	5 0
White Narciss, French, doz. bunches	3 0	6 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.
Apples .....½-sieve	2 0	4 0
Grapes .....per lb.	2 0	6 0
Grapes, new .. ,,	4 0	6 0
Pine-apples, St. Michaels.....each	2 0	7 0
Pine-apples, Eng., lb.	1 0	1 6
Strawberries.. per lb.	2 0	4 0

Canadian and Nova Scotia Apples, per barrel, 7s. to 17s.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.
Aralia Sieboldi ..doz.	5 0	12 0
Arum Lilies..per doz.	6 0	12 0
Azalea.....per doz.	18 0	30 0
Bedding plants, in var., per doz.	1 0	3 0
— — in boxes ,,	1 0	4 0
Cineraria ..per dozen	6 0	10 0
Cyclamen ..per doz,	9 0	18 0
Cyperus, ..per dozen	4 0	12 0
Dracæna term., doz.	30 0	60 0
— viridis, per dozen	12 0	24 0
Erica, various ..doz.	9 0	24 0
Evergreens, in var. .,	6 0	24 0
Ferns, in var., per doz.	4 0	18 0
Ficus elastica ..each	1 6	7 0
Foliage Plants, various .....each	2 0	10 0
Genista ....per dozen	9 0	12 0
Heliotrope ..per doz.	6 0	9 0
Hyacinths ..per doz.	6 0	9 0
Lilies of the Valley, per doz.	9 0	18 0
Marguerites per doz.	6 0	12 0
Mignonette, doz. pots	6 0	12 0
Palms in variety, each	2 6	21 0
Pelargoniums, scarlet,	4 0	9 0
Pelargoniums, per doz.	8 0	18 0
Pinks, &c. .. per doz.	6 0	9 0
Primula sinensis		
Roses, H.P., per doz.	12 0	24 0
Roses, Fairy, per doz.	9 0	12 0
Spiræa .....per doz.	9 0	12 0
Tulips ..... per doz.	6 0	9 0

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R. Smith & Co. 570

Trees and Shrubs, &c.
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PACKAGE AND CARRIAGE FREE.

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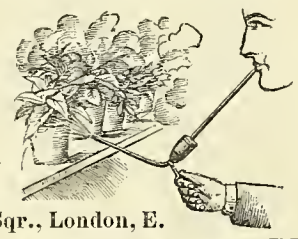

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FIR TREE OIL
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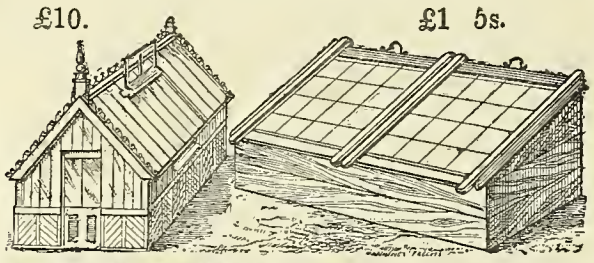

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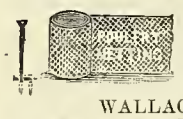

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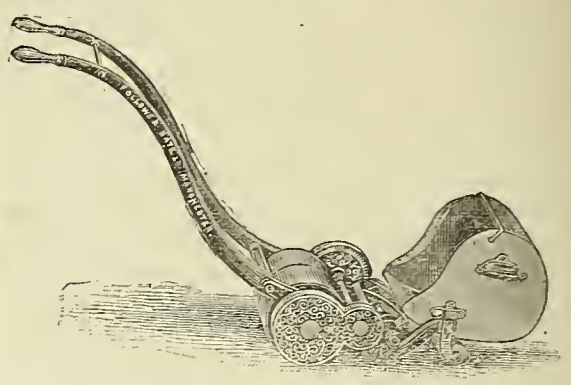

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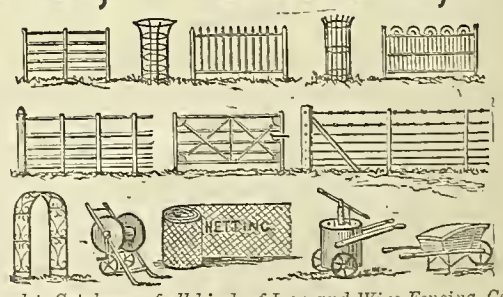

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POLYANTHUS and PRIMROSE (Hybrids).—Jack-in-the-Green, Hose-in-Hose, and other rare and curious forms, splendid mixed colours, finest strain grown. 12 for 1*s*. 6*d*. ; 25, 2*s*. 6*d*. ; 100, 9*s*., all good blooming plants. Also seed from above, 6*d*. and 1*s*. per packet.

The beautiful pure white and pink MALVA MOSCHATA, one of the best hardy border plants in cultivation. Strong two-year-old plants, 12 for 1*s*. 6*d*. ; 25, 2*s*. 6*d*. Seed, 6*d*. and 1*s*. per packet.

PRIMULA CORTUSOIDES.—A grand spring flower (hardy). Gardening papers say it would be difficult to find a more beautiful plant for the rockery, greenhouse or window than this. 4 for 1*s*. ; 12, 2*s*.

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The new DOUBLE SCARLET GEUM.—Hardy free bloomer. Strong two-year old plants, 12 for 1*s*. 6*d*. ; 25, 2*s*. 6*d*.

TOMATOS.—The three best sorts in cultivation—Abundance, Perfection, and Favourite. See Chiswick great Tomato trials. 3 plants of each for 1*s*. 6*d*. ; 6 each, 2*s*. 6*d*.

Collection of 12 HARDY BORDER PLANTS, distinct and useful for decoration and cutting purposes, for 2*s*.

Collection of 12 varieties of showy free-flowering and other WINDOW PLANTS for 2*s*.

S. SHEPPERSON,

Florist,

BELPER.

DAHLIAS.

My New Catalogue of above, No. 108,

Is the ninth Catalogue I have published this spring, copies of which have been sent to all my customers. It contains a number of

NEW VARIETIES,

Now offered for the first time, all of which are vast improvements upon all existing varieties, and such as will please the public.

CACTUS OR DECORATIVE VARIETIES.

The following new varieties I am now offering for the first time, all of which I have every confidence in recommending, they are **AMPHION, ASIA, MISS JEKYLL, HONORIA, MRS. B. S. LIDDALL, MR. GEORGE REID, PROFESSOR BALDWIN, PANTHIA, SYDNEY HOLLINGS,** and **SIR TREVOR LAWRENCE.** In addition to these,

MY GENERAL COLLECTION

Contains every variety worthy of cultivation, both old and new. They are all fully described, and many of them beautifully figured.

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This is a very popular section, especially for cutting. The flowers are perfection in shape, and every shade of colour will be found among them.

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These are the large-flowered varieties, the kinds usually seen on the exhibition table. The flowers are of immense size and of every shade, and of the easiest cultivation. My collection is a very large one, and contains every variety up to date worth cultivating.

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These are very useful for bedding, and are held in high esteem for cutting on account of their dwarf character and wonderfully free-flowering habit. This Catalogue also contains

ABRIDGED COLLECTIONS OF

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These are two popular families for summer decoration. The new Dwarf Cannas are specially fine, and will become a favourite group when better known.

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DOUBLE PYRETHRUMS.

THE finest and most beautiful hardy border plants, in different colours, to name ; twelve plants, 4*s*. ; six plants, 2*s*. 6*d*. Free by parcel post to any address.

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RAILWAY RATES.

THE PUBLIC MEETING of the Trade, called for the 14th inst., will be held in the Large Room, "Hotel Windsor," Victoria Street, Westminster, instead of in the Room of the Horticultural Club as advertised last week.

F. C. GOODCHILD,
Secretary, Nursery and Seed Trade Association, Limited,
25, OLD JEWRY, LONDON, E.C.

☞ TERMS OF SUBSCRIPTION.—Post free from the office to any part of the United Kingdom, one copy, 1½*d*. ; three months, 1*s*. 8*d*. ; six months, 3*s*. 3*d*. ; twelve months, 6*s*. 6*d*. Foreign Subscription to all counties in the Postal Union, 8*s*. 8*d*. per annum.

Next Week's Engagements.

MONDAY, May 13th.—Sale of Orchids at Sudbury House, Hammersmith (and four following days), by Protheroe & Morris.

TUESDAY, May 14th.—Royal Horticultural Society : Meeting of Committees at 11 a.m. ; Lecture at 3 p.m. Nursery and Seed Trade : Meeting to discuss the Railway Rates Question at the Hotel Windsor, at 3.30 p.m.

WEDNESDAY, May 15th.—Royal Botanic Society's Summer Show.

THURSDAY, May 16th.—Sale of Orchids in Flower at Stevens' Rooms.

For Index to Contents & Advertisements, see p. 585.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MAY 11, 1889.

CURRENT TOPICS.

SPRING AT LAST.—It does seem rather late it is true, but it is a fact that not until we had got into the month of May did we have any spring-like weather. The advent of the flowery month, as the poet terms it, seems to have been the turning point in the season, for at the close of last week came some really warm sunshine, and under its benign influence the trees and the hedgerows burst into a glorious wealth of leafage, the long sleep of nature which had endured in the deciduous trees for six months was broken at last, and life once more was resumed. There are few greater charms in nature than those that the unfolding of the spring growth presents.

The change is not, of course, a rapid one. Ours is not a tropical climate, neither is it one of sudden changes of temperature, as in the northern regions where with the disappearance of the snow comes, as it were, instant spring. Ours is a slow-moving climate, and now nearly always a laggard one. The better aspect comes at last, but so ungraciously that one-half the charm incidental to the change is lost. All the same we would not ignore the beauty of real spring weather, and of its effects upon vegetable life. Once the movement to a better and brighter state of things is begun, then the steps in its progress may be distinctly marked

from day to day, each one opening some new evidence of joy or of beauty.

The gradual changing of the earth, as it were, from the dull brown of death to the bright and beautiful life of green foliage and verdure is one of the most delightful things in nature, and when the flowers come our joy is crowned with ecstasy, yet we are anxious for the fruits of the earth. Harvest-time will come inevitably, and without a good record all the beauty of spring will have been exhibited in vain.

An Impromptu Market. — The very interesting and quaintly descriptive account of the impromptu vegetable market, which appeared in the columns of the *Daily News* one morning last week, which we trust may receive the attention of both the Middlesex and London County Councils, illustrates the need which exists, and upon which we have more than once previously commented, for the provision of larger and improved vegetable and fruit market accommodation for the metropolis.

The old appellation which *Punch* flung so liberally and with such telling effect at our chief metropolitan market is hardly now applicable; but it enjoys the distinction of being the most central place of trade and barter in garden products, whilst it, so far as growers and outer traders are concerned, lies under the disadvantage that it is far too remote for them. Hence, we read now of really a big market of a semi-wholesale kind having grown up in the public streets at Kew Bridge, where the heavily laden waggons of the market growers — on the alternate or non-London market mornings—do gather in large numbers, and being there met by dealers, greengrocers, &c, by the score, do a big business with no market authority to say nay, or to exact fees.

Now, here is practical evidence at once of the need for more public markets, and whilst the County Councils named should turn their attention to this matter with all possible speed, it is equally certain that the public will do their best to trade, although illegitimately, until some proper market accommodation is provided. There can be no doubt but that monopolies must give speedy place to further markets.

Railway Rates. —We hope the meeting called by the Nursery and Seed Trade Association for the afternoon of the 14th will not appreciably conflict with Professor Michael Foster's paper on the Iris, which he is to read in the Drill Hall, Westminster, about the same time. Remembering the severely technical paper with which Mr. Baker, of Kew, opened the series of afternoon meetings, we cannot but hope that the learned Professor will say much that is other than highly technical also; and, as between the botanical and the economical, that there may be no conflict of attraction. Still it is hoped in the interests of trade that the greater force may be with the economical.

We find in the question which will occupy the meeting at the Hotel Windsor, that it is one of serious importance to the seed and nursery trade. It is not merely one of passing interest, but it is of a permanent character, because any victory gained by the Railway Companies now, with respect to their rates of transit, would hang about the neck of trade like a dead weight, and might seriously serve to cripple the goose which lays the golden eggs for the railways. It is obvious that with goods of all kinds, as with people, cheap and rapid transit from place to place is now a matter of first importance; it is, indeed, an indispensable adjunct to successful trading.

Whilst traders in other commodities will assuredly look after their interests, it equally behoves all, whether engaged in the nursery and seed trade or but simply interested in it, to contend against charges which promise to be as unfair as they are likely to be exacting. Practically, high charges for the transit of goods mean a sort of embargo on trade, and anything unjust to any trade, cannot now be tolerated.

The Fruiterers Company. — This body is desirous of doing something to justify its existence, and therefore proposes to offer the sum of 25 guineas as a prize for the best essay on fruit culture for cottagers and small allotment-holders. It will be very hard indeed for anyone to write anything that is new on the subject of hardy fruit culture, and because so much has already been said, any expert but not a practical man may secure the coveted prize. That the sum should be given as one prize only is unwise, and, as if that were not enough, a medal of the value of £5 is to be added. Had the sum offered been 10 guineas, with the gold medal for the first prize essay, 10 guineas for the second, and 5 guineas for the third, a very much more satisfactory arrangement would have been made, as the best rarely differ appreciably in character or ability.

But when the essays are written, who are to be the censors? That is a very serious matter for the competitors. Men with big reputations, too inert or too much occupied to study these productions closely, will make mistakes, and probably prove unjust. Competitors ought to know who the censors are to be before they enter upon the writing of essays. There is yet another difficulty, Will the censors regard the diverse nature of our climate, and the positions of gardens, north and south, also diversity of soils, in the selection of the best? What is advised for southern methods may be totally unfitted for northern districts.

Then, in dealing with fruit planting, the assumption should be that all allotments and gardens are freehold, or else it will be impossible to define what is the best for tenants-at-will, or those liable to be ejected from their holdings at short notice. Obviously much will have to be assumed which is not real.

The Bulb Sales in Holland. — We learn from Haarlem that as a result of largely over-selling last season, the prices of bulbs went up all round at the auction sales, which have been held in the bulb-growing districts during the last fortnight.

Gardening Appointments.—Mr. John Crook, late gardener at Farnborough Grange, Hants, as gardener to W. H. Evans, Esq., Forde Abbey, Chard. Mr. William Connelly, gardener to the late F. J. Clarke, Esq., Bracebridge Hall, Lincoln, as gardener to John R. C. Talbot, Esq., Rhode Hill, Lyme Regis, Dorset. Mr. Geo. Bristol, late gardener to A. Kleinwort, Esq., The Glebe, Champion Hill, East Dulwich, as bailiff and gardener to C. F. Woodgate, Esq., Bella Vista, Hever, Kent.

Keighley Horticultural Society.—The annual exhibition of this old established Yorkshire society is announced to be held on August 17th.

Primula Sieboldii.—We understand that at the show held in the Town Hall, Manchester, last week, the Messrs. Ryder, of Sale, exhibited another beautiful group of these plants, and were awarded a Silver Medal.

The Winchester Horticultural Society will hold its annual summer show on June 27th; and its seventh exhibition of Chrysanthemums on November 19th and 20th.

The Royal National Tulip Society.—The annual exhibition of this society for the present year will take place in connection with the great Whitsuntide show of the Manchester Botanical and Horticultural Society, on Friday, June 8th, and following days. The Tulips will be staged on June 7th, and remain until the evening of June 8th.

The Abbey Park, Leicester.—Mr. John Burn, the curator of this beautiful park, has again issued a schedule of prizes for a flower show and gala, to be held under the management of the Park Committee, on Tuesday, August 6th.

Wood-wool as Packing Material.—Under the clumsy trade name of wood-wool, Mr. J. George, of Putney, has sent us a sample of finely cut wood shavings, which it is thought will be found superior to either cotton-wadding or dry moss for packing choice fruits. It has the merit of being lighter than moss or wadding, with greater elasticity, and is durable, clean and cheap, being about one-third the price of wadding. It is well worth a trial.

The Spring in South Westmoreland.—A correspondent writing from the extreme head of Morecambe Bay, says:—"In reading your comments on spring in your last issue, I couldn't but feel that we in South Westmoreland were living in a very favoured locality. It has certainly been cold at times through April, but it has been a genial kind of cold, with no more rain than was necessary for moisture. The farmers all around acknowledge that they never remember such a season of plenty, having grass in abundance. Fruit trees are not forward but are very promising, and so far as can be seen at present everything augurs well for a fruitful season."

Hyacinths and Tulips in Hyde Park. — The Hyacinths naturally come into flower before the Tulips, but of the latter a number of varieties were in full bloom on the 27th of April last, while the Hyacinths were still in their prime, and must therefore be considered early for their kind. The Hyacinths, on the whole, cannot be considered equal to those of former years, a fact which is easily accounted for by the unfavourable nature of last year. The display was, however, fine, and the following were amongst the best—namely, La Candeur and Grand Vanqueur, white; Lord Derby, light; and Baron Von Thuyll, deep blue; De Candolle, white and sky-blue externally; and Robert Steiger, rose-pink. A large breadth was planted with Tulips, but very few of them had passed the bud stage at the above mentioned date. Several beds, however, of Kaiser Kroon were in full bloom, and the large scarlet and broad yellow-edged flowers were very effective. Rembrandt, large scarlet; Chrysolora, medium-sized, yellow; Vermilion Brilliant, dwarf, bright scarlet; and Comte de Mirabeau, small-flowered, white, were all in full bloom as far as the weather would permit them, and must be considered early for outdoor bedding purposes.

National Co-operative Festival.—We are pleased to hear that this National gathering of working men co-operators, which created so much interest last year, is to be repeated at the Crystal Palace, on Saturday, August 17th. Mr. William Broomhall is again the general secretary, and the programme, which was a very extensive one last year, will be considerably augmented. For the flower show the prize list already amounts to £300 for vegetables, flowers and fruit. The exhibition of manufactures from co-operative productive workshops, will be under the auspices of the Labour Association. The number of performers in the great concert will be increased to 5,000, and a new selection of pieces will be sung. The home industries exhibition, the athletic sports, and the public meetings are being arranged for, and it is anticipated that a very large number of people will be present.

A Red Violet.—We are so accustomed to speak of Violets as blue, or violet-blue, and white, that we are liable to forget that the flowers contain other colouring matters, which wait only for selection to develop them. There is a considerable amount of purple or red even in the wild Violet; and a very considerable breadth of ground is occupied with a variety named Odorata rubra, in the nursery of Messrs. H. Cannell & Sons, at Eynsford, Kent. The flowers are equally fragrant as any, and being produced in great abundance are very effective, even at a distance. The colour is also very unique amongst Violets, and may be described as a reddish purple—the former being the most predominant shade at a distance. The tint is uniform throughout the flowers and show no trace of blue. Close by and in various parts of the grounds are large patches of various other kinds, amongst which are very conspicuous masses of Rawson's White. The plants are dwarf and very floriferous. Swanley White, often sold as Comte de Brazza, is a double white kind, Argentæflora is a pale lilac, floriferous kind, that blooms more or less all the year round when the weather is open.

The Al-Fresco Fayre and Floral Fête to be held in the Royal Albert Hall on May 29th and two following days, promises to exceed in popularity the famous Old English Fayre of seven years ago. Among the additional people who have promised to take an active part in the three days' revels will be H.H. Prince Louis Esterhazy, who will assist Lady Constance Howard at the Hop Oast; Sir Herbert Miller, Bart., Mr. Gordon Lennox, The Countess Cairns, and Lady Edward Churchill. Mr. Wilson Barrett will lend the original caravan used in "The Lights o' London," and Mr. Arthur Roberts, Mr. W. S. Penley, Mr. Geo. Barrett, and others will play Showmen. In the old country theatre the pathetic tragedy of "Who killed Cock Robin" will be given, together with the Mummers' Musical Medley. In the Village Fair, which will take place in the Albert Hall, there will be May Day Revels, procession of the May Queen, and Battle of Flowers by Children.

CHRYSANTHEMUM CULTURE.

THE CUTTING-DOWN SYSTEM.

The time for cutting down Chrysanthemums for grouping purposes being close at hand, a few hints thereon as to the time of operation and varieties I have found best suited to the system in this neighbourhood may be useful to some of your readers who may be about to commence this method of "dwarfing" plants. One of the most important points to consider is the treatment required by the plant to develop the bud as near as possible to the desired time, so that it may be taken at the right time to give good blooms. It may save much disappointment to know what sorts may generally be relied on to give the best results, as many of them resent this "dwarfing" treatment by giving a poor return after taking as much house-room as those that usually do well. It does not always follow that because a variety is late in flowering it should be the first cut down; it would depend more on what time the bud should be "taken."

Again, locality and situation should be taken into account and allowed for accordingly. I can, perhaps, explain this more clearly when I state that in a contemporary some time ago a Notts grower recommended the cutting down of Eve, Mabel Ward, Cherub, Hero of Stoke Newington, Princess Teck, and Mrs. Norman Davis not later than the last week in April. In this neighbourhood the date given would be fully a fortnight too early for the three former, and a month too soon for cutting back the three latter varieties. The buds would come much too early, and the result would be rough and deformed blooms. If instead of this we cut back Princess Teck, Hero of Stoke Newington and Mrs. Norman Davis about the first week in June, they give us the bud generally on or about the first week in September, and a good bloom may then be expected. These varieties would have to be housed earlier than most of the others to get them into flower at the same time. The four Christines and Cullingfordi are other examples of this kind. When two or more plants of one variety are to be cut down, a few days should be allowed between each, to make up for fluctuating seasons. For instance—of two plants of Princess Teck, cut one down the last week in May, and the other the first week in June. We cut ours down to about 4 ins. or 6 ins. from the soil, and stand them in an open situation to keep the young shoots dwarf and sturdy. For the same reason we seldom ever syringe as some recommend. As soon as the plants have pushed their buds shift into flowering pots, and if the soil is in a suitable condition—neither too wet nor too dry—it can scarcely be rammed too firmly. Three to five shoots should be left on each plant (according as the flowers are large or small), and the same number of stakes placed in each pot to tie out the shoots as they grow.

The soil we find them do best in is a mixture very similar to that recommended by Mr. Molyneux in his excellent treatise on the Chrysanthemum. The course of feeding advised by him is also very safe and sound, and young beginners cannot do better than follow his instructions thereon. The incurved varieties that do best cut back with us are Princess of Wales, Mrs. Heale, Barbara, Lord Wolseley, Prince Alfred, John Salter, Jardin des Plantes, Mr. Brunlees, Eve, Mabel Ward, Mr. Bunn, White Beverley, Lady Hardinge, Mrs. W. Shipman, Refulgence, and Prince of Wales. Of the Queen class, the only two to be depended upon are Lord Alcester and Golden Empress, though sometimes by chance we may catch Empress of India, Emily Dale, and Queen of England.

Among Japanese kinds, M. C. Audiguier, almost without exception, comes good with us cut back. We usually have it less than 5 ft. in height, and there is very little difference in the blooms of the dwarf plants compared with those grown in the usual way, which are often 8 ft. or 9 ft. high. Golden Dragon, Meg Merrilies, and Ralph Brocklebank can generally be had good at a little over 2 ft. high. The other best Japanese varieties are J. Délaux, Countess of Beauregarde, Gloriosum, Belle Paule, L'Adorable, Criterion, Sir Joseph (bronze sport from Peter the Great), Val d'Andorre, Mons. Freeman, Madame de Sévin, Triomphe du Nord, Album striatum, &c. Good reflexed sorts for the purpose are Cullingfordi, Cloth of Gold, Chevalier Domage, and the four Christines—white, peach, pink, and golden.

Subjoined is a list of varieties which generally come good with us when cut down. Appended is the time for the latter operation:—Middle of May: Eve and Mabel Ward. End of May: Mr. Brunlees, Cherub, Barbara, J. Délaux, Margaret Marrouch, Gloriosum, Belle Paule, Golden Dragon, Meg Merrilies, Ralph Brocklebank, M. C. Audiguier, Miss Annie Lowe, and Lady Margaret. First week in June: Jardin des Plantes, Mrs. Heale, Princess of Wales, Prince Alfred, Prince of Wales, Prince Teck, Hero of Stoke Newington, Lady Hardinge, Mrs. W. Shipman, Empress Eugénie, Mrs. Norman Davis, Lord Alcester, Golden Empress, and Queen of England class; Mr. Bunn, White Beverley, Mr. Brunlees, John Salter, Baron Beust, M. C. Audiguier, Belle Paule, Thunberg, M. Délaux, Criterion, Val d'Andorre, Triomphe du Nord, Sir Joseph, Striatum, Album striatum, Cloth of Gold, the four Christines, Chevalier Domage, Red Gauntlet, and Countess of Beuregarde. Second week in June: Mr. Bunn, White Beverley, Prince Alfred, Prince of Wales, Refulgence, Chevalier Domage, Cullingfordi, Val d'Andorre, Elaine, Madame Lacroix, Madame de Sévin, and Triomphe du Nord. The new varieties, such as Edwin Molyneux, Mrs. J. Wright, Mr. Cannell, Sunflower, &c., I have not yet tried, but hope to do so this year.

For the backs of groups a few such varieties as the following should always be grown, not cut back—namely, Val d'Andorre, Avalanche, Madame J. Laing, Cullingfordi, Cloth of Gold, Criterion, Dolores, Mons. Freeman, L'Adorable, Golden Dragon, Meg Merrilies, Ralph Brocklebank, Princess Teck, Hero of Stoke Newington, Princess Beatrice, Madame de Sévin, Lady Hardinge, and some of the Empress of India and Queen of England family. These should have as much light and air possible to keep them sturdy, and as dwarf as it is possible to get them.—*S. P., The Gardens, Broomfield Lodge, Chelmsford.*

HESPERIS MATRONALIS.

THE Dame's Violet or common Rocket is well known as an old-fashioned plant in almost every cottage garden, where it flowers about midsummer with very

HESPERIS MATRONALIS.

much the general appearance of a Phlox. In colour the flowers vary considerably from pale lilac to deep purple. It is considered a British plant, and described as such in the floras. As garden plants, however, the double forms are more esteemed than the single, and vary from pure white to deep purple. We give an illustration of a double variety, showing the habit of the plant, with a detached flower more near the natural size. The double white form, H. m. alba plena, when obtained true, is undoubtedly the best of all. Where it is well grown, the flower spikes at a short distance resemble double white Stocks; and their purity renders them conspicuous at a great distance. In the moister climate of the northern part of the island the plant thrives and flowers much more satisfactorily than in the dry atmosphere of the south. The best effect is produced when the plants are grown in beds, masses, or long lines along the sides of walks. The flowers of all, but especially the white forms, are sweetly scented after sunset. Propagation is easily effected by off-sets developed from the root stock towards the end of summer.

STREET PLANTING.

To those whose lot is cast in or near our more important centres of industry, the above subject is of vast importance, and one which, at the present time, occupies a large share of public attention. The surprise experienced by most persons in this country on first visiting any of the larger Continental cities—Paris, Brussels, or Berlin, and where street planting would seem to be considered as a matter of paramount importance—is great indeed, and invariably leads to the somewhat pertinent question, "Why cannot we make our cities beautiful by planting suitable trees and shrubs?"

No doubt there are a few drawbacks to be encountered in so doing, but that very much more might be accomplished than has hitherto been done is clearly evident to those who have devoted even a small share of attention to the matter. The atmosphere of our larger towns and cities—London, Liverpool, Glasgow, Manchester, and Sheffield—is, it must be candidly admitted, impregnated to a far greater extent with noxious fumes and vapours than is that of any of the Continental towns above mentioned, and, therefore, the difficulty of establishing many trees and shrubs is correspondingly increased. Experiments carried on during the last few years in one of the most filthy, smoke-laden, and chemically impure atmospheres of our great metropolis have clearly proved, however, that there are not a few trees and shrubs well suited for withstanding even the deleterious effects of what we may well term as the impurest of town atmospheres.

Not for one moment do I wish it to be inferred that there are not certain districts—to wit, the environs of the Lambeth potteries, and some of our huge chemical works—where, do what we will, vegetation, be it of whatever kind, will not succeed; but as we recede from these centres of sickness and death particular trees and shrubs flourish amazingly, and no better example can be pointed out than the healthy and rapid-growing specimens that adorn the Thames Embankment, and which are removed but a very short distance indeed from one of the barrenest and most miserable of our city suburbs—the pottery district.

That certain trees and shrubs succeed best in particular towns is another strange fact, for curious as it may seem, the smoke-proof London Plane is by no means the best tree for either Liverpool or Warrington, particularly the former town, where the Sycamore has been found to be far better adapted. In the very centre of Sheffield the Canadian Poplar has been found to be by far the most useful tree, while in some of the worst localities in the colliery districts the Chestnut and variegated-leaved Sycamore are the greatest favourites. The Rhododendron does well, and is largely planted in the most smoky parts of the town of Bury, even where little attention has been paid to the class of soil in which it is grown, whereas at Eversham, on the opposite side of Liverpool, and about the same distance therefrom as Bury, repeated experiments have proved that it is almost useless to attempt its cultivation.

I have often thought, however, that no better example could be adduced of how certain trees favour certain towns than two or three kinds of Poplar which grow with unabated vigour at Gatley, a small town on the outskirts of Manchester, whereas at Bury, on the opposite side of the same city, and at about an equal distance therefrom on one side as Gatley is on the other, this tree positively refuses to grow, and that too after many unsuccessful attempts to get it established. Neither the Rhododendron nor the Laurel are at all suitable for the smoky districts of London; but casual observers are gulled into a different opinion by the appearance of such of these shrubs as are re-planted annually, the semi-sickly subjects being replaced at stated times by those that are fresh and vigorous.

Why certain trees and shrubs succeed best in particular districts or towns is, perhaps, readily enough explained by the conditions of soil and situation, as well as the particular industry of the inhabitants. Coal smoke from the multitudinous shafts and chimneys of our larger centres of industry is no doubt bad enough; but when we have to contend with an atmosphere largely impregnated with the outcome from chemical, gas, or iron works, the difficulties to be encountered are great indeed.—*A. D. Webster.*

WEXHAM PARK, SLOUGH.

A FEW days ago I had the pleasure of walking through these beautiful gardens, the property of Sir Charles Pigott, Bart. This fine place is situated in the county of Buckinghamshire, about three miles from Slough station. Until recently very little had been heard of these gardens among horticulturists; but since Mr. Ford, the present gardener, took charge about eighteen months ago, a decided change for the better has taken place, and a great addition has been made to the glass department.

One house was well furnished with beautifully-trained Rhododendrons and Azaleas. Amongst the latter were some very fine specimens, which no doubt will soon be taking a prominent part in some of the coming exhibitions. It would be impossible to give a list of such an extensive collection, so I will endeavour to enumerate a few of the best. A grand specimen of Duc de Nassau, with its rosy purple flowers, was an imposing sight, as was Mdme. Alex. Hardy, with crimson and orange

flowers. Reine des Roses was another grand plant, with lovely rose-coloured flowers; Dr. Moore, a pretty semi-double variety, with blooms of deep rose shaded with violet; and Stella, a fine old variety, with bright orange-scarlet flowers, looked very brilliant; but the most noteworthy of all was a magnificent specimen of Fielder's White, about 6 ft. high by 4½ ft. in diameter, trained in pyramidal shape, and literally covered with its pure white flowers—the finest I have ever seen. The Rhododendrons were represented by some noble specimens. A plant of R. formosum, over 6 ft. high and 4½ ft. in diameter, trained in pyramidal form, had hundreds of bloom buds, which would be a gorgeous sight in a few days. A magnificent specimen of Princess Alice was completely covered with bloom, while equally good was a fine plant of Countess of Haddington, and another of R. Beadoni, which was from 4 ft. to 5 ft. in diameter. Their beauty was enhanced by several well-grown plants of Chorozema splendens, a pretty and useful subject, both for cut flowers and indoor decoration.

Adjoining this was a similar house, well filled with specimen Heaths, all of equal size and quality; in fact, such a fine collection is seldom seen in private gardens in these days. Amongst splendid plants of Erica æmula and E. Kingstoniana I noticed a very fine plant of E. perspicua nana, about 4 ft. through; two large plants of E. Cavendishiana, completely covered with rich bright yellow flowers; several specimens of E. profusa, E. depressa, E. caffra, E. persoluta, and E. Parmentierii. In the same house was a splendid plant, about 3 ft. in diameter, of the beautifully-scented Boronia megastigma, which is seldom met with in such a healthy condition.

Near this was the stove, a spacious span-roofed house. The centre bed was almost devoted to specimen Crotons, averaging from 4 ft. to 6 ft. in height, and from 3 ft. to 4 ft. in diameter. These were all looking very healthy and perfectly clean, a noticeable feature throughout the whole garden. A few of the best were Croton picturatum, Prince of Wales, Evansianum, and a grand plant of Baron J. Rothschild, beautifully coloured and well trained. There were others of Disraeli, Williamsii, and Earl of Derby. In addition to these were fine plants of Anthurium Veitchii, A. crystallinum, and a few good specimens of A. Andreanum, which were carrying several of their brilliant spathes, lighting up the whole house. Good plants of Alocasia Lowii and A. metallica gave great relief to the trained specimens. The side stages were well furnished with pretty useful plants for table decoration, which seem to be in great demand. Orchids are not extensively grown; the principal in bloom then, were a few fine plants of Cypripedium Lawrenceanum and C. barbatum.

Tuberous Begonias are also largely and well grown, and several good plants are already in bloom. Herbaceous Calceolarias seem a special favourite with Mr. Ford, and a finer collection of plants would be difficult to find. There are about fifty specimens in 24 and 16-size pots, and averaging about 2 ft. across, the foliage looking beautifully healthy and clean. Those of your readers who were fortunate enough to see the dozen plants exhibited by Mr. Ford, and gaining the first prize at the Crystal Palace spring show, can form but a faint idea of what is in store for them in the future. Two new houses for Melons and Cucumbers have recently been erected. The former Mr. Ford informed me had only been planted eleven weeks, and were then carrying a grand crop of extra fine fruit. Cucumbers could be counted by the hundred, Telegraph being the principal variety grown. Another span-roofed house attached to these was full of Gardenias and Eucharis grandiflora, looking, like everything else, the picture of health.

There were other plant and Tomatos houses, two vineries and Peach houses. These contained moderately good crops of fruit. One vinery, planted two years ago, had rods the leading shoots of which have already made growths from 10 ft., to 12 ft. in length. Wherever the eye turns, everything looks beautifully healthy and clean; nothing seems neglected. Mr. Ford's future career as an exhibitor looks very promising, and credit is due to him for the efficient manner in which the gardens in every department are conducted.—*J. G.*

Azalea, Madame Vander Cruyssen. — Red varieties are so common that something of a softer and more pleasing tone is desirable amongst the glare produced by a houseful of dark-coloured varieties. We noticed a batch of plants of this variety the other day in the nursery of Messrs. Hooper & Co., Maida Vale. They were of various sizes, and were well furnished with large semi-double flowers of a pleasing rose colour, and would prove very attractive either for cut-flower purposes or for conservatory decoration.

TOMATOS FOR FORCING.

It is not necessary for us to allude to the fact that this popular esculent is making such headway that it bids fair to appear ere long with the dessert among other fruits, and it is certain that its appearance, when dished up with taste as other fruits are, will not impair the general effect of a well-appointed dinner-table. The taste which has been acquired by many of late years of eating Tomatos in a raw state in salads and otherwise has gone further, and palates which at one time would have recoiled from an uncooked Tomato now relish them heartily, consuming finely-ripened fruits as they would Peaches. Their wholesomeness is beyond a doubt, but some care is necessary in ripening the fruit to make it palatable with those who object to acids. Much of the same care is necessary as is practised with other fruits—Melons especially—by keeping them as dry as possible, with a circulation of air passing among the ripening fruit at all times when the state of the weather will permit. Where plants are grown and fruited in pots they are very manageable, especially when they have to fruit during winter and onwards under glass. They can be removed bodily to a structure where they can have abundance of light and air. In many places in the northern part of the kingdom Tomatos cannot be grown satisfactorily, but if they are started in good time, in order to attain a large size before they are planted out, many difficulties may be overcome. If established in large pots, with holes knocked in the bottom for the emission of roots, little check is sustained at planting time. Among a number of favourite kinds for early forcing, free cropping and good quality, we find none to surpass the old Orangefield. It was fruiting profusely at the middle of April, outdistancing other popular kinds.—*M.*

The Amateurs' Garden.

Cyclamens.

It is a bad practice to dry off the corms of Cyclamens when they go out of flower, thereby destroying the foliage and preventing it from performing its proper functions, and from laying up a store of nutrient material in the rootstock for the future production of flowers. In fact, when subjected to the old process of baking, they can only produce, at best, but a few small and indifferent flowers compared with the scores that a good specimen is capable of producing during the course of the winter. As they go out of flower they should be placed in a house or pit kept moderately warm. Supply the plants with plenty of moisture, and in every way encourage the growth of foliage till the latter dies away naturally. After this the corms must still be kept moderately moist till growth recommences towards the end of summer. A rich harvest of bloom will be the result of such treatment. Amateurs may frequently find it difficult to supply the requisite conditions, but by standing the plants on a shelf near the glass in a greenhouse and attending to them with water, the results will be highly satisfactory.

Herbaceous Borders.

There are some growers who say that herbaceous borders should not be disturbed or dug, and, in fact, that they should be covered with an undergrowth of various creeping or dwarf plants. All of this, though apparently novel and pleasing at first sight, soon becomes weedy and disagreeable to the eye; in fact, it is only evidence of bad gardening, and should not be permitted within the precincts of well-kept gardens. There all should be neat and tidy, and the ground should seldom be occupied with more than one kind of plant in any particular spot. When one plant is seen growing up through a carpet of something else it generally betokens neglect. Herbaceous subjects, again, are generally gross feeders, and repay liberal treatment. If the borders have not yet been dug, the work may now be done with advantage. It can now be seen where bulbs are planted, so that there will be no danger of digging them up. Give the borders a good coating of partly-decayed manure. Old hot-bed material will prove excellent, and heavy soil will be much benefited by a large quantity of partly-decayed leaf-soil, or the decayed heaps that pass under the name of garden rubbish, and consist of the weeds raked off the borders, last year's decayed stems and leaves of plants, as well as the prunings of fruit and other trees that have been burned in a smouldering heap. In digging this in, avoid cutting the main roots.

Weeding and Hoeing.

Whenever opportunity offers, and the surface soil is dry, keep the hoe at work amongst all growing crops, beds and borders. The heavy rains and hail of last month have battered the soil until it has assumed a baked appearance, which is not merely unsightly, but is very inimical to the growth of plants. Should wet weather prevail, the weeds should be removed with a coarse toothed rake where there is convenience to do so, otherwise they must be removed by hand. A marked improvement in the growth of plants can soon be observed where hoeing has been given.

Crowding in Frames.

All available space for the raising of plants for summer bedding gets unavoidably crowded at this season of the year. Growers may find a means of relieving this state of matters to a certain extent, by transferring such things as Stocks, Asters, Saponaria calabrica, Phlox Drummondi, African and French Marigolds in boxes, to some sheltered place in the open air where they can be covered up at night, by means of mats or other light material that may be laid over a specially constructed but light framework, however rude. It is well to remember that the plants should be pretty well advanced before putting them out in this way, because progress will not be so rapid under the conditions mentioned.

Cucumbers.

Those intending to grow Cucumbers in frames should now have the hot-beds made up without further delay, so that the plants may be inserted as soon as possible, to give them a long growing season. Those who have not yet tried their hand at this kind of culture will find the process easy enough. Get a quantity of farm-yard manure, from the cow-stables preferable, and if possible some dry Oak or Beech leaves. This mixed with the manure will prevent it heating excessively, while the heat will last much longer. The whole should be shaken up loosely in a conical heap, with a layer of dung and leaves alternately. After a few days it will be found that the heap has fermented or heated, when the whole may be shaken up afresh, making a new heap and placing all the rank material in the centre. After it has again fermented the bed may be made up, by building up a square heap with the dung and treading it down moderately firm. Place on the frame, together with a mound of rich loam with which a good quantity of well-rotted manure is mixed. Cover with the sash, and as soon as all danger of violent heating is over the Cucumbers may be planted out. To prevent the leaves getting scalded by the hot vapour arising from the dung, a little air may be left on all night. Cover the frame with a mat at night, which will economise the heat and encourage the plants to grow.

THE FLORA OF SCOTLAND.

At the April meeting of the members of the Natural History Society of Aberdeen, held in Marischal College, Aberdeen, Dr. James W. H. Trail, Professor of Botany in the Aberdeen University, read an interesting and educational paper, entitled "Man's Unintentional Agency in the Distribution of Plants," in the course of which he described, in a clear and lucid manner, the unconscious effects of man on the floras of North America, South Africa, St. Helena, and Scotland. In speaking of Scotland, the learned professor said:—It is very noteworthy how few immigrants have been able to establish themselves in Scotland, within this century, with a fair prospect of becoming permanent residents. I have published (*Scot. Nat.*, 1884, pp. 243-58) a list of introduced plants and casuals observed in north-east Scotland, in which are enumerated all the species that I had myself observed, and all of which I could get authentic information as having been found in this district. All kinds of which even one example had been found growing where it had not been intentionally planted, were included, without regard to their mode of immigration, whether as escaped garden plants, or among rubbish thrown into sand-pits, in ballast, or introduced with imports of commerce; and it was thus exhaustive, as far as I could make it so. Many of the plants named in it are among the species that have spread most rapidly and widely in North America; yet with us they have been unable to secure a footing, and have usually died out in a year or two. There are in the list 140 species that have either died out at once or lingered on for a few years, restricted to a few yards of ground.

The few that can be said to have become really naturalised within this century in north-east Scotland are Trifolium hybridum and T. agrarium, both of these being found along the borders of fields, into

which they have been introduced by seed as fodder plants (probably both would disappear were the cultivated ground allowed to relapse into its former condition); Lupinus perennis, very abundant on beds of shingle along the course of the Dee, and also along other Scotch rivers; Sedum telephium and S. reflexum, found here and there along roadsides; Linaria vulgaris, in similar positions to the Sedums; Mimulus luteus, along the banks of the Don, and other rivers; Veronica Buxbaumii, in gardens and fields as a weed of cultivated ground; Elodea canadensis, in streams and pools; and two or three grasses, *e.g.*, Lolium italicum, found in fields where it has been introduced as fodder plants, and from whence they have spread to the banks of adjoining streams. Our flora thus seems to be a comparatively stable one, and well able to resist the aggressions of immigrants from other parts of Europe, or from distant lands. But if we look to the distribution in Scotland of many of our lowland plants, we are constrained to believe that they owe their introduction into Scotland to man, though admitted into British floras without indication that they are not among the indigenous species of the country. It must be borne in mind, however, that we have no reason to believe that any species of Phanerogams, and few well-marked sub-species or varieties, have originated in Britain, and that the only questions with regard to the origin of our flora relate to the countries from whence the plants came here, and the time and immigration. Yet in many respects human agency is so distinct in its results from all others, that it is convenient to regard it as different in kind from them, and to discuss it separately.

Turning then to the distribution of our so-called native plants we find that many of them are restricted to the neighbourhood of houses or of ruins, others to the waysides or to the vicinity of gardens, from whence it is clear that they originally escaped. Such plants as the Mallows, Hawthorn, Goutweed, Cicely, Elder, Chamomile, Tansy, Leopard's Bane, Toad-flaxes, and Good King Henry, are, evidently enough, escapes from the gardens of old days, when they were cultivated for beauty or medicinal virtues, real or supposed. There can be as little doubt, I think, that such species as the Nettles, Goosefoots and such-like, have been unintentionally introduced by man. As regards the weeds of cultivated soil, not only do they owe their introduction into this country to man, but were cultivation of the soil to cease they would almost to a certainty rapidly disappear from the flora. But the adventitious flora of North America teaches us that plants that we could scarcely have supposed likely to be introduced by man are among the most widely spread by him on that continent—for example, Ranunculus acris; and that it is probable that we cannot now realise how large a part human interference has played in the past in moulding the flora of our Scottish lowlands.

On the other hand there is little trace that it has altered the flora of the highlands in any marked degree—at least, in the Alpine tracts—except that within this century the relics of the Arctic-Alpine flora have become rarer, or even very rare, through the indiscretion of botanists, or rather of plant collectors. It cannot be said that any new Alpines have been introduced into our flora by man's unintentional agency.

The flora of the lower hills also, where these were not forest-clad, has been little modified, save here and there, where moors have been drained, or where slight changes have been brought about by continued pasturing of sheep or cattle upon them. The primeval forest exists in only a few highland valleys now; in it also man has effected little on native flora, and along the dunes that skirt many parts of our coast the effects of man's hand are scarcely to be traced. But in the lowlands, wherever a permanent habitation could be made and the soil was fit for cultivation, or could be fitted for it by human industry, and also where the primeval forest once extended, man has greatly modified the original flora of Scotland.

Let us learn from North America what had gone on in Scotland in ancient times. We are told by Roman authors that the country was covered with dense forests or impenetrable marshes, and that it was inhabited by a race of savages, whose mode of life must have been like that of the Indians of North America in many respects. The indigenous flora of these marshes and forests must have been much like what we still find in such localities in Scotland—composed of a comparatively smaller number of species than the prevalent types of the herbaceous vegetation of the lowlands, though now restricted to a few localities, and interesting to us from their rarity. The species then growing on the exposed moors and in the mountain corries must have been almost the same as still grow in these habitats, though probably the Alpines were the most abundant.

Gradually the forests were cut down, the motive being, it would seem, more often to drive out troublesome freebooters and wild beasts of prey than to make use of the timber or to clear the soil for cultivation. As the forests were destroyed, the plants that grew in them could no longer thrive without the shelter. The marshes also dried up as the rainfall diminished, and as years passed on drainage converted many of them into meadows or arable land. New races of men immigrated from the continent of Europe and from England, and brought with them their domestic animals, cultivated plants, and new methods of cultivation. Frequent intercourse went on with other countries, and imports from other lands brought with them the seeds of plants previously unknown in Scotland. These occupied the habitats vacated by their former tenants, or were able to oust the native plants when placed in circumstances so unfavourable to their vigorous growth, and thus went on a change that we know must have profoundly modified the indigenous flora of Scotland; but that must always remain to a considerable extent matter of conjecture, for its greater features were accomplished before botanists began to seek out the causes of things. Changes are still going on, but they are now slow, and we must look to the colonies to gain some conception of what must have been the course of events in the past centuries in our own land, and of how far man has unconsciously changed the flora of Scotland. While we cannot but regret the loss of certain species, we must recognise that to human agency we owe much of the variety, and to some extent the beauty also, of what we are apt to regard as the indigenous flora of our native land.

NOTES FROM SCOTLAND.

Easter Duddingston Lodge, Portobello.—The beautiful residence of Charles Jenner, Esq., is not so well known to horticulturists as it ought to be, and I could not help thinking, after completing an exhaustive inspection a few days ago, how many places less deserving of note were written about, while this fine garden is neglected. To give your readers anything like a correct idea of all that is to be seen at Easter Duddingston, would, perhaps, unduly trespass on your valuable space, but a few rambling notes may tempt some to go and see for themselves, and I can assure any such of a cordial reception from Mr. Chapman, under whose fostering care the gardens have been for the past seventeen years.

Hardy plants are undoubtedly the leading feature, and what more interesting? Every turn you take there is something to arrest attention, and not a month in the year but adds its quota in flower or foliage. It is rather early in the year to see herbaceous borders at their best, but among the plants in flower and fulfilling their mission in beautifying the face of the earth, I noted the following:—Androsace sarmentosa, Anemone Robinsoniana, one of the best of wood Anemones, and far too little known; Anemone pulsatilla, Arnebia echioides, (the Prophet Flower), rare, beautiful and interesting; Aubrietia Hendersoni, Caltha palustris flore pleno, Cardamine pratensis flore pleno (double Cuckoo Flower), Cortusa Mathioli, Corydalis nobilis, Genista anglica, Helionias bullata, Heuchera sanguinea, Leucojum æstivum, Orobus flaxidus and O. cyaneus, Podophyllum Emodi, a curious and interesting plant, the flowers being succeeded by large scarlet fruits; Saxifraga crassifolia, Triteleia uniflora, Viola biflora, &c. The collection of Alpines receive special attention in a long frame 3 ft. from the ground and facing north; here we found upwards of 500 distinct varieties, all in pots. Hardy Ferns have also a suitable home provided, a bold rockwork partially covered with glass: I fancy July will be the month to see them in full beauty.

The Skimmia has been receiving no small amount of attention in one of your contemporaries during the past few weeks, and I may mention in passing that several magnificent plants are to be seen here. (The redoubtable Mr. Forman resides in the neighbourhood; can that fact have anything to do with their luxuriance?) Some early-flowering Rhododendrons not often met with are striking objects in the first week of May. R. campanulatum robustum, white with a tinge of lilac; R. lancifolium, a dazzling red and very fine setter; R. aromaticum, very dwarf, with small yellow flowers; R. argenteum Major Madden, has a fine bushy habit, flowers just opening; R. Nobleanum album, not pure white as the name would imply, but of rather a creamy tinge; R. virgatum, this plant, about 4 ft. through and one mass of bloom, was a most gorgeous sight; R. Gorrieanum, flowering now for the first time, certainly is far and away the largest trusser of its class, but it seems shy; the pip measured 4 ins. across, in colour a soft lilac. We may here mention that it was under the supervision of the late Mr. Gorrie that the grounds of Easter Duddingston Lodge were formed, for five years he laboured, and his sudden end came before the work was completed; however, here, as well as in many other parts, a lasting example is to be found of his great skill in landscape gardening, and it is not too much to say that Mr. Gorrie's death left a great blank, a blank not easily filled.

I must not omit to notice that portion of the grounds specially adapted for the cultivation of the Iris family. Mr. Jenner has already a large variety, but this spring over 100 sorts were imported from Japan, and already they appear to be making themselves at home. In conclusion, mention must be made of the large and varied collection of ornamental shrubs, descriptive notes of which I may make on another occasion; but one feature in the establishment I must comment upon—that is, the clear and legible way in which the nomenclature has been attended to by Mr. Chapman. Let the visitor be a practical horticulturist or a novice, this fact enhances materially the pleasure and profit of an afternoon spent at Easter Duddingston Lodge.—*L. D. P., May 6th*, 1889.

Fruit Crops.—In many places there is a good promise of fruit, and though our knowledge at present does not extend beyond Stirlingshire (except by correspondence) we hope that what we have seen in our district may be general everywhere. The badly-ripened fruit of last year, and the limited supply of several kinds, prompt cultivators to wish more ardently that we shall not have two seasons consecutively alike, but we are bound to admit that complaints would be greatly modified if fruit growers would make better selections of hardy kinds—Apples and Pears especially. We have still a few of the former, of a kind which we sent for use as a culinary sort at the end of last September. They are kept in a close, air-tight box, under a desk in the office; others from the same trees which were placed in the fruit room began to show signs of shrivelling by the end of February. The kind we refer to is named Seaton House, of the Stirling Castle class, but firmer, and we think, better for cooking purposes. The varieties Lord Suffield, Keswick Codlin, King of Pippins, and a few others bear abundantly every season. These kinds are all loaded with fruit blossoms, and we think they will be late enough to escape frost at setting time.

Pears do not seem to be so promising, and we can hardly anticipate fine crops. Plums of certain kinds are heavily laden with blossom buds, and these are among the best for northern gardening—viz., Kirke's Purple, Jefferson, and the never failing Victoria. Cherries are a mass of flower buds, and could not be more promising in that respect. Morellos, which are confined at the roots, have formed many natural spurs, which are kept close to the wall, and could scarcely look more promising. Apricots have in some cases set well, and flower buds were very abundant, but the cold summer of last year had a bad effect on the trees, and the fruit of the present season must be looked for from the spurs formed (naturally) close to the walls. These we always value, as they ripen quickly and form fruit buds, saving much labour in fastening in young growths.

All bush fruits are well represented by fruit buds clustering over the wood. Young wood in abundance is retained to take the place of old in our bush pruning of Currants of all kinds, as well as Gooseberries, the "let alone" system of pruning Gooseberries finding no sympathy with us. The practice of cutting all up to rods with short spurs only, and clearing out all the young wood is strongly objected to. We have always had faith in the practice which embraces the recuperative principle, and also keeping such simple things as Gooseberry bushes under perfect control at root as well as branch.—*M.*

NOTES ON VEGETABLES.

Hartland's April Queen Broccoli.

From Mr. W. B. Hartland, of Cork, we the other day received a head of Broccoli, named as above, and which is deserving the attention of growers. The "flower" measured 9 ins. in diameter, and 5 ins. in depth, was solid and white, and well protected by stout deep green leaves. It is, however, its flavour, rather than its size and compactness, that is its strong point—for a milder and more delicately flavoured Broccoli we have no recollection of having tasted.

FLORICULTURE.

Polyanthuses at Bedfont.

SEEN under the bright sunshine of the past few days, but especially in the evening when the sun is declining in the heavens, the large breadths of border or fancy Polyanthuses at Bedfont present a feature once seen not easily forgotten. These fancy Polyanthuses may well be termed wet weather flowers. It was true that when we saw them at Bedfont there had been two consecutive dry days—something almost marvellous there—but just previously there had been from day to day literally floods of rain, and yet the brightness and beauty of the flowers seemed to be absolutely unimpaired.

The quarters in different parts of the grounds, of which there are several, comprise perhaps from 500 to 600 plants each. We could not but wish that beds of these wondrously varied and beautiful flowers could be seen in some of our London parks. What a sensation they would create! Here are yellows, oranges, whites, sulphurs, reds, mauves, purples, crimsons, salmons—indeed, a whole lot of colours, absolutely indescribable, many of the plants carrying solid heads of bloom from 10 ins. to 15 ins. across, according to their age. In the Hose-in-hose forms there are being exhibited some striking developments, the flowers, which are carried on stiff stems, attaining great size, and of the most wonderful colours imaginable.

Seen with the declining sun shining softly upon them these flowers presented a study in floral colouring such as an artist might well have revelled in. Out of all these myriads of plants not one escapes the eye of the grower, for we noted that anything specially fine or novel in colour had been duly marked. Really Mr. Dean's strain of these beautiful spring flowers is a remarkable one, and much of its excellence is due to the fact that selection is made only from the best forms. All the plants are the product of seed sown as soon as ripe.

The Florists' Laced Pink.

SOME of your correspondents seem to think that good sorts of laced Pinks are difficult to meet with, but this is not my experience. I grew the Pink years ago, and a love for the flower has come over me again—stimulated, no doubt, by the correspondence in your columns. Well, having no time to ramble about the country peeping into cottage gardens, I remembered that I used to get good sorts from Altrincham, and a letter addressed to Messrs. W. Clibran & Son, asking them to send me a collection, promptly brought me a box of plants—nice clean stuff in thumb pots, carefully packed and labelled. They were speedily transferred into 60's, and put into my Carnation house, where they soon looked prim and beautiful. I do not, of course, anticipate much from them this season, but if spared till another year I hope to have stock that will do me credit. I have lost the names of my old stock plants, but hope to identify some of them at least by comparing them with my new batch, so that I may be able to stage a few blooms this year if it be found practicable to hold a show at such a time as will permit those which are grown naturally to be exhibited. I hope it will always be borne in mind that the hardy florists' flowers are essentially the flowers for the million, and that no encouragement will be given to those who practice forcing.—*W. W.*

The Manchester Auricula Show.

THIS show was exceedingly interesting to my mind, but why all this mystery at flower shows generally with regard to seedlings? How many times ought plants to be termed seedlings? Surely, if they have once had a father to christen them Gem or Hypatia, they should not be trotted out as Ginks's babies. Let Horner's Melaine ever remain true, and let no one desire to claim it again as a seedling. If our late friend, Pohlmann, of Halifax, could have looked in last week, he would have seen flowers dubbed "seedlings" which, given their due, would have borne names that he gave them. Cannot this be remedied?—*Auld Lang Syne.*

Alpine Auriculas.

"R. D.'s" protest against the present rage for large size in Alpine Auricula flowers is needful. It is but too painfully apparent that the choicer features of these very delightful flowers are being sacrificed in the race for dimensions. The Floral Committee of the Royal Horticultural Society a few years ago gave to some rather coarse white or creamy centred flowers Certificates of Merit, and it is to be feared that such recognition of flowers having the merit of size only has led to this exaggerated estimate of their value on the show table. One grower has pleaded for them that in some cases colours have been obtained which the smaller but more perfectly formed flowers have failed to produce. This is dubious doctrine, and does not justify the putting of coarse flowers on the exhibition table.

As to the relative merits of white and gold centres, I hold that no Alpine Auricula should be recognised as first class which does not show a bright gold or yellow centre. It may seem odd that whilst we find in a dense pure white paste the chief beauty and charm of a self stage Auricula, we should contemn a white-centred Alpine; but the white of the latter is but a bastard imitation indeed of the wondrous density and purity of the white paste of a show flower. Let any person absolutely ignorant of the relative merits of Alpine Auriculas compare pure gold-centred flowers with those having white or creamy centres, and I am sure that the verdict will be for the former.

To me the gold centres are incomparably the chief charms of Alpine Auriculas. Gold centres and pale grounds may be incompatible, but all the more reason why growers should breed for rich reds, maroons, purples, or other hues, which in conjunction with gold centres, form glorious flowers.—*Alpine.*

The Auricula Show at Westminster.

IN common with every visitor to the late show in the Drill Hall, I was delighted with the marvellous display, considering the date and the season. The green, grey and white-edged flowers were indeed charming in their refinement, and worthy of all the encomiums bestowed upon them by the Rev. F. D. Horner. Still, I must confess that I am of the same way of thinking as those who assert that lovely as are the show varieties, they do not possess all the beauty. In the so-called Alpine section they have sturdy rivals for popular favour. Here we have a greater variety of colour, diversity of form, an exquisite blending of lovely shades, and rich golden centres, which, in conjunction with stronger constitutions, render them plants adaptable for almost anyone to grow. The sweet and delicate lacing of some of the varieties greatly pleased me, and showed that steady, if slow, progress is being made in the development of this type, which has been a fancy of mine ever since "R. D." exhibited the first varieties of them at the Crystal Palace.—*W. W.*

LILIES OF THE VALLEY.

FOR many years past—indeed, we believe since 1852 or 1853, when Messrs. Hawkins & Bennett established themselves as growers of flowers for market near by Twickenham Station, on the South Western Railway, they have been content to grow only a few things, but to grow them well—a golden rule well understood and thoroughly worked up to throughout the market-gardening profession. Scarlet, white and pink flowers for cutting are the specialties of Messrs. Hawkins & Bennett, and these are mainly supplied by zonal and Ivy-leaved Pelargoniums, Stephanotis, Liliums and Lilies of the Valley—and at any season of the year flowers of either or all of the colours named can be had in quantity.

For the moment, however, we are more directly concerned with the Lilies of the Valley, which are rapidly coming into bloom *en masse*, and fill the air with one of the most delicate and delightful of odours. The variety grown is known as the Victoria, and until comparatively lately the firm held the whole of the stock. It is a very strong grower, and the flowers, which come large and pure white, are borne on a long, stiff, wiry stem, which gives it a special value for pulling for bunching purposes. Whatever may have been the origin of the variety—and of that we know nothing—there can be no doubt but that high cultivation, extended over many years, has done much to bring it to its present grand state of perfection.

How many thousands of plants the firm grow—all in beds in the open air—we should not like to say, but the number must be enormous, as they have many beds, mostly about 150 ft. long and about 8 ft. wide, each square yard containing about 500 crowns. The beds are all so situated as regards shade and exposure that a continuous and heavy gathering of flowers can be maintained over a period ranging from two to three months, according to the season. The system of cultivation adopted is simplicity itself, and in the main consists of close planting in rich soil, and heavily mulching with short well-rotted manure, throughout the life of each bed, which is from six to seven years, and a regular system of renewing a certain number of the beds each season.

When an exhausted bed is cleared out for re-planting, the old soil is replaced with good loam that has been laid up for a time, with a liberal admixture of manure, soot, and old lime, and the largest crowns only being planted, a fair head of bloom is obtained the first season. In the second year the plants apparently take a rest and flower more sparingly, but in the third season they come on again, and from the fourth to the sixth or seventh season they are in their prime. The beds in their sixth year are those which are induced to come into bloom first, by being covered with lights, and having a pipe run along the back and front, heated by a small independent boiler. The successional beds are simply protected by a skeleton frame, with wires stretched along the top, over which canvas is spread at night and during bad weather, for though no attempt at confinement is practised, except in the case of the early beds, every precaution is taken to protect the plants from heavy rains and hailstorms, and even after the flowers are gathered the greatest possible care is taken of the foliage, any injury to which means impaired strength in the crowns for the following season.

The secrets of the business—if there are any—and our genial and kindly guide over the establishment (Mr. Hawkins) did not claim that he had any to withhold, seem to consist simply of close planting in a rich compost, and high feeding by means of mulching afterwards, so as to keep the roots moist and cool, and at all times during growth to prevent injury to the leaves.

SCARLET, PINK, AND WHITE.

IN the preceding remarks we have dealt only with one of the specialties so well done by Messrs. Hawkins & Bennett, at Twickenham, but there are two others which claim a passing word—the Pelargonium and Stephanotis. The latter occupy a low lean-to house some fifty feet long and six feet wide, the roof of which is completely covered by some half-dozen old plants in rare health and vigour, and perfectly free from their natural enemy the mealy-bug. They are planted in slate tubs, which can be extended as more root-room is required, and provision is made for flooding the bottom half of them as required to keep the ball of soil moist right through. For tying and training purposes nothing is used but lead wire, cut into short lengths, placed round the shoots and given one or two twists. This provides no harbour for bug, is easily undone, and practically lasts for ever.

The Pelargonium houses, huge span-roofed and lean-to structures, are a glorious sight—perfect masses of scarlet, pink, and white in houses of different colours—notwithstanding the regular and heavy demands made upon them for flowers. The best scarlet is the semi-double, F. V. Raspail, and this is grown by thousands. The best white in quantity is Ladd's Queen of Whites, next to which come Niphetos, very pure if somewhat ragged in the truss, and Eureka.

BEDDING PANSIES.

As I stood the other day in one of those hardy plant nurseries wherein all sorts of hardy roots, and Pansies especially, are grown by thousands for market sale, a feeling of regret arose that we have no pure white variety which can in any way equal that wonderfully early and free-blooming variety, Blue King. It is true that Mr. Smith, of Newry, claims to have in a sport from Blue King, named by him White King, a *bonâ fide* white to match, but before regarding it as the gem needed, I prefer to await the opinions of some disinterested critic.

Now, in any ordinary garden, Pansies are planted for effect at some 10 ins. to 12 ins. apart, but at the nursery in question, as, indeed all about the neighbourhood, where myriads of small gardens are given over to flower-root production, the plants are put out in the autumn at about 7 ins. apart, and by the spring, when in bloom, they become a perfect mass of flowers. Whilst Blue King is the very earliest blue, and because of its neat compact habit is a great favourite, Cliveden Purple still remains the earliest and most effective of purples, and big masses of these, perhaps of 5,000 plants, are indeed wonderful carpets of colour.

A white and a yellow counterpart to these two very early, very hardy, and very compact kinds seem to be sadly needed. There are yellows and there are whites, but all are some three weeks later. Dickson's Queen has a first-rate habit, but it is far too tall in flowering, and even then blooms sparsely. Some of the finest

whites raised have been tried, but all lacked constitutions. Yellows are plentful enough in Violas, but the flowers in these are neither large enough nor stout enough. Here is, then, a field open to Pansy raisers to provide the desired varieties.—*X.*

REGAL AND DECORATIVE PELARGONIUMS.

On the occasion of a visit to Swanley the other week, we could not help admiring the magnificent display of bloom produced by the zonal Pelargoniums. Other houses were, however, getting quite gay with many beautiful varieties of the Regal and decorative classes, which, if they do not come under the hard and fast rule of the florist with regard to the large show and small fancy kinds, yet without them the garden would be shorn of many handsome and popular sorts, that is, those cultivated by the market growers in quantity, and admired by the mass of the populace. The florist kinds, both show and fancy, are sleek, smooth and glossy, but for purely decorative purposes they are even excelled in beauty by the undulated, crisped and frizzled flowers of the Regal kinds.

Regal Varieties.

All of these, as already stated, are characterised by their undulated petals. A handsome kind is Madame Thibaut with white flowers, marbled with rose, and having a crimson blotch on each of the two upper petals and a white centre. This, as well as several others, seems as much inclined to sport as are many of the Chrysanthemums, and several new sports of Madame Thibaut are now in bloom—to wit, Mrs. Harrison, President Harrison, and Princess of Teck. The first is stronger in habit than the parent, and has the ground colour of the flowers pink reticulated with white, and having a white centre and margin. President Harrison differs from its parent in having rich carmine flowers, and the centre tinted with pink. Princess Teck has semi-double pure white flowers of great size and beauty. Volonté Nationale has white flowers, with a rosy carmine blotch on each petal, and has given rise to a pure white sport, named Volonté Nationale alba. A new sport from the same parent (No. 2 of our illustration), named Princess Maud, has a deeper-coloured blotch on each petal. No. 6 of the accompanying illustration is Jubilee, a new variety, having flowers of a beautiful soft china-pink, with a maroon-crimson blotch on the two upper petals, and a white centre. An older sort, named Maid of Kent, has white flowers beautifully feathered on each petal.

Decorative Varieties.

Of these there are twelve new kinds, six of which are figured in the illustration, for which we are indebted to Messrs. H. Cannell & Sons. They have flat or even petals, and therefore come near the show kinds; but although they do not conform to the florists' ideal, they are nevertheless showy. Champion (No. 1) has huge white flowers lightly shaded with blush, and variously blotched and feathered. Rose Queen (No. 4) has large, soft rosy pink flowers, with a reddish maroon blotch on the centre of each petal. Mrs. John C. Stone (No. 8) is a very distinct kind, with large, deep puce-coloured flowers with maroon-coloured veins and a large white centre. Another very richly-coloured flower is Sultana (No. 7), which is red tinted with chestnut, and shading into purple around the white centre. The margin is also bordered with pure white. A large maroon blotch occupies each petal of Mrs. Ashby Improved (No. 3), and this fades into a rosy red all round, while the centre is white. The plant is dwarf in habit and sturdy. The other variety figured is Lord Salisbury (No. 5). The two upper petals are almost black shading into orange, carmine, and pink; the blotches on the lower three petals are smaller and of maroon and orange shades. It is a handsome variety that ought to be largely grown.

Independently of these, there is a large number of useful and beautiful varieties under the name of French spotted and early-flowering varieties. Amongst these we cannot resist mentioning Venus, a very early and continuous-flowering kind, with a purple blotch on each of the two upper petals. A large batch of plants commenced flowering before Christmas, and which we noted at that time as a very suitable variety for forcing. It really came into flower in November, and is yet in full beauty. To be definite, however, the present crop of bloom is the second—there being a slight cessation, although hardly observable. It is difficult to get it to cease flowering in time to rest it properly in order to get it in bloom again early. The points of the leading shoots first produce flowers, and after these have expanded and have been cut off, numerous lateral branches are developed from the axils of the lower leaves, thus keeping the plants dwarf, and producing a much greater profusion of bloom than occurs in mid-winter. It merits extended cultivation for the sake of its white flowers for cutting purposes. Few or none of the ordinary kinds behave in this manner.

Regal and Decorative Pelargoniums.

SYRINGING.

With your reply to Mr. Murphy's inquiry, "Should Vines setting fruit be syringed?" at p. 568, I entirely agree. Syringing Vines is often carried to excess, possibly owing to that dreaded pest, red-spider, attacking the foliage, which it will invariably do if the house is kept long in a dry state. The atmosphere being necessarily arid, is favourable to the spread of the pest; but at the same time I am in favour of a somewhat dry atmosphere with a buoyant air when Vines are in flower.

The cultivation of the Vine has probably produced more controversy in the horticultural press than any other subject, and the various systems of successful culture advanced go to prove what an accommodating plant the Vine is, and show that there is no hard and fast rule to follow to bring about that "consummation devoutly to be wished"—a good crop of highly-finished fruit. I am no advocate for dressing Vine-rods with tar and clay as has been recommended, neither do I believe that a high temperature is necessary for the successfully set in a temperature of 55°.

"Syringing" and "damping down" are hackneyed terms in gardening phraseology. Where it is possible, rain water should be used for syringing, as that sup-

plied by water companies or obtained from springs is usually hard, and its continuous use necessitates the frequent sponging of ornamental foliage plants to remove the white sediment accruing through the use of such water, which also has a similar effect on Grapes, so that it is advisable to discontinue syringing after the berries are set, and supply the necessary moisture by damping down the borders, floors, &c. I have had to practise frequent damping down during hot weather, but could never see the beneficial effects of it when the ventilators were wide open, and think it preferable to create humidity when the structures are closed in the afternoon, the inmates then receiving the full benefit, and such subjects as Vines, Cucumbers, and Melons, as well as other heat-loving plants, revel in a temperature of 90° and plenty of moisture when shut up after a bright sunny day.—*Geo. Potts, Junr., Northiam.* [Damping down when the ventilators are open, in hot, dry weather, is decidedly beneficial to plant growth, as there is a great strain on young expanding foliage in a dry atmosphere.—Ed.]

Gardening Miscellany.

Crickets Among the Strawberries.

We are troubled with crickets among our forced Strawberries, and would be glad of advice from any of your readers who have been troubled in a similar way. They eat out the seed pips whilst the fruits are swelling, and sometimes before colouring takes place. I have known ants and mice do the same thing, but never before knew of crickets attacking the fruits in this way. I have tried several sorts of beetle powder and paste, but have found nothing keep them from the fruits, except baiting with barley-meal and catching them in traps. We have caught hundreds in this way, but still they come.—*P.* [Mix two ounces of arsenic with one pint of oatmeal and a little ground aniseed, and lay small quantities on pieces of paper near their haunts. We advise, of course, extreme caution in the use of so deadly a poison.—Ed.]

Datura Knightii.

When well grown the double white flowers of this Datura are very effective, and remain in good condition for a long time. It is of garden origin, and besides being useful for pot work is largely used for sub-tropical bedding purposes, as much for the handsome character of its huge leaves as for the beauty of its flowers. The stimulus given to growth in the open ground causes a much larger development of the foliage than when the roots are confined in pots. As most of the kinds are gross feeders, the shrubby or arboreal sorts are very suitable for planting out in the conservatory, where they give a much larger percentage of bloom. Another character of this, as well as other woody kinds, is that flowers may be produced at any time of the year, provided the light is good, and the plants are in vigorous growth—a condition that can always be insured by cutting back the plants and re-starting them according to the time they are required to be in bloom. The long, pendent, trumpet-shaped flowers of D. Knightii are pale yellowish or creamy white during their growth, but after expansion are pure white and highly fragrant. A number of plants may now be seen coming into bloom at Gunnersbury Park, Acton.

Two Fine Balsams.

These are Impatiens Sultani and I. Hawkeri, of which we saw a batch of useful specimens the other day at Gunnersbury Park, Acton. It is now being pretty well ascertained by gardeners in general which of the two is the more useful for decorative purposes. The palm must be given to I. Sultani, which, under the most indifferent treatment even, seldom fails to produce a large quantity of bloom. When well cultivated, however, the yield in flowers during the course of a summer season is something remarkable, nor will it refuse to bloom in winter, provided the light be fairly passable. With a very little care and attention, close bushy subjects are the result; but in this respect cultivators generally find that plants raised from seed are superior to those propagated by cuttings. When the plants are stimulated with a little artificial manure, the foliage assumes a healthy dark green appearance, which sets off the flowers to advantage. I. Hawkeri, on the other hand, will always be the finer with regard to the individual blooms, which are of an intense carmine; and the red metallic-looking stems have a rich appearance that cannot be gainsaid even when the plant is not in flower. It does not bloom so continuously as I. Sultani.

Gardeners' Holidays.

The writer of an article in your paper of 27th April, on "Holidays for Gardeners," seems to forget that gardeners only work from light to dark for many weeks of the year, and their occupation is a very healthy one, whereas most trades and factory hands work from 6 a.m. till 6 p.m. all the year round, and often in a very unhealthy atmosphere.—*A Constant Reader.* [We are afraid our correspondent does not thoroughly appreciate the real difficulties of a gardener's position, or she would not assume that they work only from light to dark at any season of the year, or compare their occupation with that of any other class. If gardeners only work from light to dark, who does the stoking and takes care of the houses in the winter time, and who sits up sometimes more than half the night in severe weather to save their plants and the pockets of the owners of the hundreds of ramshackle heating apparatuses and worn-out old kettles of boilers to be found up and down the country? The fact is, if a gardener ceases at dark to work with his hands, he does not do so with his head if he is worthy of the title of gardener; and as regards the healthiness of his occupation, well, there are seasons when he has to work, under glass, in atmospheres highly prejudicial to health, and changing from heat to cold so often as he is obliged to do, frequently renders him liable to rheumatism, bronchitis and other ailments incidental to the profession. We have said nothing about Sunday work, but in many establishments the responsibilities of the head gardener are as great on the first as the last day of the week, and for the men on duty the labour on Sunday is often more arduous than on any other day.—Ed.]

A Few Good Zonal Pelargoniums.

When looking through Mr. Samuel Barlow's collection of zonal Pelargoniums at Stakehill, Castleton, a few days ago, I made a note of the following as useful decorative varieties:—Col. Holden, Dr. Orton, and A. Henderson, crimson and scarlet varieties; and Lady Sheffield, pink. It may be said this is but a very few varieties, but they are thoroughly good; the flowers of good shape, produced in bold trusses, and quite large enough in point of size. I think they make good exhibition varieties also, and they are good bedders in addition.—*R. D.*

Cistus Florentinus.

This is the white-flowered Florentine Cistus, and it was introduced from Italy as far back as 1825. I saw it the other day in one of Mr. Samuel Barlow's plant houses at Stakehill. Though old, it is not much grown, and yet it makes a pretty greenhouse plant. It is of dwarf growth—that is to say, a small plant of it—and when in bloom it produces an abundance of white flowers with a yellow centre. The Cistuses are not long-enduring, but they make up for it to some extent by the freedom with which they bloom.—*R. D.*

Heuchera sanguinea.

Roaming through the houses at Kew lately, I came across this plant in flower in a pot, and very pretty it looked. I should scarcely have recognised in it the herbaceous plant of the border, as it looks rather different, no doubt owing to its having been forced under glass.—*Alfred Gaut.*

Cineraria cruenta.

I was very much struck with the effect produced by a group of these plants in flower at the end of one of the houses at Kew. It is a tall-growing plant, with lovely lavender-coloured flowers. The individual flowers are not so large, or composed of such brilliant colours as the florists' Cineraria, which has been raised from it; but the effect produced is very pretty, and the plant would be well worth growing for decorative purposes.—*Alfred Gaut.*

Caladiums at Maida Vale.

A large number of small and moderate-sized plants of Caladiums, in all the leading colours and well-known kinds, is grown in Messrs. Hooper & Co.'s Pine Apple Nursery, Maida Vale. A handsome kind is Leopold Robert, with large leaves suffused with rose on a white ground and reticulated with green. Candidum is another exhibition kind, with white leaves faintly reticulated with green, and furnished with green mid-ribs on a white ground. Rather a singular but distinct variety is L'Automne, whose foliage is of a creamy greenish white blotched with pink. The rosy pink, often sub-transparent leaves of Madame Fritz Köchlin are very effective when seen at their best. Other beautiful and strong-growing kinds are Princess of Teck and Excellent; both have greenish yellow foliage with a red centre, but the latter, in addition, is also variously blotched with white. These are a few of the finer kinds we noticed recently but the number of varieties is very extensive.

Tuberous Begonias.

Early started tubers are now coming into flower, and plants in the early stage have a healthy, fresh appearance just as the buds expand. We noted some double and some unnamed kinds in this condition the other day at Messrs. H. Cannell & Sons', Swanley, Kent. A double red kind with loosely arranged petals, and named J. Marshall, had a pleasing appearance, without the dense, crowding characteristic of many doubles. A number with undulating petals, very much resembling a Hollyhock, are also beautiful and meritorious. The great size of the flowers is also notable, and should satisfy the most fastidious in this respect. Of these Mrs. Felton was pale yellow, almost white; the Hon. Mrs. G. J. Goschen, soft flesh-coloured; and Countess of Dudley, pure white, and very fine. A number of unnamed seedlings of last year's raising are also coming into bloom. They have single flowers, and one was pure white, another tinted or suffused with pink, while a third had huge rose-coloured flowers. An immense number of seedlings are now in various stages of advancement.

Cinerarias from Edinburgh.

A box of Cineraria blooms reached us the other day from Mr. John Downie, Beech Hill Nurseries, Murrayfield, Edinburgh. The self-coloured flowers were the most numerously represented, but there were also a good sprinkling of the bicoloured kinds, or, to speak more definitely, of those kinds having the ray-florets of two distinct colours, because where such is the case the disk is usually of a different shade, making three colours. Of the self-coloured kinds there was a great range of variety, not of washy tints, but each showing the most definite and richest of its kind. These included rose, magenta, red, crimson-red, purple, blue, and violet, in varying shades of intensity up to what, for want of a better term, we should call velvety maroon-violet or purple. One was pure white with the exception of the disk, which was blue. This kind is now becoming very common, and is much sought after by the florists, who find a ready sale for it either as plants or for cut flowers. The dark centre on a pure white ground gives the flower-heads a very pretty effect. The forms with a narrow or broad zone of white round the eye were varied and beautiful; a collection should always include a mixture of both kinds. The rays were broad and well overlapped.

Anthracite Coal.

Much has been said from time to time in our columns with regard to economy and efficiency of anthracite coal for horticultural purposes, and quite recently we had additional testimony in its favour from Mr. P. McArthur, The London Nursery, Maida Vale, who uses it entirely for keeping up the temperature of his hothouses. He finds it cheaper than coke, and more economical in various ways, especially in the reduction of labour that is always necessary in the use of coke for heating purposes, on account of the frequent stoking and attention it requires. Fires fed with anthracite coal during the spring months require stoking only once a day, and the same at night. A brisk fire made up at 7 p.m. will last in good condition till 7 a.m. For this reason one man can attend to a large number of fires, and avoid all night-work.

Streptosolen Jamesoni.

If stood in a greenhouse amongst other subjects kept in a flowering condition, this beautiful plant requires no other or special treatment. A light and sandy but rich compost is all that it requires in the matter of soil. As the plant grows, flowers will be produced in succession for many weeks together. These are of a bright orange, in many cases showing a decided tint of scarlet, and are useful for cut-flower purposes. Both in habit, size and the wrinkled appearance of the leaves, the plant may be compared to a Heliotrope, although in structure and every other respect it is widely different, being a member of the Solanum family. It is sometimes named Browallia Jamesoni, and structurally is closely similar to B. elata, an annual frequently cultivated in pots for greenhouse decoration, whereas the subject under notice is distinctly shrubby in its habit, and produces numerous drooping or arching twigs. We noticed some plants of it in the greenhouse at Boston House, Brentford, under the care of Mr. Jeffries.

ORCHID NOTES AND GLEANINGS.

The Orchid Grower's Calendar.

Those who live where bees abound will doubtless have noticed during the past few days that they will gain admittance to the Orchid houses if possible, and it is certainly very annoying to find a number of flowers fertilised by their agency, and thereby doomed to wither prematurely. Odontoglossum flowers appear to be most readily fertilised. We have lost as many as three flowers on a spike this season in many instances, which mars the beauty of the spike, as the flowers which have been fertilised change colour in about two days, and wither shortly afterwards. The most noticeable thing appears to be that humble-bees generally pitch on hybrid Odontoglossums, such as Andersonianum, Ruckerianum, &c., and we find it necessary to be continually killing the operators.

Fire heat should now be shut off entirely from the Odontoglossums, and a little bottom air left on the house all night where the ventilators are well below the stage on which the plants stand. Free ventilation and plenty of water about the paths and stages will all tend to keep down thrips and green-fly, and to keep the plants in robust health.

Any plants of Cattleya Trianæ which need re-potting may be attended to as they commence growth, and they will be benefited by being placed in a position where they will receive more moisture and shade until they become re-established, especially in the case of any plants that have been much disturbed in the operation. The young roots of Cattleyas are much liked by wood-lice, which should be well looked after, and allured into flower pots containing a little dry moss, or by some other method, and destroyed. Those who are troubled with cockroaches will find "The Demon" Beetle Trap just what they need to rid them of these pests.

The Temperatures for May should be:—East Indian house, 70° to 75° by day, and 65° at night; the Cattleya house, 65° to 70° by day, and 60° at night and the cool or Odontoglossum house, 60° to 65° by day, and 55° at night.—*W. P.*

Orchid Prices.

The catalogue of plants from Mr. Dorman's collection offered for sale at Messrs. Protheroe & Morris's Rooms on the 3rd inst. included a number of exceedingly good things, and as usual, when such is the case, there was a good attendance of buyers. The highest bid made during the sale was 58 guineas for a plant of Cypripedium leucorrhodum, with three old and three new growths; and other prices realised were Cymbidium Philbrickianum, 15½ guineas; Masdevallia cucullata, 13 guineas; Odontoglossum crispum aureum magnificum, 28 guineas; Odontoglossum Schroderianum, 13 guineas; Lælia Perrinii nivea, 19 guineas; Cattleya Wagneri, 19 guineas; Lælia elegans prasiata, 18 guineas; Cattleya Mossiæ Dormaniana, 15 guineas; Cypripedium Morganiæ, 18 guineas; Cypripedium œnanthum superbum, 19 guineas; C. Thibautianum, 23 guineas; Cattleya labiata, autumn-flowering variety, 28 guineas; Dendrobium Cooksonii, 13 guineas; Cattleya Trianæ magnifica, £8 18*s.* 6*d.*; C. T. Dodgsoni, £7 17*s.* 6*d.*; Lælia anceps alba, £6 16*s.* 6*d.*; L. a. Williamsii, 7 guineas; Cattleya Reineckiana, 7 guineas; C. calummata, 7 guineas; Cypripedium grande, £9 19*s.* 6*d.*; C. insigne Wallacei, £6 16*s.* 6*d.*; C. Druryi, £7 17*s.* 6*d.*; Cattleya Mendelii Morgani, £9 19*s.* 6*d.*; C. Sanderiana, 7 guineas; and Dendrobium splendidissimum, £9 19*s.* 6*d.* On the same day a plant of Maxillaria Sanderiana, offered by Messrs. Seeger & Tropp, and bearing six flower spikes, was sold for 20 guineas.

Odontoglossum vexillarium.

Can any of your readers tell me what is the greatest number of blooms produced by a single bulb of Odontoglossum vexillarium? I have at present a small plant with one growth which is showing four spikes, one with four buds, another with seven, and two with eight each, making a total of twenty-seven buds which are just beginning to colour. This is the most that I have seen produced by one bulb.—*John Proctor, Devanha House Gardens, Aberdeen.*

Masdevallia Veitchiana.

We noticed a plant the other day of this species, at Gunnersbury Park, Acton, with flowers equal in size to those frequently passing under the name of M. Veitchiana grandiflora, and which would lead us to believe that it is merely a question of good cultivation whether the varietal name, M. V. grandiflora should be given to a plant or not. Not only were the flowers large, but of the richest colour peculiar to the species, and a moderate-sized plant bore forty-eight blooms, most of which were fully expanded when we saw them. It would seem that the varietal name is but too frequently used when a good-sized flower makes its appearance. By general consent this species is considered to be the best of the host of kinds now in cultivation.

The Gardeners' Calendar.

THE STOVE.

Azaleas.—Batches of these that have done flowering should be prepared for next season's work by removing the whole of the seed vessels, late flowers, and (if necessary) any long straggling shoots that are not required to tie in for filling up gaps. Should any of the plants be infested with red-spider or thrips, to which they are liable, they should be taken out of doors, or to some shed, and laid on their sides, in order that the underside of the leaves may be heavily or forcibly syringed with Gishurst Compound, Fir Tree Oil, or paraffin, in very bad cases, at the rate of a wine-glassful to two gallons of water. By laying the plants on a board overlying a tub, the liquid may be used over and over again, thereby economising it. Wash with clean water afterwards. Small plants are benefited by an annual re-potting, placing them in a size slightly larger each time. Use a blunt-pointed piece of wood to ram the new soil down firmly, so that water applied will permeate the whole ball, and not run away through the new material. Keep the top of the ball well down below the level of the pot, leaving plenty of room for thorough watering. Place the plants in a pit, a vinery at work, or some house with a warm temperature to start them, and keep the whole well syringed to encourage growth and keep down insect pests.

Coleus.—Cuttings of these struck now will make useful plants of a convenient size for conservatory decoration in late summer and autumn. For exhibition purposes large plants, trained in a flat manner, are generally held in most esteem; but for ordinary decorative purposes those trained in bush or pyramidal form are generally the most convenient. In order to get plants for exhibition purposes it is necessary to strike cuttings in autumn or very early in spring, but for the purpose just mentioned this is altogether unnecessary.

THE GREENHOUSE.

Rhodanthe Manglesi.—Autumn-sown plants of these will now be in flower, and prove very serviceable in the greenhouse to take the place of Azaleas, Tulips, Hyacinths, and similar things now going out of flower. Both the ordinary red form and the white variety are handsome and suitable for the purpose. They may also be dried by hanging them up in bunches in a cool airy place where direct sunshine does not get to them. Other sowings may now be made in the pots in which they are intended to flower.

Liliums.—Several species, such as L. auratum, L. speciosum, L. longiflorum, and L. l. Harrisi, are pushing on vigorously. Keep a sharp look-out for green-fly, as they do irreparable injury to the flower buds in a very short time. Keep the plants well exposed to light, and assist them with liquid manure as soon as the flower buds make their appearance.

THE FORCING HOUSES.

Early Vineries.—As soon as the Grapes in early houses are thoroughly ripened, a much lower temperature should be maintained than was required to force them on and mature them. With the lowering of the temperature a drier atmosphere must also be simultaneously secured by avoiding all unnecessary damping down, giving at the same time a copious supply of air. For the benefit of the foliage and to help the keeping of insects in check, damping down early in the day should be done, so that by midday everything will be quite dry. No more water should be given at the root than is necessary to keep the foliage fresh and the berries plump. Ventilate early in the day, avoiding draughts at all times, otherwise red-spider will be encouraged. Grapes that are just colouring will require to be kept warm, with plenty of ventilation by day, and a smaller amount at night. Extra artificial heat will be required to keep up the temperature under these conditions, and unless the sun be very clear and warm the fires must be kept going all day. Damp down early, and allow the moisture to dry up before the day is far advanced.

Cucumbers.—Early batches of plants that exhibit declining vigour will derive much advantage by an addition of fresh material to the mounds covering the roots that are exposed. The compost should consist of two parts of good loam to one of well-decomposed farmyard manure. If this be repeated occasionally as the roots appear in quantity above ground a partial renewal of the vigour of the plants will be the result, to the great benefit of the successional crops of fruit. A liberal quantity of water at the roots will now be necessary, owing to the increased length of the day and the greater sun-heat. Cucumbers in frames should be watered early in the day, so that any excess of moisture will be dried up before night-fall. Prevent overcrowding by frequent thinning, stopping and tying.

THE KITCHEN GARDEN.

Grafted Trees.—All grafting should by this time be completed. Look over those that have been done some time previously, and stop up cracks in the clay that are liable to occur unless the same has been tied over with moss. In dry weather the latter will require moistening occasionally.

Insects.—Much careful attention will have to be given fruit trees of all kinds at this early period to keep aphides and caterpillars in check. Where aphides appear syringe with weak mixtures of tobacco-water, and keep caterpillars in check by picking where they have rolled the leaves around themselves.

LAW NOTES.

Carter & Co. *v.* Oakshott & Millard.

On the 24th ult., in the Magistrate's Court at Reading, Messrs. Oakshott & Millard, seed merchants, of Reading, appeared to answer (on adjournment) a summons issued by Messrs. Carter & Co., seedsmen, High Holborn, London, under the "Merchandise Marks Act," for selling or exposing for sale, and having in their possession for sale, certain Swede seeds to which a false trade description was applied.

Mr. Ashton Cross, barrister, of the Oxford Circuit (instructed by Mr. A. E. Hurford, solicitor, Reading), appeared for the complainants, and Mr. C. E. Hewett, solicitor, Reading, represented the defendant firm. (It will be remembered that when the case was called on Monday week, and adjourned, the parties agreed to accept the decision of the Justices.)

Mr. Cross said the point raised by the case was whether Messrs. Oakshott & Millard were entitled to appropriate the name of "Carter's Elephant Swede"—a new sort of Swede introduced by his clients—and to bring out a seed of their own under that name, which was not, in fact, Carter's Elephant at all. The new Swede was shown for the first time at the Cattle Show, 1887. In February, 1888, Messrs. Carter issued a catalogue in which the Swede was put on the market at 2*s.* 6*d.* per lb., for customers only, in lots of not more than 4 lbs., and stated they were unable to supply the seed to the trade. In February, 1889, they issued another catalogue, in which the Swede was given prominence, and it was offered in packages up to 28 lbs. to customers only in sealed packages bearing the registered trade mark, but not to the trade. It was impossible for a crop of seed to have been raised from seed sent out by Messrs. Carter in the spring of 1888 in time to put it on the market in 1889; but this year, when Messrs. Oakshott & Millard's catalogue was issued, it offered "Carter's Elephant Swede, a large oval-shaped Swede, free grower, 1*s.* 6*d.* per lb." He could not prove registration of the whole name, because there had been a slip in the Registration Office, but should rely upon the fact that the trade description was Messrs. Carter's alone. He urged that unless the defendants proved they acted without intent to defraud they would be liable under the Act for applying a false description to the goods. He should prove by a letter that defendants had sold, and he contended that the publication of the catalogue, and the correspondence, would show possession for sale. As to the penalties, the most important to the complainants would be the destruction of those catalogues, under sec. 2, sub-sec. 4; but the defendants could be fined £20, or sent to prison for four months, and the Bench might, if they thought fit, order the costs to be paid.

Mr. Edward John Beale, a partner in Messrs. Carter & Co., gave evidence in support of the opening, and the correspondence was put in.

In cross-examination, witness said they first had the seed in 1886. They sold Mr. King 3 lbs. or 4 lbs. weight, and a Mr. Duncan had the seed as well. To sow for seed it was necessary to plant about June, the seed being harvested the following July. A leaden seal was attached to all the bags of seed they sent out. He was not aware that this seed had been retailed at 9*d.* per lb.

Mr. John King, farmer, Broome, said he received some of the Elephant Swede from Messrs. Carter for trial in the spring of 1887. He grew it for roots, and had no seed to dispose of.

Cross-examined: He grew for Carter's and other firms. He sowed about two acres of the "Elephant."

Mr. Charles Henry Sharman, who directed the sending out of seed for Messrs. Carter, said he believed a leaden seal had, according to custom, been attached to the bag produced by defendants.

The information was then amended, on the application of Mr. Cross, to read that defendants did "apply a false trade description to certain goods and things—to wit, certain Swede seed."

Mr. Cross read a letter from defendents, in reply to an order dated the 23rd March, in which they "said we are sold out of Carter's Elephant Swede," &c., and referring to the correspondence, said that on the 15th March defendants had written to Messrs. Carter "we have sold none of the Swedes." That fixed the date when the offence was committed in law.

Mr. Hewett contended that there must be a trade description of Messrs. Carter's seeds, and such description was not defined in the five sub-sections of the section upon which the prosecution relied. They had really no case to answer. If they wanted to bring seed within the Act they must have a definite description of it which showed some definite and good quality in itself, and also the mode in which it was produced. Seeds were sold all over the kingdom, for instance, as "Sutton's Hero," or whatever it might be, without anything to indicate the mode in which they were produced, and it was absurd to say that the Act applied to seed with such a description as that of the plaintiffs.

The chairman, after consultation, said the magistrates felt clear the Act did apply to the seed.

Mr. Hewitt then addressed the Bench, and called

Mr. J. H. Millard, who manages the agricultural seed department of the business, and who stated that in the spring of 1887, when he joined the firm, he received a sample of that particular seed from a friend of his, who was a trade rival of Messrs. Carter. He sent most of it to be grown in Essex, in the June of 1887, reserving a small portion for trial in their trial ground at Whitley. The only description he had with it was that it was an oval-shaped purple-top yellow Swede. He saw it growing in Essex in the autumn of 1887, and they harvested the seed in the summer of 1888. The remainder of the seed was, in May, 1888, sown on their trial ground, side by side with Carter's Elephant Swede, and eight or ten other kinds of Swede. In October or November he came to the conclusion that the two sorts were identical, and at the Pangbourne Agricultural Show in October he procured some roots, exhibited as "Carter's Elephant," and on comparing them with the "oval-shaped Swede" sent to him, and with the roots grown from the seed procured from Messrs. Carter and grown on the trial ground, found they were unquestionably all the same. He should not have hesitated to have sold the one seed for the other. As a matter of fact they had not sold any of that seed, or had it in the shop. He gave instructions, early in February, that none of it should be sold. They had now two sacks of it in the warehouse, and he was willing that it should be tested side by side with Messrs. Carter's seed.

In cross-examination, witness said that he gave the same name to the seed because Messrs. Carter would be offering it to the trade. He had no one present to state how it originally came into his possession. The sample he grew of Messrs. Carter's was bought in High Holborn direct—it was a 2 lb. bag. They had not sold one lot since the complaint was made. The one order they had executed was with seed they had from a friend in Sussex; that was the only seed they had labelled "Carter's Elephant Swede." They bought that on the 14th or 15th March. They had none of "Carter's Elephant" in stock when their catalogue was issued. If orders had come in they would have written to Messrs. Carter, though he certainly thought they could have supplied the seed without communicating with Messrs. Carter. When he had the item inserted in the catalogue he was under the impression that by the spring of 1889 it would be in the hands of the wholesale trade. The letter to the customer, to the effect that they were "sold out," was explained by the fact they had ordered some from Messrs. Carter in their own sealed bags, and they were sold out of that particular sized bag. They would have bought at 1*s.* 9*d.* (Messrs. Carter's wholesale price), and sold at 1*s.* 6*d.* to oblige a customer.

By Mr. Hewitt: After the correspondence they would have submitted to a loss rather than have any dispute about it.

The magistrates then retired to consult, and on their return the chairman said the Bench had examined the case with every care, and thinking there was not satisfactory and sufficient evidence brought forward to prove it, had decided to dismiss the summons.—*From the Reading Mercury.*

HORTICULTURAL SOCIETIES.

Rochdale Auricula Society.

THE show at Rochdale, commenced some four or five years ago, took place on May 1st, the day after that at Manchester, and was held in the Public Hall, a well-lighted building. Nearly all the flowers shown had been at Manchester the day before, but I thought that more of the Manchester people would have put in an appearance there. Still, it was an interesting exhibition, and I think under the present management it is likely to become a very good one. The staging arrangements show off the flowers to the best advantage.

Miss Woodhead, of Halifax, had the best six out of three competitors, and the class is a little different, because there must be one green, one grey, and one white-edged; and the three selfs must be of different colours. Miss Woodhead had Prince of Greens, George Lightbody, and Mrs. Dodwell—the last a chaste-looking white-edged; black self, Black Bess; blue self, Mrs. Potts, and red self, Lord of Lorne. Mr. Tom Lord, Todmorden, came next, with Rev. F. D. Horner, George Lightbody, and Acme; black self, Ellen Lancaster; blue self, Mrs. Potts, and red self, Mr. Sturrock. Mr. H. Wilson, Manor Heath Lodge, Halifax, was third. Miss Woodhead had the best four also, one of each division, staging Prince of Greens, Rachel, a pretty grey; Acme, white, and a fine Heroine, with fourteen pips. Second, Mr. T. Lord, with Prince of Greens, George Lightbody, Acme, and Heroine. Third, Mr. Samuel Barlow, J.P., Stakehill House, Castleton, with Hibernia, a promising green; Grey Friars, a green; Frank Simonite, and dark self Mr. Barlow. There were six collections in this class. Mr. H. Wilson had the best pair, staging white edge John Simonite and self Heroine; second, Miss Woodhead, with Prince of Greens and Acme; Mr. T. Lord was third with green edge Richard Gorton, which looked like a refined Talisman, and George Lightbody. In the class for a pair for "maiden" growers, Mr. J. Beswick, Middleton, was first with green edge Lovely Ann and white edge Acme; second, Mr. Samuel Lord, Rochdale, with green edge General Niel and Mrs. Sturrock, red self.

The best green edge was President Royde, from Mr. S. Barlow; Mr. R. Lord coming next with Richard Gorton; Miss Woodhead with Prince of Greens; and Mr. H. Wilson with Hotspur, which promises to be a good useful green edge. Miss Woodhead had the best grey in George Rudd, and second with Rachel, both of her own raising; Mr. H. Wilson came third with George Lightbody, and Mr. T. Lord was fourth with Lancashire Hero. The best white edge was Conservative, from Miss Woodhead, and she was second with Acme, and third with Mrs. Dodwell; Mr. S. Barlow following with seedlings. But the latter had the best self, which was of a very fine shaded plum colour, named Mrs. Bentley, it being large, stout, flat and of very fine quality; Mr. T. Lord was second with Brunette; Miss Woodhead was third with Black Bess; and Mr. S. Barlow was fourth with Pizarro.

The best four alpine Auriculas were staged by Mr. J. Beswick, who had Queen Victoria, Diadem, and two laced seedlings; Mr. S. Barlow was second with Charles Neeham, one of his fine and promising seedlings, Diadem, and two seedlings. The best golden-centred Alpine was Sovereign, from Mr. J. Beswick, having a fine edge of rosy salmon to a black body colour and rich golden centre; Mr. S. Barlow was second with Beauty, dark shaded with salmon, smooth and very promising; Mr. J. Beswick came third with a seedling, fourth with Racer, and fifth with Emir, a fine dark variety. The best white or cream-centred Alpine was a seedling laced from Mr. J. Beswick. He was second with Queen Victoria, and Mr. S. Barlow third with Mr. Phipps. The premier Alpine Auricula was Queen Victoria, from Mr. J. Beswick.

Gold-laced Polyanthuses were not numerous. Mr. J. Beswick had the best pair—one red, the other black—showing Cheshire Favourite and a seedling; second, Mr. S. Barlow; and third, Mr. G. Thornley, both showing Exile and Sidney Smith. The best black ground was Exile, from Mr. Beswick. He was second with Cheshire Favourite, and third with a seedling, Mr. Barlow coming fourth with John Bright. The best red ground was George IV., from Mr. G. Thornley, who was third with Prince Regent, and fourth with Sidney Smith; Mr. Barlow being second with William IV. The premier Polyanthus was Mr. J. Beswick's Exile.

Under the head of extra classes was one for six fancy Auriculas, and also for six Primroses, Mr. S. Barlow being first in each with good flowers. He was also the only exhibitor of two hardy Primulas, staging P. denticulata and P. viscosa rosea.

QUESTIONS AND ANSWERS.

SPECIAL attention is paid in the columns of THE GARDENING WORLD to the answering of questions on all subjects connected with practical horticulture, and the naming of Plants (other than Florists' Flowers) and Fruits, in which department the Editor is assisted by gardeners and specialists of great experience.

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's *bonâ fides.* No notice whatever will be taken of anonymous letters.

It is particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "THE EDITOR."

BEDDING DIAGRAM.—*Carpet Bedding:* You may plant the first bed as follows:—1, Iresine Wallsii; 2, Pyrethrum Golden Feather; 3, Mesembryanthemum cordifolium variegatum; 4, Herniaria glabra; 5, Antennaria tomentosa; 6, Echeveria secunda glauca; 7, Sedum glaucum. The second bed would look well arranged as follows:—1, Iresine Wallsii; 2, Mesembryanthemum cordifolium variegatum; 3, Herniaria glabra; 4, Antennaria tomentosa; 5, Echeveria secunda glauca; 6, Oxalis corniculata rubra; 7, Golden Feather Pyrethrum. If you have sufficient Oxalis, it would be better to substitute it for 6, Echeveria, in the first bed.

CAULIFLOWER SEED.—*R. M. C., Midlothian,* desires the names and addresses of some of the principal English growers of Cauliflower seeds. Can any reader oblige him?

CHRYSANTHEMUMS.—*F. J. S., Pembroke:* High culture, in the case you instance, means an early start with strong cuttings, careful management to encourage a robust growth until the bud is taken, and, subsequently to promoting the development of the flowers by judicious feeding with stimulating manures. They should soon be put into their flowering pots, placed in a sunny position, and never be neglected in the matter of watering.

MANURE FOR CHRYSANTHEMUMS.—If "Country Mum" can get rid of the iron filings from the hoof parings by sifting through a fine sieve, he will find the hoof-parings a valuable manure for using in small quantities in his potting compost, and especially for sprinkling over the drainage. Like horn shavings, their value lies in their lasting properties rather than in their quick action, and therefore are of little value for top-dressing.—*G.*

NAMES OF PLANTS.—*Anxious to Learn:* 1, Pelargonium citriodorum minimum; 2, Luzula sylvatica; 3, Luzula campestris; 4, Adoxa Moschatellina; 5, Lychnis diurna; 6, Sibthorpia peregrina; 7, Jasminum nudiflorum. Nicely packed, and arrived in good condition. *A. Reed:* Brassia candata; Lycaste plana.

STEPHANOTIS.—*R. H. S.:* We have no means of knowing the value of Stephanotis bloom in the Liverpool market during the month of April, but in the wholesale market, Covent Garden, during the early part of the month, about 6*s.* per dozen bunches was the average value. By the 20th they were down to 4*s.*, and two days later they were sold for 3*s.* Of course they were not sold at these prices in every instance—there is no such thing as a fixed value in any flower or vegetable market.

COMMUNICATIONS RECEIVED.—Rev. G. S.—J. L. & S.—L. L.—A. B.—H. C.—W. B. H.—D. J. N.—F. R. S.—W. P.—J. A.—Donald & Co.—J. H.—J. F.

TRADE CATALOGUES RECEIVED.

A. DICKSON & SONS, Newtownards, co. Down.—New Pedigree Seedling Roses.

DICKSONS & CO., 1, Waterloo Place, Edinburgh.—Bedding and Border Plants.

WILLIAM BULL, 536, King's Road, Chelsea.—New and Rare Plants.

COVENT GARDEN MARKET.

May 8th.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	5 0	12 0	Foliage Plants, various ..... each	2 0	10 0
Arum Lilies..per doz.	6 0	12 0	Genista ....per dozen	9 0	12 0
Azalea.....per doz.	18 0	30 0	Heliotrope ..per doz.	6 0	9 0
Bedding plants, in var., per doz.	1 0	3 0	Lilies of the Valley, per doz.	9 0	18 0
— — in boxes ..each	1 0	4 0	Marguerites per doz.	6 0	12 0
Calceolaria ..per doz.	6 0	9 0	Mignonette, doz. pots	6 0	12 0
Cineraria ..per dozen	6 0	10 0	Palms in variety, each	2 6	21 0
Cyclamen ..per doz,	9 0	18 0	Pelargoniums, scarlet,	4 0	9 0
Cyperus, ..per dozen	4 0	12 0	Pelargoniums, per doz.	8 0	18 0
Dracæna term., doz.	30 0	60 0	Pinks, &c. .. per doz.	6 0	9 0
— viridis, per dozen	12 0	24 0	Primula sinensis		
Erica, various ..doz.	9 0	24 0	Roses, H.P., per doz.	12 0	24 0
Evergreens, in var. ,,	6 0	24 0	Roses, Fairy, per doz.	9 0	12 0
Ferns, in var., per doz.	4 0	18 0	Spiræa .....per doz.	9 0	12 0
Ficus elastica ..each	1 6	7 0			
Fuchsia.....per doz.	6 0	12 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus ....per 100	4 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	3 0		Lettuces ..per dozen	1 6	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages .... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes ..per dozen	1 6	
Celery ....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers ....each	0 4	0 10	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos ....per lb.	2 0	3 0
			Turnips ....per bun.	0 6	

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.
Anemone, French, per doz. bunches.	1 0	4 0
Arum Lilies, 12 blms..	2 0	4 0
Azaleas ....12 sprays	0 6	1 0
Bouvardias, per bun.	0 6	1 0
Camellias, white, doz.	2 0	4 0
— coloured..... ,,	0 6	1 6
Carnations, 12 blooms	1 0	2 0
Cyclamen..12 blooms	0 4	0 9
Daffodil, single, vars.	4 0	9 0
Eucharis ..per dozen	3 0	6 0
Gardenias, 12 blooms.	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0
Lapageria, 12 blooms	2 0	4 0
Lilium longiflorum, 12 blooms	3 0	6 0
Lily of the Valley, 12 sprays	0 6	1 0
MaidenhairFern, 12bns.	6 0	9 0
Marguerites, 12 bun.	3 0	6 0
Mignonette, 12 bun.	4 0	6 0
Pansies ..12 bunches	1 0	3 0
Pelargoniums, 12 spys.	0 6	1 0
— scarlet ..12 sprays	0 4	0 6
Polyanthus, 12 bnchs.	1 6	4 0
Primroses..doz. buns.	0 6	1 0
Primula, double, bun.	0 9	1 0
Ranunculus, French, per doz. bnchs.	1 0	3 0
Roses, Tea, per dozen	0 6	1 0
— Red .....per doz.	3 0	6 0
— Red, French, dozen	1 6	2 0
— Saffrano ..per doz.	1 0	2 0
Stephanotis, 12 sprays	2 0	4 0
Tuberoses, per dozen.	1 0	2 0
Tulips ....12 blooms	0 3	0 4
Violets ..12 bunches	0 6	1 0
— Parme, French, bun.	3 0	4 0
Wallflowers, 12 bnchs,	4 0	6 0
White Lilac, French, per bun.	3 0	5 0
White Narciss, French, doz. bunches	3 0	6 0

Fruit.—Average Wholesale Prices.

	s.d.	s.d.
Apples .....½-sieve	2 0	4 0
Grapes .....per lb.	2 0	4 0
Pine-apples, Eng., lb.	1 0	1 6
Pine-apples, St. Michaels.....each	2 0	7 0
Strawberries.. per lb.	2 0	4 0

Canadian and Nova Scotia Apples, per barrel, 7s. to 17s.

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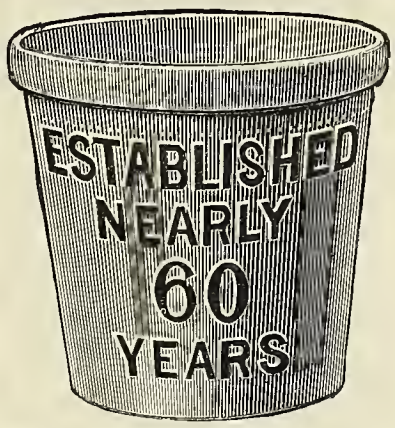

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Is the ninth Catalogue I have published this spring, copies of which have been sent to all my customers. It contains a number of

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Now offered for the first time, all of which are vast improvements upon all existing varieties, and such as will please the public.

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Next Week's Engagements.

MONDAY, May 20th.—Sale of Plants, &c., at North Cray Place, by Protheroe & Morris.

TUESDAY, May 21st.—Sale of the late Mr. E. Wright's Orchids at Protheroe & Morris's Rooms.

WEDNESDAY, May 22nd.—Grand Floral Fête in the Flower Market, Covent Garden, in Aid of the Gardeners' Orphan Fund; open at 8 p.m. Sale of Greenhouse Plants, &c., at Protheroe & Morris's Rooms.

FRIDAY, May 24th.—Sale of Second portion of Mr. Dorman's Orchids at Protheroe & Morris's Rooms.

For Index to Contents & Advertisements, see p. 601.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MAY 18, 1889.

CURRENT TOPICS.

THE COVENT GARDEN FÊTE.—Our readers cannot fail to have noticed the prominent announcement made in our advertising columns last week, of the Grand Floral Fête to be held in the Covent Garden Flower Market, on Wednesday night next, in aid of that admirable young institution, The Gardeners' Orphan Fund. It will be remembered that last year the free admission by invitation ticket resulted in a tremendous crush, which sadly interfered with locomotion and the pleasure of seeing the beautiful masses of flowers arranged in such wonderful abundance for the delectation of visitors. The pecuniary result of the fête was also exceedingly disappointing.

The Committee conducting the fête this year have determined to limit the issue of tickets, and to charge five shillings each for them. The experiment is, perhaps, an ambitious one, but London is enormously wealthy, and the Flower Market may not be seen by ordinary people, except under special conditions. We do hope, therefore, that the whole of the tickets will be taken up, and that the result financially will be from a grand fête a grand product, and such an one as will benefit the Orphan Fund in a most substantial fashion. Lovers of harmony will find special pleasure in the association with an unrivalled display of flowers of a splendid selection of music to be rendered by the celebrated band of the Royal Horse Guards Blue, under the conductorship of Mr. Charles Godfrey. We may remind our readers that the opening ceremony will take place at eight o'clock, and that tickets can still be obtained at our office.

Fruit Prospects.—Whilst everybody seems just now prepared to offer congratulations upon the glorious bloom found on fruit trees, and especially upon Apple trees, we are pleased to learn that this wealth of bloom and beauty is not confined to one locality, but is very general, so that a big Apple crop seems singularly likely, and we trust will soon be found a certainty. There is now almost unwonted glory in the Apple bloom this year, for it is richer in colour; this may be due to the softer air which has prevailed during its expansion, than is ordinarily found, and the existence of which renders the fertility of the bloom so much more hopeful. We have learnt in past years, when colour seemed to be lacking, that such want was fatal to fertility. We believe that assertion to be based on truth, therefore all the more now look for good results this year.

But more than that, the bloom is very fine, and apparently well supplied with pollen; this seems to be abundantly shown by the reports of its condition to hand. During the week the Apple bloom has been a glorious sight, such as no other flowering trees in bulk give, and it is a matter for hearty congratulation. Cherries of all kinds too have bloomed with wondrous profuseness, Plums moderately, and Pears generally sparsely, but on the whole the prospects of hardy fruit trees are excellent. With bush fruits there is ample reason to anticipate a very heavy crop, and this fact lends special interest to the proposed Sugar Bounties Convention, which if agreed to—as happily does not now seem probable—will inevitably double the price of sugar, and thus seriously affect the preserving trade. As for Strawberries, only sunshine and absence of frost are needed to ensure a glorious bloom and a grand crop of fruit.

Roses at Paris.—The correspondent of the *Standard*, in Paris, mentions that a grand collection of 5,000 Rose trees are planted at the great Exhibition there, and includes 3,000 varieties. This will constitute a brilliant feature in connection with the Horticultural Show to be held in the grounds next July. Thereupon one of the *Evening Standard* leader writers assumes the British public will think that "by comparison with our great growers"—rather a confused sentence—the 5,000 trees and 3,000 varieties do not overwhelm the imagination. For, says this critic, "why, there are 300 varieties in the catalogue of the local nurseryman anywhere, and 1,000 in *those* of any important firm." Here this braggadocio Britisher rushes headlong to the conclusion that every different firm of Rose growers offers for sale different varieties from the rest, and thus accumulates as many thousands as there are but hundreds of sorts in cultivation.

We are disposed to think that to a vast body of the public who have hitherto been shut out from the Rose nurseries of the great English growers, 5,000 Rose trees in bloom at once, and including 3,000 varieties (we accept even that trifling number with due reservation), will present an unwonted and attractive spectacle. However, it will doubtless surprise even the most ignorant of their craft to find after all how like each other will be myriads of these so-called varieties. But the leader writer in delightful confusion asserts at once that the art of Rose-growing is so well understood in France that each kind will be assuredly distinct and yet adds, "it would puzzle the most ingenious to name 3,000 real distinct Roses." In that view we agree, but not in the former one. There are in France, it is said, "scores of the loveliest varieties in common growth of which we know nothing—especially the nurserymen." That is a slap in curious English at our home growers, but they are not quite such fools as the writer assumes. He asserts that the fine old Rosa rugosa is rare in England. So much for the knowledge concerning Roses of a daily leader writer.

Show Plants at Slough.—We were specially favoured in dropping into the Royal Nursery, Slough, just previous to the Crystal Palace show, in finding the truly grand collections of Azaleas and Pelargoniums intended for that and the Botanic exhibitions at their very best. Not only did the specimens display all that fine culture and training for which the establishment has so long been famous, but they possessed in this case peculiar freshness and beauty, because seen ere being in any way disturbed. One big cool house which contained the Azaleas was indeed a remarkable sight; one of similar dimensions has rarely shown at once more colour, and more of perfect development in trained form has rarely been seen.

The big specimens brought to mind those wonderful plants which proved so marked a feature at the International show of 1866, an exhibition the like of which it is to be feared we may never look upon again. The Pelargoniums also seemed to present evidence of the revival of taste as well as of skill in their production, and yet the same practised hand has had control of these fine show plants for the past thirty years. Here at least is evidence that age does not always dim the eye or dull the skill which creates such remarkable specimens. All forward plants are in a cool house; all less early are enjoying a little more of warmth to have them well up to the mark for the pending exhibitions. It is indeed pleasant to find Charles Turner's old reputation as an exhibitor being thus fully sustained by his successors.

Gold-laced Polyanthuses.—It is an exceedingly interesting fact that following so soon upon our recent wail over the apparent decadence of gold-laced Polyanthuses, we should learn of a remarkably good batch of seedlings growing at Woodside, Farnham Royal. Mr. James brought a box of flowers of his selected seedlings up to the Westminster Drill Hall, on the occasion of the Auricula Show, and they elicited high praise. We saw the plants growing out in the open ground at Woodside the other day, and found a batch of high merit, not a few showing qualities which seemed to put them on a par with our best named varieties. When gold-laced Polyanthuses, growing in the open ground and in a stiff harsh clayey soil, produce pips of fine form and very perfect markings, there is good reason to hope that, cultivated in pots another year, the markings will be even more refined and the colouring more pure.

Amongst the batch we noted two or three very striking red grounds, one more especially, a robust grower, showing a very rich and brilliant colour which was permanent; but out of the lot it was not difficult to pick a dozen diverse and yet all apparently first-rate. Such success has been the product of several years' breeding on, rather from an old strain than from the infusion of high-class blood, and therefore there is in the plants robustness of habit also. The product is interesting as showing that it is possible to raise fine new gold-laced Polyanthuses after all. When under pot culture we find the plants prefer rich soil of a somewhat firm nature, with limited pot room, as tending to produce the most refined flowers.

Gardening Engagement.—Mr. Thomas Greenway, late foreman in the gardens of the Hon. F. Leveson Gower, at Holmbury, Dorking, as gardener to Mrs. Clive, Perrystone Court, Ross, Herefordshire.

Eccles, Patricroft, Pendleton and District Chrysanthemum Show.—The dates fixed for holding this annual Chrysanthemum show are the 15th and 16th November.

Birkenhead's Beetle Trap.—Since Messrs. W. & J. Birkenhead, of Sale, near Manchester, introduced their beetle and cockroach trap about three years ago, it has remained unbeaten for simplicity, durability and effectiveness as a beetle catcher, and has received high praise from all who have had occasion to use it. The Messrs. Birkenhead have, however, succeeded in improving it by making the trap even more simple still. The improved form is simply a pitch-pine box 9 ins. long, 5½ ins. wide and 4 ins. deep, with a groove on the top of the side pieces, into which is dropped the glass top, moulded in one piece and dipping from all sides, with a convex surface, to an opening in the centre 3 ins. long and ¾ in. wide. It is impossible to make anything more simple.

Pyrus spectabilis.—Trees of this Pyrus, ranging from 8 ft. to 30 ft. in height, constitute beautiful objects, whether planted on the lawn, or in the pleasure grounds. The flowers are most abundantly produced in stalkless, many-flowered umbels during the month of May, and while in bud are of a deep rose or red colour. After expansion they are seen to be semi-double, and of a pale rose and white internally. The fruit, when it ripens in this country, is about the size of a Morello Cherry, and bright red, so that whether in flower or fruit, this Pyrus or Crab Apple constitutes an ornamental tree that ought to be more largely planted, so as to diversify the landscape where there is an inclination to plant the evergreen Conifers too largely, to the exclusion of showy or handsome decidnous subjects. We noted a fine specimen of the Pyrus in question in the pleasure grounds at Gunnersbury House, Acton.

Eucharis Sanderiana.—Owing probably to the ravages of the Eucharis mite, this species has not increased at a rate proportionate to the expectations that were entertained of it when first introduced. The flowers are rather smaller than those of E. grandiflora, very freely produced, and for these reasons are very suitable for cut-flower purposes, where the older and better known species would prove too large. The special characteristic of this species is the shortness of the staminal corona, which scarcely projects beyond the tube of the flower. The leaves are more distinctly ribbed after the manner of a Funkia than the other species. We noted a large batch of it in the Pine Apple Nursery of Messrs. Hooper & Co., Maida Vale.

Cypripedium Godefroyæ var. Mariæ.—The *Revue de l'Horticulture Belge* gives a beautifully-coloured figure of a Cypripedium under the above name. In this country it would be classed as a variety of C. bellatulum, and shows a tendency towards C. b. roseum, the ground colour of the standard being rose. The distinction, however, lies in the spotting of the latter organ; the blotches run together in masses and irregular lines, forming a rich reticulation of blood-red on a rose-coloured ground. On the petals are suffused masses of small rose-coloured spots, such as we occasionally find on well-coloured forms of C. bellatulum in this country; but although we usually speak of the latter as a distinct species, we never entertained any doubt as to its being merely a fine form of C. Godefroyæ. Another feature of interest about C. Godefroyæ and its forms is the shortness of the peduncle. It is also claimed as a mark of distinction for C. Godefroyæ Mariæ that the petals are bilobed near the apex, but whether this character will prove permanent seems to us a matter that remains to be proved.

Saxifraga sarmentosa tricolor superba.—The typical form of this plant is a native of China and Japan, from whence it was introduced to the Continent in 1771, and to Britain in 1815. It soon obtained a wide-spread popularity, both on the Continent and in this country, where it has been one of the most common window plants, even in remote country villages and farm-houses, ever since we can remember. As an instance of its wide-spread popularity, we may refer to the numerous popular names given to it. One of the most common is Mother of Thousands, and according to the *Revue de l'Horticulture Belge*, it is known on the Continent under the French name of *Mère de famille*, and the Flemish one of *Moederken van duizend kindern*, all of which mean nearly the same thing, and refer to the habit of reproducing itself by small rosettes developed on runners, much in the same manner as the Strawberry does. There is a handsome coloured plate of the variety under notice in the *Revue* already mentioned for this month. In the centre of the leaf is a large, lobed, green blotch, while all the rest is rose, or white suffused with rose, which again often deepens into a deep carmine. The edges of the palest leaves are often surrounded with a narrow band of carmine. The plant is already grown in this country, and is very beautiful.

NARCISSUS MUTICUS.

If we eliminate from our English collections of Daffodils the number of forms that have been found in the late Mr. Leed's old garden at Longford Bridge, and in one or two others in the neighbourhood of Manchester, what a few we shall have left! For some years I have thought that there was more mystery locked up about these same collections than we shall probably probe. Take for instance Haworth's Bicolor and the Bicolor section. Haworth's plant is considered a species, yet I fancy it can be produced between N. muticus and Mr. Maw's form. Bicolor grandis (a garden plant with a Latin name!) has the same Muticus appearance, and I believe Emperor, Empress, both the Camms, and probably Horsefieldi, are of Muticus origin, because when once a patient enthusiast gets possession of Mr. Maw's Bicolor, with Muticus and its various forms, Rugilobus, &c., using the pollen of Poeticus poetarum, he is on the road to form a famous collection, be it that of Longford Bridge or otherwise.

On reading over the Conference List of 1884, I find that Muticus is put into a sub-section of Pseudo-Narcissus, in five varieties, and Mr. Baker's attention is called to it with a suggestion that it may be placed in the Lorifolius group. Is it not strange that a Daffodil, supposed now to be one of the parents of our very finest forms, should have been so little known up to that period, that the Kew authority had to be overhauled on the subject? Yet I have no doubt the trio of amateurs residing near Manchester must have known the plant well and largely used it, because each of them arrived at the same results in raising garden forms, as is evidenced by our best bicolors.

I wish now to take up the Bernardi and Nelsoni groups, and by way of preface let me state that Nelsoni minor pure and simple, and a few plants very like Macleayi, have turned up in my garden among imported Bernardi bulbs, and the latter natural hybrids from the Pyrenees we all know are produced between Poeticus and Muticus. Had it been a better form of Poeticus, such as Poetarum, we should have Nelsoni aurantius and Nelsoni major, with Mrs. C. J. Backhouse (which was placed in the Conference List of 1884 with the Incomparabilis, but now included in the Nelsoni group); indeed, I might include Princess Mary likewise as of Bernardi origin. Here is certainly the "missing link." Fancy Nelsoni minor among wild Bernardi bulbs! and have not all the shortened bicolors got the Muticus pose, clipped trunk, and sturdy habit, besides its foliage and late-blooming character? Yet up to the year 1884, we had but little knowledge or experience of Pyrenean bicolor Daffodils, the first true account of them being that given by Mr. Dod in the *Gardeners' Chronicle*, May 10th, 1884, with illustrations.

Is it possible that prior to the age of steam and the advancement of civilisation, a Burbidge, a Barr, or a Jos Maria could have been in the ranks of our army with Wellington when fighting his way through Spain and Portugal in 1812 and 1813? We read how the campaign was re-opened with 70,000 British and Portuguese troops, in the month of May, at which period Narcissus muticus was in full bloom. On the 12th of June the troops reached Burgos, the French retreating to the Ebro, Wellington turning their position by crossing the latter near its source, and then, with masterly tactical skill, occupying the Bayonne road with all the passes of the Pyrenees, in a few days afterwards laying siege to Pampuluna and San Sebastian, until both places surrendered in the following autumn. This is positive proof that great bodies of British subjects fought their way from Spain into France through the "home of wild Daffodils," at a time when the wolves, bears, and brigands would have made it impossible for small parties to have travelled through those parts. May there not have been a Jos Maria in the ranks, who, for aught we know, after "Bony" had been done with at Waterloo, settled down as a pensioner in the neighbourhood of Manchester, and who, perhaps, working as a garden man in after years, when work was over—

". . . . kindly bade to stay,
Sat by the fire, and talk'd the night away;
Wept o'er his wounds, or tales of sorrow done,
Shouldered his crutch, and showed how fields were won."

Were his services and stories within reach of a Leeds or a Backhouse, one can imagine their enthusiasm on being told about the millions of Daffodils in the Pyrenees; and the question naturally forces itself upon one's mind, Did those men get seeds or bulbs of wild Daffodils and keep the secret? I believe they did, and I am led to this conclusion by finding Nelsoni minor in my garden among imported wild bulbs.

I remember that my friend, Mr. Burbidge, when writing in a contemporary, about the year 1883, gave in illustration a bloom of Narcissus Bernardi, saying it had got a Nelsoni look about it, and he was right; and but that the Poeticus form found on the Pyrenees is of a weak description, Mr. Burbidge's figure might have been Nelsoni aurantius, and its clipped trunk.—*W. B. Hartland, Cork.*

Narcissus muticus.

CHRYSANTHEMUM NOTES.

Centenary Prizes at Birmingham.

Chrysanthemum growers for exhibition will find in our advertising columns this week, an announcement made by the managers of the Birmingham and Midland Counties Chrysanthemum Society, of their intention to celebrate the centenary of the Chrysanthemum by offering a very handsome series of prizes, amounting to £54 10*s.*, for competition in one class for forty-eight blooms, at their next November exhibition. The central position of Birmingham, the favourable date selected, November 20th, and the remarkably liberal character of the prizes offered, form such a happy combination of fortuitous circumstances that cannot fail to bring the leading growers together from all parts. Our Birmingham friends should reap a rich reward for their spirited enterprise.

The New American Varieties.

After reading your remarks on "Hirsute Chrysanthemums" at p. 512, I could not help thinking that the folly of exaggeration was not altogether an American weakness. Why, Messrs. Pitcher & Manda's description of Mrs. Alpheus Hardy is quite conservative, mild or dull, as compared with the remarks published by the Messrs. Cannell in their new *Floral Guide*. I have seen the variety in question, and am growing it this year. Messrs. Pitcher & Manda's description of it is fair and impartial. You have probably seen a picture of a curious variety in *The Garden and Forest* named Medusa. I would here say that picture is not an exaggeration, nor is the description there given. Medusa, however, while very graceful and strikingly distinct, will not become popular, on account of its delicate constitution.—*T. D. Hatfield, Wellesley, Mass., April 30th.*

DOUBLE HARDY PRIMROSES.

Is it a wild sport? That was the question I put to myself, at the Crystal Palace, on Saturday last, when Mr. W. G. Head showed me the leaves and flowers of a double yellow Primrose—identical in all respects with our cultivated double yellow variety—which Mr. George Nixon had sent from Easton Hall, Grantham. Mr. Nixon said that he had plucked flowers and leaves from a plant he found growing in the woods on the estate of Sir H. A. H. Cholmeley, Bart., and it must have made a charming tuft when Mr. Nixon found it, for he stated, in a letter accompanying the flowers, that it had sixty-five blossoms. Now this looks very much as if the common wild Primrose had developed into a double form. I scarcely think it likely anyone planted it there—such a thing of beauty would have had a place found it in the garden, and not be buried away in the woods. If a *bonâ fide* sport from the single to the double form, we may, I think, fairly assume that other double forms have originated in the same way.—*R. D.*

In a back number of The Gardening World, March 16th, you made some interesting comments on the origin of double hardy Primroses. To-day I send you a few blooms of a double Primrose, which originated with me from seed saved from a single white Primrose. Some seven or eight years ago I had a few plants of a very good form of the single Primrose, and in colour approaching to white. As we mostly plant our Primroses and Polyanthuses in blocks of separate colours, I was anxious to increase the Primrose in question—seeing that it was likely to be a very desirable one for giving in the mass a decided effect in the massing system—and get up a stock of it more quickly than by waiting the yearly division of the plants. I therefore set aside a few of those having the best formed flowers, and saved them.

Out of the batch of seedlings raised, the double form which I send for your inspection originated. After six or seven years cultivation and division of the old plants annually I have now got a good stock of it. But the most interesting point concerning it is that for the first time it has this year tried to throw up Polyanthus stems, though very weak ones with not more than three blooms at most on a stem. The greater number of flowers, however, on each plant adhere to the Primrose type, from which it was raised, a few blooms of which I also send you. Does this trying to form a Polyanthus umbel of flowers reveal Polyanthus blood, and if so, how did it get there? The plants were seeded in a kitchen-garden border, far away from any Polyanthus plants, but in the same border there were several clumps of the double Lilac and the double white Primrose.

In your interesting notes on the double forms above referred to, you ask, Are they real sports of nature's own producing, or the outcome of the florist's art in intercrossing and selecting; or are they but the natural products of garden cultivation? The double form in question is certainly not the outcome of the florist's art, for the florist had nothing to do with its origin, and must therefore be a sport of nature's own producing, and further developed by garden cultivation, for the blooms are certainly more double now than they were when first I picked it out of the batch of flowering seedling plants.—*J. Kipling, Knebworth.*

[The raising of a new double Primrose is exceedingly

interesting, and should go far to elucidate the question as to the way in which those already in cultivation have arisen. There seems no reason why double Primroses should not originate as seedlings any more than in the case of Primula sinensis. The truly double forms of that species are comparatively few, and no others can be raised from them, for the simple reason that the organs of reproduction have been disturbed or destroyed so far as their potentiality for that purpose is concerned. The so-called semi-doubles that are regularly raised from seeds are not affected in this way at all. The new segments are merely outgrowths from the surface of the petals, and equalling them in number, while the stamens and pistils are unaffected. Before reading Mr. Kipling's communication we noticed the great resemblance which the double flowers in question bear to the garden Polyanthus both in colour and size of the flowers, the golden yellow or orange blotches at the base of the corolla segments, and what is more important, the fact that the common peduncles have elongated in some cases from 1 in. to 2 ins., bearing two or three flowers each. We think that this goes a long way to establish the fact that the garden Polyanthus is more nearly related to Primula vulgaris than to either P. veris or P. elatior; indeed, it might be no difficult task to enumerate facts to show that the Polyanthus has been evolved from P. vulgaris alone, chiefly by the elongation of the common footstalk, which normally remains hidden amongst the bases of the leaves. The flowers of the wild types of P. veris and P. elatior—especially of the former—are more cup-shaped than those of P. vulgaris or of the Polyanthus. Then, again, the young inflorescence of P. veris is nodding, whereas it is not so in the other cases. We think, therefore, that there was no necessity for intercrossing in this instance at all. The common footstalk does sometimes elongate even in the single forms of the Primrose. The single-flowered specimens from which the double was raised and sent along with the latter were all thrum-eyed, with broad segments to the corolla, and a five-lobed orange-yellow eye. The new variety is perfectly double, with very numerous segments, and on dissecting a flower we could find no trace of the pistil whatever. Segments and aborted stamens succeeded each other to the very centre and base of the flower, where they were crowded in bud form. No seedlings can be raised from it while it retains this form.—Ed.]

THE FERNERY.

Present Treatment of Ferns.

All kinds of Ferns are now making rapid growth, and their future health and stability will greatly depend upon the treatment they receive during the growing period. Shading is a matter that must not be overlooked, as it enhances the fresh and green appearance of the leaves if it has been judiciously used. It is, however, frequently overdone, to the evident disadvantage of the Ferns and their lasting powers, especially when placed in houses with a dry atmosphere, or when used for decorative purposes. Growth should be encouraged by a warm temperature and a moist atmosphere, and shading given during the hottest part of the day only. On bright and warm days a light syringing may be given to most stove Ferns; but it must not be overdone, or the leaves will become long, flabby, and weak. Powdery or hairy-leaved kinds—such as Adiantum Williamsii, silver and golden-leaved Gymnogrammas, Nothochlænas, and others of that class—should not be syringed at any time. The stems of tree Ferns will derive advantage through being syringed by encouraging the development of fresh roots.

Another matter calling for attention is the removal of old fronds. In the case of Adiantum cuneatum it is now the usual thing to cut down the old fronds entirely in spring before re-starting the plants. This may be practised with impunity in the case of the softer-leaved and quicker-growing kinds, but hard-leaved sorts, such as A. peruvianum, A. trapeziforme and others, would be seriously weakened by cutting down the old leaves before young ones are developed. When this has occurred advantage may be taken of it to remove old fronds that are badly affected with scale. By this means also the young fronds will have more room to develop properly. Other Ferns may be looked over and the old fronds removed in the same way.

Ferns for Baskets.

The effect of a Fernery, whether for tropical or temperate Ferns, is often greatly enhanced by growing a number of specimens in baskets of kinds suitable for that purpose. Some of the hardier kinds may be and are grown in conservatories with great advantage. They may be constantly grown there suspended in baskets, or if they are taken to a warmer place to have their fronds developed, they should be gradually hardened before being put back. Kinds suitable for this purpose are Asplenium lucidum, Woodwardia radicans, Acrostichum alcicorne, Polypodium (Goniophlebium) subauriculatum, Davallia elegans, D. e. dissecta, D. pallida, Nephrolepis exaltata, Aspidium angulare proliferum or any other of its fine varieties, Asplenium flaccidum, and others.

In tropical ferneries, or where a moister atmosphere prevails than in the conservatory, a large number of Ferns, such as Adiantum caudatum, A. lunulatum, Polypodium subauriculatum, together with Davallia elegans, D. Tyermanni, and D. bullata, can be seen to best advantage when grown as basket plants. The long creeping rhizomes of the Davallias grown in baskets should be pegged all round the same until nothing of them can be seen. Other kinds that prove very handsome when suspended from the roof of the house are Gymnogramma schizophylla, Adiantum Moorei (also known as A. amabilis), A. cuneatum, A. c. gracillimum, A. Williamsii, Nephrolepis davallioides, and its variety N. d. furcans. Some of the Selaginellas, such as S. inæqualifolia, are very effective grown in the same way.

Baskets of various kinds are used, but they will last longer, and always appear neat, if made of stout galvanised wire. In the case of Ferns that cannot be fastened all round the baskets, such as the Davallias with their curious white and brown scaly rhizomes, Selaginella Kraussiana may be used as a covering.

AN ALPINE NURSERY AT SOUTHPORT.

This home of the Alpine class of plants, the nursery of Messrs. Stansfield Brothers, St. Lukes, Southport, is now worth more than a passing glance. The writer has for years been taking note of the increasing beauty and rarity of the plants exhibited by this firm, at Old Trafford, Manchester, and he determined to pay the grounds a visit, nor was he disappointed in his journey. But before going further, perhaps it would be as well to explain and clear away a little confusion which exists in the trade with regard to the name of the firm. "Stansfield" is a name which has become as familiar in the trade or gardening world as "household words." The oldest firm known bearing the name of Stansfield, was A. Stansfield & Sons, of the famed "Home of Ferns," Todmorden. That firm is represented at the present day by Messrs. A. Stansfield & Co., who have also a branch nursery at Kersel Moor, Manchester, and have no business relations with any other house of a similar name.

Another firm of Stansfield is represented by two brothers, nephews of the before mentioned firm of A. Stansfield & Co., and who, taking their shares out of the original Todmorden establishment, commenced in opposition to the original firm, first at Pontefract, and afterwards at Sale, under the title of Stansfield Brothers; but this is a distinct business. The firm we are now concerned with was originated by two young men having no relations with the other establishments, and who, having had a good trade training, came to the rising town of Southport about twelve years ago. They selected a spot of land two miles out of the town, where they thought they would not be disturbed by the building mania; but in this they were deceived. Their present place is surrounded by houses on every side for over a mile, yet notwithstanding this disadvantage, the writer was surprised at the systematic way in which things seemed to be arranged.

Passing through the dwelling-house we were introduced to the back garden attached to Mr. R. H. Stansfield's villa, where we were somewhat puzzled as to which we should look at and admire first—the plants or the compact arrangement of the place. "We do largely in Grasses," we were told, a fact which was fully confirmed by a shed or warehouse, on our right, full of sacks of Grass seed, and Mr. Stansfield, being a practical geologist, takes pains to study the Grasses best suited to the soils on which they are to be grown. To the left is a long greenhouse reaching the whole length of the garden. We were astounded on looking inside, for never did we see such a crowded miscellaneous lot of stove stock got together in the same space. No one but a genius could have so contrived to stow them away, and yet lose so few during the winter. Here were pans containing thousands of rooted cuttings of Olearia Haastii. "This," said Mr. Stansfield, "is to be one of the best plants of the future, especially for sandy seaside places. Nothing hurts its Box-like foliage; no blast touches it. The plant grows and flowers as freely in sand by the sea-washed shore as in an inland position, and is found very useful by the corporation."

We, however, had our attention arrested by the stock of Alpines and other hardy plants. The species exceed 2,000 in number, and as far as we could judge, are all true to name—a great desideratum. The whole of these plants, including those in the specimen pans—which are to do duty at Old Trafford, at the next Whitsuntide show—are all plunged in the open ground; there are no frames to coddle these hardy plants. Here they have stood all the winter, passing through safely, and have just had a spring dressing. A clear, distinct label is placed in each pot, and then they are systematically plunged in the natural sandy soil, in beds with an alley between. By this means anyone looking up an order may gather the species together as fast as a man could walk—a vast improvement on the days of yore, when it fell to the writer's lot to sometimes waste an hour looking for a single plant. The whole garden is filled with these beds, thousands just coming into bloom, and at the bottom of the place is a collection of about sixty species of Lilies. I must not attempt to describe the things I saw in bloom, but will refer my readers to the firm's splendidly arranged catalogue. Those visiting Southport may call and see for themselves.

From here we were taken to another small nursery, which I may best describe in the language of an old Yorkshire nurseryman, under whom I once served, as "our oddment nursery," for here is kept a plant or two of everything, so as to save the foreman's legs if odd plants are wanted. This plan I found worked with great advantage, as several persons came while I was there for plants brought from the other nurseries two miles off.

On our way there we were told that this firm is most extensively engaged in the laying out of the new villa gardens which are being erected by hundreds. We were astonished at the sums of money spent in the making of new gardens, for every ton of soil has to be purchased and brought from ten or more miles to lay upon the natural sand before anything can be planted; yet every tree seemed to grow kindly, and the Rhododendrons thrive like Willows, notwithstanding the blizzards of fine sand that fill the air with every wind that blows. The hand of man seems to be mastering all difficulties.

Messrs. Stansfield are this summer removing their whole stock two miles further out in the country, which would dishearten a stranger unacquainted with the capabilities of the soil. It seems to be all shifting sand, and yet what a roothold the trees and shrubs have in it, or rather, I should say, would have, if their customers would only let them stand long enough! But here we found it was the same as at the first place. No sooner are the beds filled up than someone comes, and holes and gaps are made in them.

We have no time to mention the various importations received from different places, nor how soon they were all distributed, of the new and rare finds we heard of, nor the projected journeys up mountain sides. These matters must be left to develop themselves, which they will do all in good time, for when did patience and earnest perseverance ever fail to reward its possessor?—*A Hasty Visitor.*

HARDY FLOWERS FROM IRELAND.

We have received a boxful of hardy herbaceous flowers from Mr. T. Smith, Daisy Hill Nursery, Ireland. Conspicuous amongst them was Tulipa Eichleri, with scarlet flowers and a large black blotch, surrounded by a yellow line at the base of the segments. The curiously-undulated, glaucous leaves are prostrate on the ground till the flower expands, when the whole is lifted up for about an inch. Accompanying it was a giant specimen of T. fulgens, with scarlet flowers and a white base. Irish Anemones, semi-double varieties of A. coronaria, were resplendent in scarlet, purple, and salmon colours, while they were also of large size. Scilla hispanica alba, better known as S. campanulata alba, was accompanied by another white form, named S. pyramidalis alba, having much longer racemes of pure white flowers. He also has the rose and red varieties, but they are later in coming into bloom. For the decoration of rockwork in spring, Phlox amœna and Mitella prostrata are exceedingly pretty and floriferous plants.

A seedling Daisy, named Regina, has very double, soft pink heads, and would no doubt be very useful for spring bedding. A form of the Summer

Snowflake, named Leucojum plicatile, is a useful early summer-flowering border plant. In the same box came a beautiful piece of a dwarf Alpine Forget-me-not, namely, Myosotis Rehsteineri. It is allied to, and may be considered a mountain form of M. cæspitosa, also known as M. lingulata, a moisture-loving British species. The stems only rise from 1 in. to 3 ins. above the soil, and produce a profusion of pretty, bright blue flowers, with a yellow eye. For spring flowering it will prove a charming little subject for lovers of this class of plants, and will form a substitute for Eritrichum nanum, which has hitherto proved a shy plant to grow, and frequently dies out. M. Rehsteineri would appear to be of easy cultivation, and may be extensively propagated merely by division. It is strictly perennial and quite new to British gardens.

ALLOTMENT GARDENING.

On the 9th inst., in the Arboretum Rooms, Nottingham, Mr. J. Wright (*Journal of Horticulture*) delivered an admirable lecture on this subject, under the auspices of the Notts Horticultural and Botanical Society, and during the course of his address, said that he had, on the occasion of a recent visit to Nottingham, a passing glance of the most extensive, complete, and perfect system of garden allotments that had ever come under his notice in this country. It was something like the realisation of a dream ; something he had pictured in his mind for years as desirable ; something which he had sought for by long travel but failed to find accomplished until his short but pleasant visit to their busy town. He had read about the Nottingham gardens, and the gardening instinct possessed by their owners and occupants, but was almost overwhelmed with surprise and gratification when he saw the magnitude of the scheme and the splendid accomplishment of an idea, fraught, he was sure, with good to many in various ways ; and he desired to lend a helping hand. He had practical experience of gardening work, and his conviction, deep-rooted by long practice, and strengthened by observation, not in this country alone, but over the great system of small cultures by the Belgian peasantry in the plains of Flanders—was that the man who flinches from real labour, who evades the rougher duties connected with gardening, and skims over the surface lightly, making it smooth yet deceptive, was not the man to win substantial success. He might keep up an appearance for a few years, but his easy method was like sowing seeds by the wayside, which grew for a time, but only to be scorched up through lack of the nourishment that was essential to full free growth and maturation. The man, however, who did not read shut himself up in a very small world. Perusing the records of the work of others enabled men to practice what they would not otherwise have thought about, and they saw ways pointed out which led straight to an object that otherwise could not be found except by groping and losing their time in tortuous paths.

The profit derivable from cultivation depended on the zeal, enterprise, good judgment, and aptitude of individuals much more than on methods. Yet methods of procedure must be pointed out, and never before was there such a demand, such a thirsting for knowledge on matters of gardening. Having dwelt on the importance of practice, he said the first thing was to have a good foundation, and the character of the soil was a most important consideration It varied from clay, representing density, retention of moisture, and heaviness, to sand, representing porosity, poverty, and lightness. When the two were mixed they had loam, and "a good holding soil" was very desirable. They must remember that plants did not feed on the soil ; the soil was only the larder which held the food. The knowledge of what constituted the food of crops was most valuable, and he knew farmers and gardeners having that knowledge who had been saving money all through the time of depression. The reason water-logged land was bad was because the air could not get down. Hoeing was of the utmost importance, in order to admit the warm air in spring. Manure was valuable simply in proportion as it contained nitrogen, phosphoric acid, and potash. If it had become dry, the nitrogen had left it ; and if it was damp and a dark liquid ran from it, its essence was gone.

A good chemical manure was superphosphate of lime six parts, chlorate of potash two parts, sulphate of ammonia two parts, mixed and applied early in the proportion of three or four ounces per square yard. They should not water early on a bright day, as the water ought to go away by drainage and not by evaporation. When the water went away by evaporation, an enormous loss of food ensued. The best procurable seed ought to be used, and sown not very close together.

After referring to the subject of cropping, he said there was room for the cultivation in this country of Asparagus and Sea Kale. Touching on flowers, he said where Violets grew well the giant varieties were highly profitable, two of the best being Wellsiana and Odoratissima. As a double pale blue, Marie Louise was a great favourite, and paid for a little protection. They should be planted 1 ft. apart in April or May, and grown much the same as Strawberries, in removing the runners and watering. Daffodils were money-making flowers, both by sale of blooms and bulbs. They grew very well under trees planted close together in August in rows 1 ft. asunder. Cheap scarlet Gladioli, the spikes cut when the first flowers open, were very remunerative. Pinks, Carnations, free-flowering Roses, Spanish Irises, Pyrethrums, when produced in abundance, and a market could be found for them, give a good return to the cultivator.

Referring to the advantages of glass in gardens, he said greenhouses were enjoyable, and might be made profitable, and so might simple glass shelters. None would be the worse for trying to excel in garden culture. It appealed to all, to men and to women of every rank and class, from the brawny gladiator to the gentle child. He had had pleasure in awarding prizes to children for growing plants in the London slums, and believed he was helping them to look beyond and above their dismal surroundings ; and he had shared in making an ex-pugilistic champion happy, in according him first honours for Chrysanthemums. Gardening, no matter how small a scale, was health-giving, wholesome, mind-elevating employment, and the greater the number who could engage in it the greater the sum of human happiness, for homes could not be what they ought when deprived of what was so beautiful and good—the produce of the garden.

THE LANCE-LEAVED LILIES.

Glorious as is Lilium auratum, and varied also as well as comparatively cheap, I am pleased to know that it has by no means driven L. speciosum, or L. lancifolium as it used to be called, quite from the field. Practically it is confined to two varieties, the pure white and rose-coloured, but of the latter there are many variations. I have before me a catalogue of Lilies which gives fifteen varieties of L. speciosum, but no one believes them to be distinct. Another list is more modest, for it gives but three—album, roseum, and rubrum. Now it may be assumed that the original types were album and roseum. Those who have grown the rose-coloured variety in quantity know that it varies in character, being faintly marked in some cases or densely so in others. The pale-coloured varieties are frequently called punctatum ; intermediate ones roseum ; and the deep-coloured ones rubrum. The Dutch growers go among their Lilies of the roseum type, and mark all the deep-coloured ones, and these are sent to this country as rubrum. Those who make a specialty of Lilies are content with small differences, so that they can make additions to their collections ; the gardener with limited means will be content with roseum and album, but hoping to have as much variety among the former as possible. Roseum is, perhaps, the earliest to bloom ; album the latest.

Now, not only are these Lilies very useful in beds, but they are also most acceptable exhibition and decorative plants. I have seen in Yorkshire magnificent examples of these Lilies grown for exhibition. I remember one exhibitor in particular, living near Leeds, who turned out wonderful specimens. He potted his bulbs about the first or second week in February, adopting the plan of placing three large-sized bulbs in a 12-in. pot, and when using a still larger pot he would place five in it, but not more. When potting, a good-sized crock was placed at the bottom, with 1 in. of rough crocks over that, and then some fibrous soil. The compost used was one made up of fibrous turf thoroughly decomposed leaf-soil, good rotten frame manure, and some rough sand mixed with it. Now, this compost was not sifted, but chopped up, as the Lily appears to like a fibrous rough compost. In potting, the pots were so filled up that when the bulbs were planted and just covered, about 3 ins. was left above them. The reason for this is briefly stated. Those who have given attention to the growth of Lilies must have observed the quantity of young fleshy roots sent out from the base of the flower-stem, and to the full development of these roots especial attention should be directed. As soon as two or three of the lower leaves began to show a yellowish appearance, the pots were filled to the brim with a compost similar to that used for potting them, but a little more manure was added. Such a compost makes an efficient top-dressing, and the stem-roots just above the bulb soon become firmly matted in it. The plants gaining thereby additional sustenance, will be both plentiful and large. Treated in this way, no liquid manure is required at any stage of the growth.

It will thus be seen that one main feature in the successful culture of this Lily is to fully develop the stem-roots—a point probably too often lost sight of. When potted they were placed in a cool shed, and as soon as the surface soil became dry, and showed signs of cracking upon the surface, or coming away from the sides of the pot, sufficient water was given to moisten the soil without saturating it ; and another point kept in view was not to over water, in order that there should be no danger from frost. We frequently hear of imported Lilies dying away, and of many kept by the cultivator through the winter suffering in the same way, and I think one main cause is giving water directly or soon after they are planted or potted, and before the bulbs are in a sufficiently forward position to utilise it. One need not wonder that they rot away in soil so needlessly wet. When danger from frost had passed away, the pots were placed in a partially shaded place in the garden, exposed to the weather, and kept well watered when required. Here they remained until the flowers began to expand, when they were taken under cover and protected from the weather.

I have seen exhibition pots of Lilies treated in this way, that were astonishing in the number of flower stems, and in the size and beauty of their blossoms. Imagine three bulbs producing several stout stems that bore from forty-five to fifty large and well-coloured flowers ; and pots with five bulbs have been known to carry between seventy and eighty blossoms.

When flowering is over, the best plan is to place the pots upon their sides in the open, and as soon as frosty weather threatens, to remove them to a dry shed. The bulbs keep best in the soil in which they are grown ; and they should be kept quite dormant until potting time comes round.—*R. D.*

NOTES FROM SCOTLAND.

Scottish Horticultural Association.—The monthly meeting of the association was held in Edinburgh on the 7th inst., Professor Bayley Balfour presiding. There was a large attendance. Mr. W. E. Dixon read a paper on the Nepenthes or Pitcher plant, in which he dealt chiefly with its history and geographical distribution. Borneo, he said, was its head-quarters, and 140 species were known to botanists. There was a large collection of exhibits. Mr. M'Hattie, Newbattle, was granted a First Class Certificate for a new seedling Anthurium. Messrs. Ireland & Thomson showed some seedling hose-in-hose Gloxinias ; and Mr. Dunn, Dalkeith, showed some Chrysanthemums in flower, showing that these now almost bridge the year. Several other plants and flowers shown were of considerable interest.

The Edinburgh Primula and Auricula Show, held in the Calton Convening Rooms on the 7th inst., may best be described as small and good, the display being an interesting one to the local florists, if not of great extent. Valuable aid was contributed to the exhibition by Mr. Lindsay, of the Royal Botanic Garden ; Captain Cowan, of Valleyfield ; Messrs. Dicksons & Co. ; and Messrs. James Dickson & Sons. Mr. James Black, East Calder, was the leading exhibitor of Auriculas, taking first prizes for the following classes :—Six dissimilar plants, four plants, two plants, one grey-edge plant, premier white-edge, and the premier Auricula in the show, which was the same as that with which he took the premier grey, Walker's John Simonite. Mr. W. Kilgour, Blair Drummond, was first for one green-edge plant, one white-edge, one self, and the premier grey. Mr. W. Straton, Broughty Ferry, was first for the premier green and the premier self. Mr. John Menzies, Duns, was first for six dissimilar and four dissimilar Alpines. Mr. W. Storrie, Lenzie, was first for two dissimilar Alpines ; Mr. John C. Harley, Carriden, for three dissimilar gold-laced Polyanthus ; Mr. W. Fotheringham for six dissimilar fancy Polyanthus ; Mr. A. R. Henderson, Clermiston, for six pots of Primroses, and three pots of Primulas ; and Messrs. Laird & Sons, for a collection of Primulas and Auriculas. Messrs. Laird's collection contained a number of fine specimens of the better varieties of named staged Auriculas and Alpines. Very few species of Primulas were staged.

FLORICULTURE.

The Carnation Maggot.

THIS pest committed sad havoc among the Carnation and Picotee plants last autumn, many collections having been almost destroyed by its ravages. Mr. John Ball, of the Royal Nurseries, Slough, being anxious to find out its origin, placed several maggots under a glass, and fed them on Carnation leaves. Last week a mosquito-like fly emerged from the chrysalis, specimens of which I enclose. Now the question arises cannot something be done to render the plants unpalatable to the fly, and so prevent it from depositing its eggs on the foliage of the plants? Is dressing with soot or syringing with water in which Quassia chips has been boiled, and soft-soap dissolved likely to keep off the fly? Will some competent authority kindly advise us in the matter? There may be some who have already found a remedy for this evil, if so, will they come forward and give us the benefit of their experience, and so earn the everlasting gratitude of their less favoured brethren. Now is the time for action, as the plants are making rapid growth, and the fly will soon be at work again.—*T. E. Henwood, Reading.* [Serious losses were sustained last autumn by florists in widely different parts of the country, and as but little is known of the life history of the fly we shall be glad to receive any information on the subject. We should also be obliged for specimens of the maggot or of the perfect fly for identification.—ED.]

The Promise of the Carnation Bloom.

JUDGING from what I have seen in several parts of the country, I should think there is so far a promise of an early and a good bloom also. When at Stakehill a few days ago I was surprised to see how forward Mr. Barlow's plants were; and I think they are the best lot I have seen in the Stakehill Gardens. They appeared to be well established in their pots, vigorous, clean, and throwing up strong blooming growths. Mr. Barlow pots early, and he is wise in doing so in such a late district. He uses a good compost, and if the season continues favourable, and the hopes entertained of the plants are fulfilled, Mr. Barlow should have something worth placing on the exhibition table in July and August next.

I was at Reading a few days later, and found Mr. T. E. Henwood's and Mr. Charles Phillip's plants looking well also, and as these young growers always give a good account of themselves at the London and Oxford shows, there is no reason to suppose but that their prestige as successful growers will be maintained during the coming season.

My own plants are so few in number—I cannot boast of more than forty pots—that I am diffident in saying anything about them, beyond the fact that they look well, and are making good headway. I hear good accounts from other growers, so I hope for a year for the Carnation that will enhance it still more in the estimation of lovers of flowers.

Mr. E. S. Dodwell, who is pre-eminently thoughtful in the matter of small details of culture, says in his popular book on the Carnation, in reference to the cultural details for May, "Watch the weather carefully, and let there be no want of promptitude or ingenuity in accommodating the stocks to its vicissitudes. If cold and dull, be sparing in the use of the watering-pot; if warm and dry, copious waterings may be needed. Watch for green-fly and every species of vermin, and destroy them immediately they are detected, cut off or otherwise clear away decayed foliage, and towards the middle of the month place the blooming-sticks to the plants. Stir the surface-soil frequently but carefully when dry, and never allow it to remain closed or hard, the result of heavy rains or repeated waterings." Wire-worm is sometimes very troublesome, and as soon as a plant shows signs of decay—pretty sure indication that a wire-worm is at work at the roots—let a thorough search be made for the intruder, for if left in the soil, the remaining plants will most likely suffer also.

In reference to green-fly, I found Mr. T. E. Henwood using Fir Tree Oil in a diluted form upon his collection at Reading. He was applying it by means of a small paint brush, painting over the affected parts, and he said it was the best green-fly destroyer he is able to employ. In regard to quite young seedlings in pans, Mr. Dodwell states that if these are affected by green-fly, the best plan is to dust strong snuff over them through a fine muslin bag.—*R. D.*

A New Pink—Her Majesty.

THE flowers of a new Pink exhibited under this name at the Crystal Palace on Saturday last, and said to be a perpetual-flowering variety, are as large as those of a good Carnation, pure white, and sweet-scented. The petals are numerous and flat, or nearly so. A number of plants in pots, and about 1 ft. in height, together with a stand of cut blooms, were shown by Mr. Fred. Hooper, Widcombe Hill, Bath, and a First Class Certificate was awarded. A similar award was also made to it by the Floral Committee of the Royal Horticultural Society on Tuesday.

Alpine Auriculas.

IN response to "R. D.," I beg to say that where Auriculas are raised in quantity for cutting, a fair proportion of dark plum or purple selfs with white centre and shaded edgings, affords a contrast to the gold centres, and gives variety to a vase of these sweet flowers. There is evidently a correlation between the body-colour and centre. Purple and dark plum colours are associated with white and brimstone-coloured centres, and so are some shades of crimson. A very beautiful lake variety constantly reappears from seed with a white centre of irregular form, which spoils what would otherwise be a great acquisition. Some rich browns and crimsons as constantly display golden centres. A large proportion of seedlings should be raised from "King of Crimsons," "Diamond," "Etna," "Mercury," and Silvia to contrast with the "George Lightbody" type of purples, shaded blues and violets. I do not profess to teach "R. D." anything about Auriculas. My wish is rather to furnish hints to intending growers, and to assist in popularising one of the sweetest, hardiest and most easily cultivated of spring flowers. Many people are deterred from growing Auriculas, because they are believed to require very special treatment, and, of course, if such floral gems as noted florists exhibit are required, the same or similar care and skill must be applied. But in these days of cut flowers, Auriculas of another stamp are wanted, with trusses of bloom which one can cut without a severe twinge as of suffering a minor amputation. I am strongly of opinion that there is a future for the Alpine Auricula as a reliable spring flower, either out of doors or under cover. If brought into late vineries or cool orchard houses about Christmas, a great quantity of bloom may be cut early in the season, and the plants would afterwards be available for planting out in rockeries or other suitable places, where some amount of bloom would appear in the autumn. I find the Alpine Auricula more hardy and persistent than any other of the Primulaceæ. Where Polyanthuses are eaten up with red-spider the Auricula escapes, and it is less injured by severe frost and cutting winds than the Primrose. In sweet and well-drained soil, especially in a rockery, it will stand its ground and bloom for years either in grimy Sheffield or fog-afflicted London.—*W. R., Streatham Hill.*

New Tuberous Begonias.

CLARIBEL.—When they first expand the flowers of this variety are perfectly double, and exhibit two colours. The broad outer layer of petals are of a beautiful pink-white, the centre being white, but it is probable that they will become darker as the bloom becomes old. The petals are beautifully undulated, not too crowded, and the plant is of the narrow-leaved type.

STANSTEAD GEM.—The double flowers in this case are made up of numerous small rosettes, not of a single one, as in Claribel; they are large, of a deep scarlet, and the petals are not deeply packed. The leaves are narrow, as in the B. boliviensis type.

DUCHESS OF TECK.—In this we have a large and double yellow flower of pleasing aspect. The rosette, so to speak, is like a bouquet made up of numerous small ones. The leaves are much broader than those already mentioned, deep green with paler veins, as if B. Pearcei had something to do in its production. All three were exhibited by Messrs. J. Laing & Sons, Forest Hill, at the great summer show at the Crystal Palace on Saturday last, and received First Class Certificates. The two last-named were also Certificated by the Floral Committee on Tuesday.

H.P. Rose. Silver Queen.

THE flowers of this Rose, a sport from Queen of Queens, are of large size, almost globular, and very double. The petals are of a beautiful soft pink, and recurve at the margins in the same way as those of La France, but not to the same extent. The foliage is ample, deep green, and the leaflets broad. A standard specimen of it was shown by Messrs. Wm. Paul & Son, Waltham Cross, at the last meeting of the Floral Committee of the Royal Horticultural Society, when a First Class Certificate was awarded to it.

GARDENERS' HOLIDAYS.

ALLOW me to thank you for your reply to "A Constant Reader" in your last issue. You simply put the matter in a nutshell, and anyone who can crack that nut and come to the same conclusion as "A Constant Reader" has very little fellow-feeling indeed. If gardeners are to be cited as working from daylight to dark in winter time, why omit masons and other trades equally as healthy as gardening, and much better paid? All of these have Saturday afternoon and all public holidays. In my present situation we work ten hours a day all the year round, Saturdays excepted, when we cease work at four o'clock. I was once in a situation where we all stopped work at one o'clock, and I can assure you it was thoroughly appreciated. Of course, we took our turn on duty on Saturday afternoons and Sundays, and I am bound to say that the work in our garden was always as far advanced as in our neighbours', where they worked for sixty hours a week. I will not attempt to deny that gardening is a healthy calling in some respects, but anyone who has been working under glass for a number of years, as I and a great many more of my brethren have to do, would be quite as grateful as any factory hand to get a breath of fresh air on a Saturday afternoon. There are too many employers who look upon gardeners as mere machines, to be continually kept in motion; but even machinery needs lubricating occasionally, and what oil is to machinery so is rest to the wearied gardener. You knock the nail on the head beautifully when you ask who does the stoking, Sunday duty, &c.; I have sat up to one, two and three o'clock in the morning week after week in frosty weather, and even when in bed could not rest; and this is no solitary case, hundreds of gardeners I am certain could tell the same story. Let us hope, however, that the day is not far distant when we shall be treated with as much consideration as workmen employed in other and inferior branches of industry.—*Teribus.*

I AM sure the thanks of all gardeners are due to you for dispelling your correspondent's erroneous idea that their profession is healthy. The changes of temperature that gardeners undergo have been the partial ruin of many a young man's health, as I myself can testify. If Sunday work and night duty were out of the question we should not grumble much about holidays. But when one has to get up at 5 a.m. on Sundays, and frequently not finishing at 5 p.m., after a hot day (most factory hands get the whole of Sundays), I think your correspondent will agree with me that our occupation is not quite so healthy as she thinks it to be, and that we do deserve a holiday now and then.—*A. Sadler, Westbury, Wilts.*

THIS subject is one which is rarely discussed or even commented upon in the horticultural press, nevertheless it is not an unimportant one, especially as it affects young gardeners. Your just and timely review of some of the difficulties connected with our profession, by way of correcting the wrong impression of "A Constant Reader," will be read with much interest, and it need hardly be said will be highly appreciated. The case was not over-drawn in the least. There are grievances in this as in other professions or trades, and not one of the least are the lengthy hours which young gardeners have to work. It is about the rule that, when light, the day be from 6 a.m. to 6 p.m., but with many the day is not finished even then. Those on duty have to attend to the stoking and the regulation of temperatures, which in ordinary weather prolongs the days three or four hours, while in winter it is a severe time indeed, involving many hours in the night necessarily wearying and arduous. Much of this is of course a necessity, because if plants must live, means to that end must be maintained. Then, as mentioned in the editorial comment, there is the high temperature to work in, which is prejudicial in its effects in so many cases, also Sunday duty—no small item in itself.

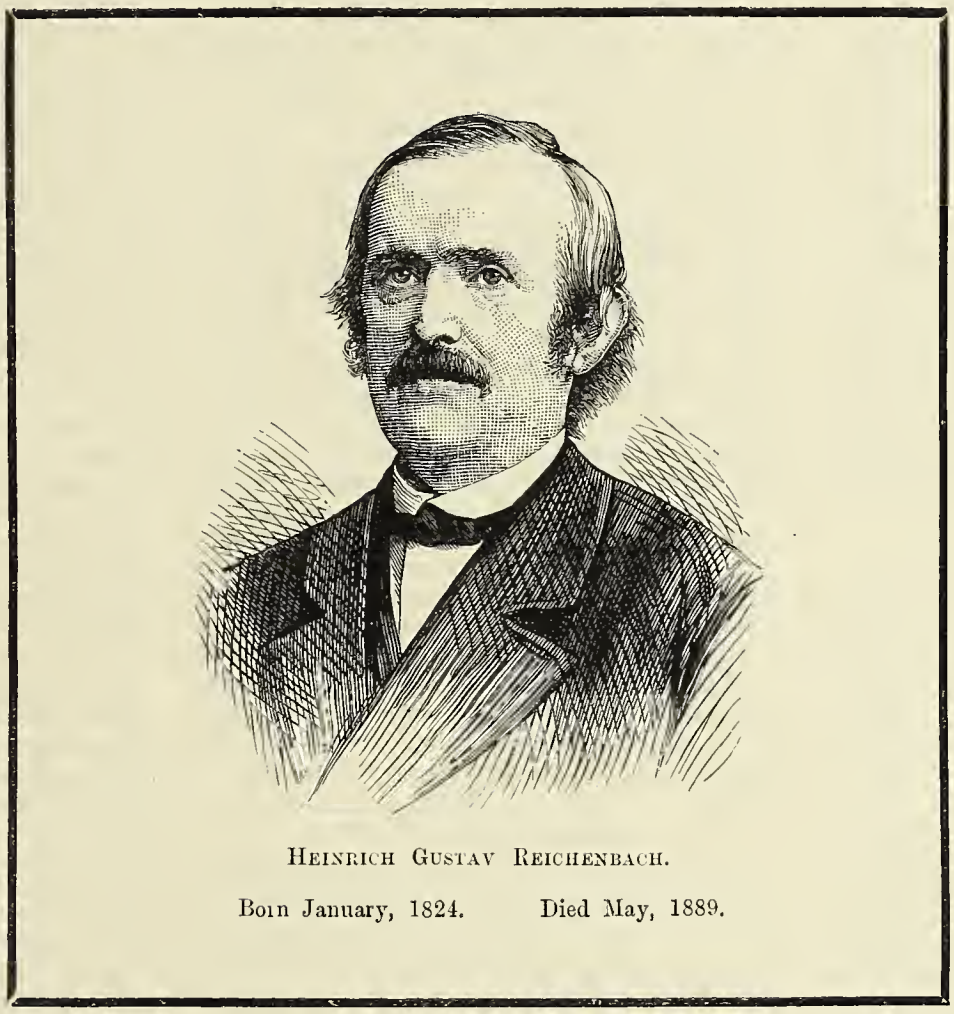
This by no means exhausts the list, but enough has been said to show that if any body of workers deserve an occasional holiday it is the gardeners. How often is it the case that when the young members solicit a well-earned diversion or holiday, the request is met by a point-blank refusal, or else it is reluctantly and grudgingly given. There are establishments where a better state of things exists, and such is a recognised boon. It is hardly to be expected that a systematic course of holidays is within reach of us yet, but many will wish it not to be deferred to the "dim and distant" future. Granted that horticulture has its advantages, it is no argument why a known disadvantage may not be partially or effectively remedied. —*F. R. S.*

CRINUM KIRKII.

In general appearance this may be said to resemble C. zeylanicum, or C. Careyanum, but it differs in the form of the bulb. The light green leaves are very broad and nearly flat. The specimen exhibited by Mr. F. Ross, Pendell Court, Bletchingley, at the last meeting of the Floral Committee of the Royal Horticultural Society at the Drill Hall, Westminster, had fourteen flowers in an umbel, either expanded or on the point of opening. The six segments radiate regularly and recurve at the tips, and are pure white with a red band down the middle of each. The upper parts of the filaments are crimson. For horticultural purposes it will be a showy and useful plant and not too bulky. A First Class Certificate was awarded it.

DEATH OF PROFESSOR REICHENBACH.

Orchid lovers all over the world will learn with deep regret of the death, on the 6th inst., of Prof. H. G. Reichenbach, their recognised guide, counsellor, and friend in all matters pertaining to Orchid nomenclature. For many years Professor Reichenbach, who was born at Dresden in January, 1824, was Director of the Botanic Garden, Hamburgh, and since the death of Dr. Lindley, in November, 1865, had been universally recognised as the Orchid King. He had studied Orchids since 1841, and was a most devoted and painstaking historian of the order, whose descriptions of new species and varieties were always eagerly anticipated—whose identification of plants sent to him for that purpose was always accepted without question. For many years past he took a leading part at most of the great horticultural and botanical congresses held in Europe, and was one of the vice-presidents of the congress held in London in connection with the memorable International Horticultural Exhibition held in 1866. But for indisposition he would have been present also at the Orchid Conference held at South Kensington in 1885; but the great and valuable services he had rendered to Orchid growers were not forgotten in his absence, and he was awarded one of the Veitch Memorial Medals, placed at the disposal of the Conference Committee by the trustees. Though Orchids were the special object of his affections—and he had amassed an extensive collection of typical specimens in his herbarium, which we hope will be secured for Kew—the Professor contributed largely to our knowledge of the plants of Central Europe, and truly may it be said of him that the Botanical world could well have spared a better man, for in his own special line he was a veritable Triton among minnows, and his loss will be severely felt for some time to come.



Heinrich Gustav Reichenbach.

Born January, 1824. Died May, 1889.

THE APPLE BLOSSOM.

What a charming sight the Apple trees are presenting to view! The branches are literally wreathed with bunches of flowers; they are, as one of our modern poets has observed, "heaped up in happy plenteousness." I do not know whether it is fancy or not, but it appears to me there is more colour in the Apple blossom than is usual. All the hue we get is on the reverse of the petals, but it is laid on so thickly in the case of some of the varieties, that it appears to show through and even suffuse the petal surface. How fine, bright and striking are the flowers of some of the varieties—large, bold and showy in the extreme! To the casual observer, there may appear a uniform sameness in the Apple blossom, but if anyone will take the trouble to look closely into it he will find there is much variety in detail. Three very showy varieties when in flower are the Hawthornden, Nelson's Glory and Lord Suffield. These in my garden are very free of bloom, indeed, they are laden with it, and on my gravel subsoil they are always good bearers. I have but six Apple trees—viz., the three already named, and in addition the Nanny, which is flowering more freely this year than I have ever known it before. Cox's Orange Pippin merits the observation made this season in regard to the Nanny and Cellini Pippin. Should the fruit set well, and no frosts come between the 15th and the end of May to cut off the embryo fruits, I may reasonably expect the best crop of Apples from my six trees that I have ever taken.

Mr. Frank Cheshire, the eminent bee-master, in his most useful and entertaining books on bees, tells us how valuable, and indeed how necessary is the agency of bees in the fertilisation of fruit blossoms, and so we realise in some measure how essential it is the weather should be fine while fertilisation goes on, so that the winged insects who assist nature may work out their part thoroughly. "The Apple," states Mr. Cheshire, "is strictly a fusion of five fruits into one, and demands for its production and perfection no less than five independent fertilisations. If none are effected, the calyx, which really forms the flesh of the fruit, instead of swelling, dries and soon drops. An Apple often develops—though imperfectly—if four of the stigmas have been pollen-dusted, but it rarely hangs long enough to ripen. I examined 200 Apples that had dropped in a gale, and the cause of falling in every case but eight was traceable to imperfect fertilisation." This passage sets before us the immense importance of experiencing soft, sunny, genial days while the process of dusting the stigmas with pollen dust is going on.

Those who think the blossom of the Pear is destitute of the colouring which one perceives in that of the Apple, may be informed that there is a great deal of colour on the reverse of the petals. This is particularly noticeable in the bud state. Mr. A. F. Barron states that there has appeared to be more colour in the Pear blossom this season than usual. Is this traceable in any way to the wet character of the past summer? In the blossoms of the Peach we get a great deal of colour; not so in the Cherry or Plum, or at least, if there is any colour, it is of an indistinct character. If flowers flourish out of season, sickness and death are thereby indicated, and this is one of the illustrations of how closely associated are flowers with the dead and the ceremony of funeral. In Northamptonshire, and also in the west of England, the blooming of the Apple or Pear tree after the fruit is ripe is regarded as a sure omen of death, whence the following couplet:—

"A bloom on the tree when the Apples are ripe
Is a sure termination to somebody's life."

—*R. D.*

SYRINGING.

It is always interesting to read the different methods of treatment and practice between experienced cultivators, and more especially upon such a subject as the Vine, which occupies such a prominent position in our gardens. One must naturally feel a certain amount of diffidence in expressing an opinion upon this question of syringing, for whatever view we may take in this matter, it must certainly be antagonistic to some of those of unquestionably good practice and standing. I am acquainted with some such who make use of the syringe to assist the setting of Muscats, and consider it to greatly assist this operation; but I think no one will contradict me when I say that such a thing should only be attempted by thoroughly experienced men, or the results might be disastrous.

The Grape requires no artificial assistance in setting the fruit, except in very exceptional instances, such as those in the earliest forcing houses, when tapping the wires or branches, when the Vines are in full flower, will materially help to distribute the pollen; and although some varieties are not so free-setting as others, yet under favourable conditions a sufficient quantity of berries ought to set and swell off without artificial help, and when such is not the case, I should feel disposed to look for the fault elsewhere, and examine the position and construction of the borders, or consider whether the Vines in their earliest stages of growth had been forced too rapidly.

It has also been thought that much over-feeding will induce shy setting. I once had charge of a range of vineries, amongst which were two Muscat houses of the same variety. In one the fruit set very freely, in the other it was quite the reverse. In both instances the Vines were planted inside the houses. In the first house the borders both inside and outside were on a level with the surrounding garden soil; in the other they were raised about three feet, and freely drained. I consider in the latter instance the fruit did not set freely owing to the insufficiency of water in the soil during the growing period, on account of its raised position and sharp drainage, for notwithstanding the heavy waterings we gave it, it was impossible to thoroughly saturate the soil during the summer months, and an enfeebled constitution was the natural result. I am sure it is a great mistake to make raised borders for Vines unless in low ground or stagnant positions, or in very early vineries, where it is advisable to keep the borders a little warm.

I look upon the syringing of plants more as an agency for keeping down insect pests than otherwise. Especially it seems to me a most unnatural thing to syringe Grape Vines when they are in foliage, for one reason—because the water is dashed into the under-surface of the leaves. Although we adopt artificial means to assist Nature and further develop her products, it is not always advisable to adopt a course absolutely contrary to her precepts. The rain falls upon the upper surface of the leaves, which are formed by nature to receive it. We do not see plants turn their leaves to receive it upon their under-surface. Besides, however clean the water may be, we cannot always avoid spotting the foliage or fruit, as a certain amount of dirt will always accumulate upon the roof or walls, and

is apt to be dashed upon them by the use of the syringe.

I believe it is universally established as one of the elementary principles of vegetable physiology that leaves do not take in water but gaseous food, yet we must keep the atmosphere of our vineries and plant houses in such a state of humidity that too rapid transpiration does not take place, and here the syringe is very useful in "damping down" the walls and floors, and the hotter and drier the day, no matter how much ventilation we have on, the more water will be required to effect this purpose.—*Alfred Gaut.*

The Amateurs' Garden.

Hardy Edgings to Beds.

Where a large amount of planting has to be got through during the present and several succeeding weeks, the work may be lightened considerably by commencing with the hardiest subjects first. A large number of variegated or variously-coloured plants are used in some gardens to form edgings to beds of Pelargoniums, Fuchsias, Calceolarias, and so forth. Where this is the case, the planting of such things as Cerastium tomentosum (white), Lamium maculatum aureum (yellow), Ajuga reptans rubra (red), Antennaria tomentosa (white), the variegated Polemonium cœruleum variegatum, Dactylis glomerata elegantissima, and Arabis albida variegata, may be proceeded with without further delay. A number of the smaller variegated Grasses, including the Dactylis already mentioned, make very effective edgings, especially to large beds or flower borders. All of these things had better be planted without further delay where not already accomplished, so that they may become established before drought sets in. Golden Feather can also be planted with perfect safety, provided the plants are large enough and have been well hardened off. Numerous other subjects are suitable for the purpose, and those that are hardy, or moderately so, should be planted at once to secure a long growing season.

Bedding Violas.

It is evident from the large quantity of these always grown by the market gardeners in spring that the culture of these beautiful hardy subjects is being earnestly taken up. Being thoroughly hardy, the only difficulty experienced in their cultivation in southern counties is the dryness of the climate, which causes the flowers to become smaller towards midsummer, when the drought is at its worst. There is all the more reason therefore, for early planting. The boxes of plants we frequently see a mass of bloom were propagated from cuttings towards the end of the summer or autumn of last year, and if private growers and amateurs would adopt the same principle, their gardens could be rendered thoroughly gay, even at this early period, by Violas alone in various shades of colour. Good early kinds are Blue King, large bright blue; Skylark, white, edged with sky-blue, and very effective; Cornuta Perfecta, a purple blue; Golden Gem, large, clear yellow; Countess of Kintore, purple and white; and Countess of Hopetoun, white. For the dry climate of the south, none will resist drought better nor keep up a better show of bloom than Countess of Kintore.

Phloxes and Pentstemons.

Plants of these that were struck from cuttings last summer or autumn will now have made some growth, even if they have been wintered in a cold frame. Shoots from the base of the plant or from under the soil should be encouraged, as they develop into strong flowering stems from which the best exhibition flowers even are obtained. They should now be planted out in beds or borders according to convenience, in well-tilled and moderately well-manured ground, as they give the best results when liberally treated. Phloxes are shallow-rooting subjects, and should, therefore, be mulched with a coating of well-rotted manure, or even coco-nut fibre refuse to retain the moisture and enable them to tide over a droughty summer, should that occur. They should be planted about 1 ft. apart each way.

Plants in Flower in the Greenhouse.

A good display can now easily be maintained in houses even where no artificial heat is employed. Amongst strictly greenhouse plants are Cytisus racemosus, Heaths, Hydrangeas, Pelargoniums, Abutilons, Tree Carnations, Fuchsias, and others. Hardy plants are represented by Spiræas, Lily of the Valley, Primroses, and Polyanthus, in great variety, together with the florists' and Alpine Auriculas. The roof of the house may be kept gay with Abutilons, Hardenbergias, Kennedyas, and Roses. Maréchal Niel, Niphetos and several others are capital subjects for cool houses. Roses in pots, as well as Calceolarias, Cinerarias, and many others require careful looking after for green-fly, and other insect pests. Fumigate lightly on successive nights rather than allow them to gain a footing. Ventilate freely night and day unless the weather be stormy.

Gardening Miscellany.

The Gardeners' Royal Benevolent Institution.

I trust you will allow me space for a few words anent this noble and deserving institution. I am in receipt of a circular headed, "A most special and important appeal," in which it is stated that this year the institution attains its fiftieth or Jubilee year, and that to mark such an event in a special manner, the committee are making strenuous efforts to raise the sum of £3,000, so as to allow them to place the whole (seventeen) of the unsuccessful candidates at the last election on the pension list, the £3,000 being required to meet the great extra annual expense, without trenching on the reserve fund. The circular states that £1,500 is promised, leaving a like sum to be secured by the day of the Festival (June 13th), otherwise nearly the whole amount will be lost, and the scheme will fall through. As a gardener, I would therefore appeal to your readers to raise a hand to avert such a disaster; let us help to secure the noble end the committee have in view. I know that gardeners as a class are not rich men; many are like the parson in Goldsmith's "Deserted Village"—"passing rich on forty pounds a year," but with a unity of purpose amongst all the gardeners figuring in the Directories, a small donation from each individual would have the desired effect. I am a subscriber, but sincerely hope that I may never have to seek its aid; no doubt those poor souls now anxiously awaiting the result had, in the hey-day of their prosperity, the same feelings; but that treacherous wheel of fortune revolves in many remarkable ways; that great leveller—death, and mercantile failures have caused the break-up of many good gardening establishments, and thrown the head gardener out of a situation, most likely after years of arduous service, and at a time of life when he will have a difficulty in obtaining another appointment—when he will be met with the damping words, "Oh, I require a younger man!"—and what little savings he may have accumulated will be spent in waiting for something to turn up. The ultimatum of many a gardener's career is analogous to the "Derby favourite" that finishes his days in a Hansom cab. So my readers, strain a nerve and favour that indefatigable secretary, Mr. Cutler, with a contribution. He works hard for the institution, but is unable to say in the words of Coriolanus, "Alone I did it!" He must have your pecuniary assistance, and may you never miss it is the sincere wish of—*Pathfinder.*

Cunonia capensis.

The Saxifrage family includes some very strange and peculiar forms compared with the typical members of the order. Cunonia capensis is a greenhouse tree or shrub, with large, opposite, pinnate, deep green leaves, with oblong-lanceolate, serrated leaflets. The leaves are furnished with very curious, large, interpetiolar stipules that soon fall away. Stipules are by no means common amongst the shrubby types. The flowers are small, white, and exceedingly numerous, produced in axillary, compound spike-like racemes or panicles, as the individual members are grouped in clusters in the axils of the bracts. Specimens were exhibited by Mr. Wythes, Syon House Gardens, Brentford, at the last meeting of the Floral Committee of the Royal Horticultural Society, when a First Class Certificate was granted.

Dracæna Doucetti.

The leaves of this garden plant are long, slender, and narrow, similar to those of D. australis. Along the outer margin is a well-defined creamy white band or line, becoming whiter with age. There is occasionally a white line along the centre, and at times there are other slender lines. The variegation, on the whole, is very distinct, and the slender arching leaves are very graceful. A good-sized plant was exhibited by Messrs. J. Veitch & Sons, Chelsea, at the last meeting of the Royal Horticultural Society, when the Floral Committee awarded it a First Class Certificate.

Bedding Violas.

As we have already pointed out on several occasions the bedding Violas, so called, and the Pansies were originally specifically distinct. The former were improvements upon Viola cornuta and V. lutea, and were extensively used for bedding purposes, especially in the north, and where the climate is tolerably moist and otherwise suitable. By hybridisation and inter-crossing the bedding Violas have now, however, become largely mixed with the blood, so to speak, of the Pansy race. A few of the finer and earlier flowering kinds we noted the other day at Messrs. H. Cannell & Sons' nursery, Eynsford, Kent. Lutea grandiflora is a pretty yellow kind, but is now greatly surpassed by Eynsford Yellow Viola, with large yellow flowers marked at the base of the lower petals only with a few slender black lines. It is dwarf and floriferous. Other kinds that have been a mass of bloom for some time are Countess of Hopetoun, white; Chieftain, a darker blue than Blue King, and of the same type; and Skylark, white with blue edges. The latter is dwarf, comes into flower very early, blooms most profusely, and is certainly a beautiful kind for bedding purposes.

Lockie's Perfection Cucumber.

The fruits of this Cucumber shown at the Crystal Palace at the great summer exhibition on Saturday last by Mr. T. Lockie, Oakley Court, Windsor, were of medium size, deep sub-glaucous green, and with the exception of a few insignificant and weakly prickles were quite smooth. Except at the ends there was very little if any trace of ridges. A First Class Certificate was granted for it.

A Hose-in-Hose Gloxinia.

We have been favoured with a flower of a Gloxinia from Messrs. Ireland & Thomson, of Edinburgh, and which was recently exhibited before the Horticultural Association of Scotland. Morphologically, it is an anomalous development, and although by no means new to us, seems to be improving from year to year in the hands of different cultivators. The second corolla is produced by enation from near the base of the true one, and on the outer face of the latter. The second corolla is not, however, nearly so perfect as we see it in Campanula Media, nor in Mimulus luteus, nor the Polyanthus, where, in the two latter cases, it consists of the calyx, which has become enlarged and coloured like the corolla. By continual seed-sowing and selecting, something good may yet be obtained from this curious Gloxinia, as the specimen in question shows a considerable advance over one sent us the other week. The corolla in the case under notice was red, but both it and the out-growth from it were rather torn and undulated.

Double Cinerarias.

Notwithstanding the popularity of the Cineraria for decorative purposes, the double kinds, although tolerably numerous, do not seem to enjoy that favour amongst the public in general to which their merits, on account of their distinctness, entitle them. The ray florets, so conspicuous in single varieties, are here suppressed or remain short, giving the disk florets (which are elongated) more prominence. The result is that the plant presents a branched corymb of globular or semi-globular instead of flattened heads. In this respect a group of plants in the conservatory would form a striking contrast to the commoner single kinds. A considerable amount of space is devoted to them in one of the houses in Messrs. H. Cannell & Sons' nursery at Swanley, Kent. They show great variation in colour from rose through red, purple, violet, and blue, just as we see in single kinds. A few of them also show two colours, the white floret being tipped with lilac or rose, and are very pretty. They are even more attractive than very dark or dull self-coloured kinds.

The Yulan.

Amongst hardy trees and shrubs, the subject of this note is one of the most conspicuous features out of doors at present; and it is so hardy and easily managed that its comparative rarity in gardens is difficult to explain. The vernacular name given above is adopted from the Chinese, the plant being a native of China, from whence it was introduced in 1789, exactly 100 years ago. This, therefore, is its centenary in this country; but not being so popular as the Chrysanthemum from the same country, it is not likely to enjoy the same distinguished recognition as its more favoured patrician, and can hardly expect ever to do so, though at the same time there is plenty of room on our lawns and in our shrubberies for its more extended cultivation. The botanical name is Magnolia conspicua, and there is a fine tree of it at Gunnersbury House, Acton, where it flowers regularly every season. Last year the whole tree was simply laden with bloom, but the cold and sunless summer was not favourable to a free development of flower-buds, and there is consequently a much inferior show of bloom this year. Most of the shoots have developed wood buds only, except on the higher and more favoured or exposed parts of the tree, which are now gay.

ORCHID NOTES AND GLEANINGS.

Lælia Digbyana-Mossiæ.

A great sensation was produced at the Drill Hall, Westminster, on Tuesday last, when Messrs. J. Veitch & Sons, Chelsea, exhibited this new bi-generic hybrid. The female parent was Cattleya Mossiæ, and we should therefore have expected that Mossiæ would have formed the first part of the name. The male parent was Lælia Digbyana, formerly better known under the title of Brassavola Digbyana, and noted for its large and remarkably fringed lip. The colour of the hybrid closely resembles a form of C. Mossiæ, while the form and structure of the flower are undoubtedly that of Lælia Digbyana, so that there can be no doubt either of its hybrid origin or of its parentage. The sepals are oblong and of a beautiful soft rose, while the petals are of the same colour, but much larger, oblong-elliptic, blunt, and finely toothed at the margin. The whole flower measures about 6 ins. by 5 ins. across, and the widely-expanded lamina of the lip itself measures 3 ins. by 2½ ins. The latter is deeply fringed at the margin, and of a pale soft rose, with splashes of rich purple, as seen in Cattleya Mossiæ, while the throat is furnished with a large yellow blotch, and the tube internally is lined with purple. The whole flower of L. Digbyana is of a creamy white. The crest-like elevation of the latter is almost obliterated in the hybrid. A First Class Certificate was awarded it by the Orchid Committee.

Brassavola caudata.

A little but very pretty group of this Orchid was exhibited by Mr. J. T. White, Drayton Villa, Winchmore Hill at the last meeting of the Orchid Committee of the Royal Horticultural Society, when a Botanical Certificate was awarded. The flowers expand of a greenish yellow, becoming paler, with the lip white, and ultimately all parts of the bloom change to a pale yellow. The base of the petals and of the lip are spotted all over with brown or purple. The flowers are arranged in two-ranked drooping racemes, and are very pretty. The lateral sepals attain a length of 6 ins. or 7 ins., and like all other parts, are drawn out to a slender point.

Saccolabium cerinum.

The rarity and the colour of this Orchid are of more importance than its beauty, speaking from a horticultural point of view. From each side of the stem a two-ranked series of deep green, oblong, leathery, unequally bifid leaves are given off. The flowers are produced in dense capitate racemes on the end of stout horizontal peduncles. They are at first greenish, but expand of a pale yellow. A plant was exhibited by Mr. F. W. Moore, Curator of the Botanic Gardens, Glasnevin, at the last meeting of the Orchid Committee of the Royal Horticultural Society, when a Botanical Certificate was awarded.

Cattleya Schroderiana alba.

With the exception of a pale yellow blotch in the throat of the flower, all the rest is pure white. The margins of the petals are slightly undulated, but that of the front lobe of the lip is much more so. The crisping is not, however, so conspicuous as in C. labiata Mossiæ Wageneri, another equally pure white Cattleya of the C. labiata group. The variety under notice is, however, a form of C. l. Trianæ Schroderiana, and one of its chief distinctions is that the agreeably fragrant flowers smell like Hawthorn, whereas those of the variety Wageneri do not appear to be fragrant. A plant was exhibited at the Crystal Palace on Saturday last by Messrs. J. Laing & Sons, Forest Hill, when a First Class Certificate was granted.

Orchids in Flower at Claregate.

The cultivation of Orchids has been successfully carried on for a number of years by A. W. Wills, Esq., Claregate, Wylde Green, Birmingham, and at present the houses are very gay. Every plant is looking the picture of health, cleanliness being considered indispensable to their well-being, and this in a great measure is the secret of their success. It is certainly very gratifying to all lovers of Orchids to know that no sooner does one Orchid grower leave the field than there are others who are prepared to step into the breach and keep the torch burning. I noted the following species and varieties in bloom—viz., Cypripedium ciliolare, fine specimen with five immense slippers; C. Lawrenceanum, having dorsal sepal 3 ins. across; C. barbatum nigrum superbum, C. niveum, Cattleya Mendelii, in quantity, among which are some really choice varieties; C. intermedia, C. Skinneri oculata, good variety; Lælia purpurata, several fine masses carrying numerous extremely dark flowers of good size; Dendrobium thyrsiflorum Walkerianum, with raceme over 12 ins. long; D. infundibulum and the sweet D. Jenkinsoni, Oncidium phymatochilum, superior variety with strong spike and upwards of sixty fine flowers; O. crispum, specially fine variety having twenty-six fully expanded flowers; Odontoglossum maculatum, with fifty large flowers of good colour considering it has been in bloom for ten weeks—this is a great favourite at Claregate; O. Pescatorei and O. Alexandræ, several plants of each; O. hastilabium and O. nebulosum, Brassia verrucosa, wth fourteen spikes; the lovely Angræcum Sanderianum, with raceme 9 ins. long; Masdevallia Veitchii grandiflora, M. Shuttleworthii, M. Bella, M. Houttei, and the beautiful Anguloa Clowesii. All of these are effectually arranged by Mr. Morgan Gair, who not only grows Orchids well, but Pelargoniums and all kinds of stove and greenhouse plants receive their share of attention.—*J. McNab.*

Oncidium macranthum.

When grown under cool treatment and allowed plenty of headway to develop, the flower stems of this climbing species attain great length, become branched, and produce a large number of flowers from 3 ins. to 4 ins. in diameter. It is considered the best of the Microchila section in cultivation. A strong plant at Gunnersbury Park, Acton, has a flower stem already 8 ft. in length.

THE RAILWAY RATES QUESTION.

On Tuesday afternoon a public meeting of the trade was held at the Hotel Windsor, to receive the report of the committee appointed by the Nursery and Seed Trade Association to consider the revised classification of merchandise and the revised schedules of maximum rates and charges issued by the various railway companies. Mr. N. N. Sherwood (Messrs. Hurst & Son) presided, and the trade was represented by Mr. William Paul, Waltham Cross; Mr. R. C. Smith Carrington, Worcester; Mr. J. Fraser, Lea Bridge; Mr. J. Laing, Forest Hill; Mr. A. Veitch, Chelsea; Mr. T. F. Rivers, Sawbridgeworth; Mr. J. Noble, Bagshot; Mr. Jefferies, Cirencester; Mr. H. W. Williams, Salisbury; Mr. G. Bunyard, Maidstone; Mr. J. Cheal, Crawley; Messrs. J. Carter & Co.; Mr. Myers, Swanley; Mr. R. Dean, Messrs. Pearson, and others, the gathering being a very small one considering the magnitude of the interests at stake.

The chairman having stated the object for which the meeting had been called, and remarked that the trade did not seem to be generally aware of the effect which the proposed classification and revision of rates would have upon the business they were interested in; called upon Mr. Goodchild to read the report of the committee appointed on the 11th of March, from which we gathered, with reference to the question of classification, that the committee have carefully considered all the items in the revised classification which affect the horticultural trade, and are of opinion that all the articles are wrongly and inconsistently classified. They approached the consideration of the matter not so much in a spirit of antagonism to the railway companies, as with a desire to point out to the horticultural trade generally such questions as will affect them hereafter. They find that according to the proposed classification, seeds are distributed over four classes, viz.:—Class 1 comprises seeds for crushing, oil Hemp seed, and Mustard seed; 2, agricultural seeds and Canary seeds; 3, Carraway seed, Cummin seed, Coriander seed, and Flax for sowing; 4, seeds, except where otherwise provided; and consider it would be fairer to the trade if all seeds were placed in the same class, and that this should be done by raising those in Class 1 into Class 2, and by lowering those in Classes 3 and 4 into Class 2. Flower roots (comprising bulbs, Lily of the Valley crowns, and Spiræas) are placed in Class 4, but the committee consider that they should be placed in Class 3, because they are heavy for their bulk, and are so packed that there is little or no fear of their being injured except by water, and they also point out that the value of bulbs has of late years been considerably reduced, so that the placing of them in Class 4 would operate most unfairly to the trade. Shrubs, trees, and plants are distributed over three classes, viz.:—Class 3 comprises plants not in pots (except where otherwise provided); 4, shrubs and trees (except where otherwise provided); 5, plants and shrubs in baskets, mats, pots, or tubs, and they recommend that all should be placed in Class 3.

Before dealing with the question of rates and charges, the committee call attention to the maximum weight of small parcels, viz., 560 lbs., which may be a fair one, taking the average bulk of all goods classified, but is, nevertheless, excessive as regards goods in the horticultural trade, and they recommend that the maximum weight should be reduced to 224 lbs. If this maximum rate remains as proposed, it will be in the power of some companies to charge an excessive rate both for conveyance and terminal charges. For instance, a parcel of agricultural seeds (Class 2) weighing 560 lbs., for a distance of 50 miles on the Great Western Railway, would, according to the proposed revised classification rates, cost (exclusive of terminal and service charges) 2*s.* 7¼*d.*, whereas, if the company thought fit, they might charge for the same parcel as a small parcel, in which case it would cost 4*s.* 7*d.* In the former case the proposed terminal and service charges would amount to 1*s.* 7½*d.*, and in the latter case to 2*s.* 4½*d.* Thus, instead of charging 4*s.* 2¾*d.* the company would be empowered to charge 6*s.* 11½*d.*

The committee consider that the proposals in connection with small parcels are most unsatisfactory, that they do not comply with the requirements of the Act in stating the rates to be charged, but leave the matter in such a condition that the trader will be at the mercy of the companies, which is contrary to the spirit of the Act, and they recommend that companies should be required to submit further and better proposals as regards small parcels.

According to the proposed rates the leading companies differ in the numbers of miles for which they propose to charge different rates, and in consequence of this the labour in checking the charges of the various companies will be considerably increased. In most cases eight calculations will be necessary before this can be done. The committee recommend that only one rate per mile should be allowed, and that such rate should be the one recognised by the Board of Trade. The committee are unable to present a comparative statement, showing the difference between the existing and the proposed rates, owing to the number of preferential rates now in existence, and the difficulty in arriving at a general average; but from the information before them they are satisfied that the proposed rates will be enormously in excess of those now in use. They recommend that the Board of Trade should be asked to withhold their consent from the proposed rates until they have had an opportunity of satisfying themselves, by whatever evidence they may require, on this point. In the alternative, the committee recommend that the Board of Trade be asked not to sanction any rate which is in excess of the average of those at present in use.

With reference to the station terminals and service terminals, the committee recommend that they should be strongly opposed. They consider that on the true construction of the Act only one charge in the nature of a "terminal charge" was intended to be authorised; and further that the charges defined by the companies under "service terminals" are all included in the charges defined under "station terminals." It is part of the duty of a carrier to supply "labour to load and unload," and to "cover and uncover" merchandise entrusted to him. The "covering" of merchandise is done not so much for the benefit of the trader as for the benefit of the company, who are bound to take all reasonable care of goods entrusted to them for conveyance. Much time and trouble is expended by traders in checking railway charges, and in applying for and obtaining re-payment of charges wrongly made, and the committee recommend that the Board of Trade should provide for the infliction of penalties on any railway company so overcharging, in like manner as penalties are inflicted on the public for attempts to evade payment to railway companies of charges justly payable to them.

A general discussion followed, in which Mr. Myers, Mr. Sharman, Mr. R. C. Smith Carrington, Mr. Pearson, Mr. Rivers, Mr. Fraser, Mr. W. Paul, Mr. Bunyard, Mr. Cheal, and the chairman took part, and in which the general idea prevalent seemed to be that the classification was all wrong—nothing right; that the proposed revised rates were outrageously unjust, and that a general protest should be lodged against the whole scheme.

In the end the report was confirmed by the meeting, and the committee instructed to lodge objections with the Board of Trade in accordance therewith. It was also resolved that a guarantee fund be raised for the purpose of defraying any necessary expense that may be incurred in carrying the previous resolution into effect, such fund to be under the management of the committee.

A vote of thanks to the chairman and the committee brought the proceedings to a close.

THE GARDENERS' CALENDAR.

THE STOVE.

ATMOSPHERIC MOISTURE.—With the advent of really warm weather and more sunshine, the damping down of all houses kept at a high temperature must be duly attended to, in order to soften the arid condition of the atmosphere when ventilation is given. Growth in the great mass of stove plants is now proceeding vigorously, and the young expanding leaves are severely tried by a dry and hot condition of the atmosphere in which they are kept. It is true that there is no great extension of tissue—or, in other words, real growth—made during the day, simply because the leaves are kept in a limp condition through the great loss of water by transpiration. There is therefore the more need that this drain upon their resources should be modified by a liberal use of the syringe and damping down during the heat of the day, and likewise when the houses are closed in the afternoon.

BOUGAINVILLEA GLABRA. — Cultivators of this beautiful plant may be reminded that although it can be grown under a variety of temperatures, it generally succeeds best in an intermediate house. It may, however, be grown in a stove or in a greenhouse. In the latter case it will be later in coming into bloom, but the profusion of bracts which it there makes, and their durability, ought to be sufficient proof that the species delights in free ventilation. This is often overlooked when the plant is grown in a stove, and as a consequence the shoots become elongated and thin, while the bracts are more scantily produced, and endure but a comparatively short time. Therefore the inference to be drawn is that it should be fully exposed and well ventilated to give the desired results. As a wall climber in the open air in India it is simply gorgeous.

POINSETTIAS.—If these have been cut back in due time they will now be ready for shaking out of the old soil and re-potting. If allowed to remain as they are until the shoots have attained too great a length they receive a check that is anything but beneficial to the future well-being of the foliage. Before potting off the Poinsettias singly they should be allowed to become thoroughly well rooted.

WINTER-FLOWERING PLANTS.—The stoves and propagating pits, now crowded in every corner with young stuff for winter flowering and summer bedding, may be relieved to a great extent by the removal of many of them to pits or frames where a moderate heat is kept up by fermenting material. The pots containing them may be plunged in soil on the top of the bed, and if properly attended to in the matter of syringing and ventilation, will make good progress.

THE FORCING HOUSES.

THE VINERIES. — Muscats and other kinds started about the same time are now swelling rapidly, and must receive due encouragement, with a liberal use of water, both at the roots and in the atmosphere. The use of guano or liquid manure, given at alternate waterings, will assist them greatly. The paths and stages should be damped down several times a day to keep up a due proportion of atmospheric moisture during dry warm weather. Syringing of the Vines should be discontinued before the Grapes begin to colour, especially if the water contains much chalk, which soils and disfigures the berries, thereby preventing a proper development of the bloom, so indispensable to the correct finishing of Grapes. Ventilate early in the morning.

MELONS.—Plant successive batches of these as they become ready. Where house accommodation is limited, Cucumbers should give place to Melons, and be planted in frames heated with fermenting materials. In many cases it will also be necessary to grow Melons in frames. Those that have been used for the growth of early Potatos can be utilised for this purpose, and planting should be set about at once.

STRAWBERRIES.—Batches of these, now ripening, may be transferred to the orchard house or other structure where ventilation is freely given. This will furnish space for another batch to be brought forward, while they themselves will benefit by the change, and the berries will colour better.

THE KITCHEN GARDEN.

CAULIFLOWER, &c.—The spring sowings of such things as Cauliflower, Broccoli, Brussels Sprouts, Cabbages, and other things, should be planted in their permanent quarters as soon as ready. The heavy showers to which we have recently been subjected leaves the ground in excellent condition for planting, and if the work is effected immediately, the plants will have obtained a firm footing before the advent of drought, should that intervene. The hoe should be kept actively at work amongst all growing crops, especially where the ground is heavy. Mulch Strawberries with litter, not manure, at this advanced season, if the work has not already been accomplished.

HORTICULTURAL SOCIETIES.

Crystal Palace.—*May 11th.*

THE great summer exhibition was held on Saturday last, and although it did not present much in the way of novelty, yet as compared with those of the last few years, was of a much higher order of merit all round, and the tasteful grouping of the various classes by Mr. Head provided an amount of change that was highly appreciated.

The best nine stove and greenhouse plants, in the open class, were those shown by Mr. W. Chapman, gardener to J. Spode, Esq., Hawkesyard Park, Rugeley, Staffs. He had well-flowered specimens of Tremandra ericæfolia, Dracophyllum gracile, Darwinia macrostegia, Statice profusa, Erica profusa, Ixora Dixiana and I. coccinea. Mr. Wm. Finch, gardener to Jas. Marriott, Esq., Queen's Road, Coventry, took the second prize; and Mr. H. James, West Norwood, came in third. The first honours for nine greenhouse Azaleas, as well as eighteen in 9-in pots, were taken by Mr. Chas. Turner, the Royal Nurseries, Slough. His plants were both the largest and the best flowered. Mr. H. James was second in the class for nine specimens, and was also second for Heaths, there being no other competitor. Mr. T. N. Penfold, gardener to the Rev. Canon Bridges, Beddington, took the first prize for fine-foliaged plants with fine specimens of Carludovica Drudei, Phyllotænium Lindeni, Spathiphyllum pictum, and others. Mr. A. Offer, Handcross Park, Crawley, was a good second. Mr. T. N. Penfold had also the best Ferns, and was followed by Mr. H. James. The first prize for nine Orchids went to Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford, who had good pieces of Dendrobium fimbriatum oculatum, Cymbidium Lowianum, Odontoglossum Roezlii, and others; he was followed by Mr. H. James. Some of the Crotons were of good size, but by no means brightly coloured. The first prize was awarded to Mr. A. Offer, and the second to Mr. J. R. Bird, gardener to J. Causton, Esq., Alleyn Park, West Dulwich. The latter took the first place for Dracænas, which were small but well grown; he was followed by Mr. T. N. Penfold. There were several groups of Caladiums, but those of Messrs. J. Laing & Sons, Forest Hill, including Candidum, Leopold Robert, Clio, Mithridate, and Ferdinand de Lesseps, were by far the best. The second prize went to Mr. W. Monk, gardener to G. R. Higgins, Eastlands, Dulwich. Mr. C. Turner took the first prizes in two classes for Pelargoniums; and Mr. D. Phillips, Langley Broom, Slough, was first for eighteen of the show and decorative type. The premier prize for Gloxinias was taken by Mr. J. Hopkins, gardener to M. Jacoby, Esq., Lynnwood, Gipsy Hill. There was a good competition in the class for Roses in pots, the first prize being taken by Messrs. Paul & Son, Cheshunt; the second by Mr. Wm. Rumsey, Waltham Cross; and the third by Mr. C. Turner. Mr. H. Long, gardener to H. C. Barker, Esq., Leigham Court Road, Streatham, had the best Calceolarias, and Mr. M. Sullivan, gardener to D. B. Chapman, Esq., Devonshire House, Roehampton, the best dinner-table plants. Mr. H. James was the only competitor for Sarracenias and Nepenthes. H. Little, Esq, (gardener, Mr. Howard), The Barons, Twickenham, was the only exhibitor of a group of Orchids, and Messrs. J. Laing & Sons had the only group arranged for effect. Mr. J. Douglas had the best specimen Orchid; Mr. W. Chapman had the best stove plant in bloom; Mr. C. Turner had the best greenhouse plant; and Mr. J. Lambert, gardener to H. W. Segelcke, Esq., Herne Hill, showed the best specimen foliage plant. The first prizes for buttonhole, bridal and ordinary bouquets were taken by Messrs. Perkins & Son, Coventry. The first prize for three vases went to Mr. E. Chadwick, gardener to E. M. Nelson, Esq., Ealing; and for one vase to Mr. Thos. Butcher, Croydon. Mr. H. James had the best twenty-four bunches of cut flowers.

In the amateurs' classes Mr. W. Chapman again took the first prize for stove and greenhouse plants, Mr. A. Offer being second. The latter exhibitor had the best six Azaleas, and he was followed by Mr. J. Ford, gardener to Sir C. Piggott, Bart., Wexham Park, Slough, who had some fine examples. The same order was observed by the last two exhibitors in the class for fine-foliaged plants. Mr. A. Offer had the best Ferns and the finest Dracæuas. H. Little, Esq., took the first prize for Orchids; Mr. T. N. Penfold was first for Crotons; and Mr. C. Nunn, gardener to J. Soames, Esq., Greenwich Park, took the leading prize for Gloxinias. The first prizes in both the classes for Pelargoniums in this division were taken by Mr. D. Phillips. The best Calceolarias came from Mr. A. Carter, gardener to Alderman Evans, Ewell Grove, Ewell. The first prize for twelve bunches of cut flowers was taken by Mr. E. Chadwick.

Special prizes were offered by Messrs. J. Carter & Co., High Holborn, for Carter's Model Cucumber. The first went to Mr. T. Lockie, Oakley Court, Windsor; the second to Mr. W. Taylor, Ellengowan, Shortlands, Kent; and the third to Mr. A. Offer. Messrs. Sutton & Sons, Reading, also offered prizes for Gloxiuias and the best brace of Cucumbers. In the class for Gloxinias Mr. J. R. Bird took the first prize; Mr. J. Hopkins was second; and Mr. J. Read, gardener to G. Coulson, Esq., Fernside, Sydenham Hill, came in third. Mr. T. Lockie again took the first prize for Cucumbers; he was followed by Mr. A. Newell, gardener to Sir E. Saunders, Fairlawn, Wimbledon Common; and Mr. E. Trusler, Gipsy Hill, was third.

There were numerous exhibits in the miscellaneous class, including a group of tuberous Begonias, both single and double flowered, in many striking colours, from Messrs. J. Laing & Sons. There was also a showy group of Cinerarias dotted with plants of the Bermuda Easter Lily (Lilium longifolium Harrisii), together with some named varieties of Mimulus from Messrs. J. Carter & Co. A large group of Daffodils, Anemones, Tulips, Iris, Trollium grandiflorum, &c., was exhibited by Messrs. Barr & Son, Covent Garden. Messrs. Paul & Son, showed Tiarella cordifolia, Arnebia echioides, Saxifraga Camposii, and other herbaceous plants. Messrs. John Peed & Son, Mitcham Road, Streatham, showed a bold group of Anthurium Scherzerianum set up with Ferns and Palms. Mr. Fred. Hooper, Widcombe Hill, Bath, had two fine boxes of Maréchal Niel Roses, with a pure white Pink named Her Majesty. Maréchal Niel Roses were also exhibited by Mr. J. Walker, Thame, Oxon. Mr. J. Brown, gardener to Mrs. Waterlow, Great Doods, Reigate, had fine Mignonette and Mauve Beauty Stock. Pyramidal and standard specimens of Mignonette were shown by Mr. J. R. Bird. A tricolor Pelargonium named Harbour Light was shown by Mr. W. Hibburt; and plants as well as trusses of a white Pelargonium, named Pearl, were shown by Mr. Rupert Miller, Shoreham, Sussex.

Royal Horticultural.—*May 14th.*

THERE was an interesting display of various subjects at the Drill Hall, Westminster, on Tuesday last, the chief features of which were about equally divided between hardy outdoor subjects, and those grown under glass, such as forced Roses, Azaleas, Orchids, and others. A Silver-gilt Banksian Medal was awarded to Messrs. William Paul & Son, Waltham Cross, for a large group of Roses in pots surrounded with Adiantums, and six boxes of cut bloom. Amongst the Roses were well-flowered specimens of Queen of Queens, Magna Charta, Madame Fanny de Forrest, La France, Violette de Bouyer, Dr. Andry, Crown Prince, Ulrich Brunner, and others. A similar award was made to Messrs. Barr & Son, Covent Garden, for a large group of Daffodils and other Narcissi, also Iris iberica, I. Chamæiris and various of its forms, Saxifraga cordifolia purpurea, Funkia ovata aurea, F. o. maculata major, Anemone fulgens, A. coronaria, Doronicum plantagineum excelsum, Ranunculus asiaticus medioviridis, and others. Mr. J. Walker, Whitton, exhibited a large and showy collection of Parrot Tulips, with ragged petals and variegated with scarlet, green, and yellow. Amongst them were other sorts, such as T. narboneusis alba, T. elegans alba, white with red edge; T. retroflexa, yellow; T. vitellina, pale lemon; Golden Eagle, yellow with red edge; White Swan, large white; T. Gesneriana, red, and others. A Silver Banksian Medal was awarded. To Mr. C. Turner, Slough, a similar award was made for a group of greenhouse Azaleas, trained as conical bushes. Amongst them were Charmer, rose; Mrs. Turner, pink; Cordon Bleu, violet-purple; Jean Vervæne, red and pink, about equally mixed; and Jules Verne, white striped with red. Messrs. H. Lane & Son, Berkhamstead, were awarded a Silver Banksian Medal for a group of forced Roses, including Magna Charta, Ulrich Brunner, Edward Morren, Souvenir d'un Ami, well-flowered; Princess Beatrice, a rose-coloured H.P.; and Madame Lacharme, blush. Messrs. J. Veitch & Sons, Chelsea, were awarded a Bronze Banksian Medal for a group of Japan Maples, mostly forms of Acer palmatum. A. p. tricolor, A. p. sanguineum tricolor, A. p. dissectum elegans, and A. p. roseum marginatum, were very elegant.

The groups of Orchids, although small, exhibited some very interesting features. A Silver-gilt Banksian Medal was awarded to C. J. Partington, Esq. (gardener, Mr. B. Searing), Heaton House, Cheshunt, for a splendidly-grown group of Masdevallia Harryana in intense shades of crimson, violet-purple, and scarlet. He also showed a plant of Phalænopsis grandiflora, bearing a large much-branched inflorescence of white flowers, for which a Cultural Commendation was given. A new Lælia, a bi-generic hybrid of great beauty and value, was shown by Messrs. J. Veitch & Sons, and a First Class Certificate was awarded to it by the Orchid Committee, together with a Silver Banksian Medal, which was afterwards withdrawn by the Council. They also showed Masdevallia caudata-estradæ and a double scarlet Amaryllis named Multiplex. Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, exhibited a group of Orchids, amongst which were a beautiful rosy-sepalled Lycaste Harrisoniæ, also Cypripedium bellatulum, Epidendrum glumaceum, Dendrobium signatum, an uncommon yellow species with a brown blotch. F. G. Tautz, Esq. (Mr. C. Cowley, gardener), Studley House, Hammersmith, exhibited Odontoglossum egregrum, to which a First Class Certificate was awarded, but subsequently referred back by the Council to the Orchid Committee for reconsideration. Two fine Cypripediums were shown by R. H. Measures, Esq., Camberwell, namely, C. Mastersi and C. Carrierei. A curious variety of Odontoglossum citrosmum, with pale salmon sepals and petals, as well as Calanthe Tracyana, were shown by Messrs. Heath & Son, Cheltenham. Mr. R. C. Fraser, gardener to R. B. White, Esq., Arddaroch, Gaerlochhead, N.B., exhibited a fine form of Cattleya Mendelii, and Lælia purpurata, Mr. Brooman White's variety, with a very dark lip. Cut blooms of Cattleya

labiata Wageneri, C. l. Mendelii, and L. purpurata were shown by Mr. W. Hall, 14, Upper Tulse Hill. An extremely interesting exhibit of hardy Orchids was brought up from the Royal Gardens, Kew, including Orchis Brancifortii, Ophrys muscifera, O. Bertoloni, O. tenthredinifera, O. lutea, O. fusca, all dwarf and of different colours.

Messrs. J. Laing & Sons, showed some new tuberous Begonias and Cattleya Schroderiana alba. A collection of cut blooms of Primula Sieboldii tied up with Ferns and arranged on moss was exhibited by Messrs. Ryder & Son, Sale, Manchester. They had also some in pots, including Snowflake, Beauty, Distinction, and Champion. Mr. F. Ross, gardener to Sir George Macleay, Pendell Court, Bletchingley, exhibited Crinum Kirkii and Rogiera cordata. Mr. R. Dean, of Ealing, exhibited Primula Sieboldii laciniata, from the open ground, Bedfont Yellow Wallflower, Golden Crown Pansy, a deep yellow, useful for spring bedding, and Mimulus grandis, with deep crimson-scarlet flowers, and suitable for bedding purposes. Awards of Merit were granted for the last two mentioned. Mr. H. B. May, Upper Edmonton, showed a basket of Pteris cretica nobilis.

At a meeting of the Fruit Committee, a basket of fruit of the Strawberry, La Grosse Sucrée, was shown by Mr. W. C. Leach, Albury Park, Guildford. Mr. R. Gilbert, Stanford, exhibited specimens of his Multum-in-Parvo Broccoli. From the gardens of the Royal Horticultural Society, Chiswick, came some Radishes, including Early Scarlet Turnip, Early Deep Scarlet Turnip, Early Yellow, and Deep Scarlet Olive-shaped Radish.

Royal Botanic.—*May 15th.*

The first of the two summer exhibitions was held on Wednesday last, when the exhibits brought up presented much the same appearance as in former years, except that the competition in some of the classes was not so good. The stove and greenhouse plants were not so well flowered in some cases as we have seen them. The first prize in the nurserymen's class was taken by Mr. Henry James, Norwood, Yellow Heaths, Azaleas, and Dracophyllum gracile being most prominent in his group. The first prizes in the amateurs' class, both for six and ten plants, were taken by Mr. W. Chapman, gardener to J. Spode, Esq., Hawkesyard Park, Rugeley. His specimens were varied and well flowered. There was little or no competition in the classes for six Orchids. Mr. Howard, Orchid grower to H. Little, Esq., The Barons, Twickenham, was the only competitor in the amateurs' class for a collection, as well as for twelve exotic kinds. Mr. H. James was the sole competitor in two similar classes for nurserymen. Mr. C. Turner, Slough, had the best six Azaleas in the nurserymen's class, large conical specimens. He was also first for twelve plants in 12-in. pots. The best Azaleas in the amateurs' classes were shown by Mr. A. Offer, gardener to J. Warren, Esq., Handcross Park, Crawley. The Roses, together with the Azaleas and Pelargoniums, were the brightest features of the exhibition. The first prize for nine Roses in the nurserymen's class was awarded to Messrs. Paul & Son, Waltham Cross, who had by far the largest specimens. They also took the first place for twenty specimens. By being arranged on mounds on the grass in prominent positions the Roses generally were very conspicuous. The first prize for six show Pelargoniums went to Mr. C. Turner, Slough; the specimens were smaller than usual. Mr. D. Phillips, Langley Broom, Slough, had the first prizes for show varieties in the amateurs' class, and for fancies in the open class. The Ferns and fine-foliaged plants exhibited much of the usual character, and were not very bright. The herbaceous plants were far more interesting and varied. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, had by far the finest collection. Messrs. Paul & Son exhibited Alpine plants, and were awarded a first prize. Messrs. H. Cannell & Sons, Swanley, had by far the best Calceolarias, taking first prize.

In the class for miscellaneous exhibits, a Silver Medal was awarded to Messrs. J. Veitch & Sons, Chelsea, for a collection of Japan Maples. A similar award was made to Messrs. Paul & Son, Cheshunt, for a group of Roses. Messrs. Laing & Sons, Forest Hill, also had a Silver Medal for a group of Begonias, Palms, Crotons, and other stove plants. A small Silver Medal was awarded to Messrs. H. Lane & Son, Berkhamstead, for a group of Roses. A similar award was made to Messrs. J. Peed & Sons, Roupell Park, Norwood, for a group of Anthurium Scherzerianum. Mr. B. S. Williams, Upper Holloway, had a like award for a group of Orchids, Palms, and Ferns. The same award was made to Messrs. J. Standish & Co., for a fine group of Japan Maples. A moderate-sized but well-flowered group of Orchids was shown by Messrs. H. Low & Co., Clapton. Messrs. J. Carter & Co., Holborn, had a large group of the Bermuda Lily (Lilium Harrisii), for which a Bronze Medal was given. They had also a Silver Medal for Cinerarias. Messrs. Barr & Son, Covent Garden, had also a Bronze Medal for Daffodils. Messrs. F. Sander & Co., St. Albans, had a small group of Orchids; and a Bronze Medal was given to Mr. G. T. White, Winchmore Hill, for a small group of Masdevallias. Messrs. H. Cannell & Sons, Swanley, Kent, exhibited Tuberous Begonias. Mr. Searing, gardener to C. J. Partington, Esq., Cheshunt, exhibited Masdevallias; and Messrs. Ryder & Son, Sale, Manchester, showed Primula Sieboldi.

QUESTIONS AND ANSWERS.

Calceolarias.—*W. H.:* We consider your Calceolarias are of a good strain. The flowers are large, the pouch well formed, and many of the colours striking and beautiful. The varieties with the yellow ground colour are the most numerous, but the richness and varied forms of the spots and markings are beautful, in red, purple, or crimson shades. The creamy white and orange ground varieties are few in number but richly spotted. The Chrysanthemum blooms you send us are also very good for this season of the year.

Names of Plants.—*W. H.:* 1, Gongora buffonia maculata; 2, Selaginella caulescens minor; 3, Selaginella viticulosa; the Fern is Onychium japonicum. The numbers had become detached in some cases; the Selaginella with the narrow frond we took to be No. 2. *William Withers:* Nuttalia cerasiformis, the male form. *William Henry:* Amelanchier canadensis, otherwise known as A. Botryapium and Pyrus Botryapium, the Snowy Medlar or Grape Pear. *J. Friend:* Amelanchier canadensis, having for synonyms A. Botryapium and Pyrus Botryapium. *Box received from Wooler, Alnwick, without letter:* 1, Woodwardia radicans; 2, Asplenium Filix-fœmina, variety grandiceps probably; 3, Olearia (Eurybia) argyrophylla, the Musk Plant; 4, Geum montanum; 5, Ranunculus amplexicaulis; 6, Orobus vernus. *W. M. C.:* Forsythia suspensa. *W. T. D.:* Cyperus alternifolius. *J. W. M.:* 1, Arnebia echioides; 2, Androsace sarmentosa; 3, Saxifraga moschata atropurpurea; 4, Aubrietia deltoides Hendersoni; 5, Alyssum podolicum; 6, Lamium maculatum. *J. T.:* Viburnum macrocephalum.

Orchids.—*A. Chalmers:* The Cattleya Mendelii has a very fine and richly-coloured lip, but the sepals and petals are rather small; were these proportionately larger it would be a fine thing. They may come larger next time. The Lælia is a good form of L. elegans alba, and more nearly pure white than most of the forms that have been so named.

Orchid Blooms.—*Robert Twiss:* The flowers of Cœlogyne cristata you send us are of good size, and the yellow lamellæ are brightly coloured, but with the exception of its late-flowering habit we cannot say that it differs appreciably from the type. If its habit of flowering late is constant, it will be valuable on that account, as prolonging the season. The flowers of Odontoglossum triumphans is undoubtedly a good one, with the brown and yellow colours dark and well defined. All parts are of good size, but the petals might have been broader. The pure white base of the lip is pretty.

Communications received.—E. T. B.—C. A. G.—R. S.—H. H.—W. H. B.—G. P.—D. P. L.—H. & S.—W. & J. B—A. V.—T. E. H.—W. T. F.

TRADE CATALOGUES RECEIVED.

James Veitch & Sons, 544, King's Road, Chelsea, S.W.—Stove and Greenhouse Plants, Bedding and Herbaceous Plants, &c.

B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, N.—New and General Plant Catalogue.

John Laing & Co., Forest Hill, S.E.—Begonias, Orchids, Stove and Greenhouse Plants, &c.

DIED.—On April 6th, at Freeland, Perthshire, JAMES ROUTLEDGE, aged fifty-seven years, for thirty-one years Head Gardener to C. L. Wood, Esq., of Freeland, Forgandenny.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending May 11th, was 29·62 ins.; the highest reading was 29·74 ins. at the beginning of the week, and the lowest 29·40 ins. on Thursday afternoon. The mean temperature of the air was 57·7°, and 7·1° above the average in the corresponding weeks of the twenty years ending 1868. The mean considerably exceeded the average on each of the first days of the week, while on Saturday it fell below the average. The direction of the wind was variable. Rain fell on four days of the week, to the aggregate amount of 0·71 of an inch. The duration of registered bright sunshine in the week was 37·05 hours, against 24·7 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

May 13th.

Messrs. Hurst & Son, 152, Houndsditch, E., report a moderate inquiry for agricultural seeds. White Alsike and Trefoil realise full prices. Red Clover of medium quality may be bought on easier terms through some holders desiring to realise now the season is advanced. Rye Grasses steady. Bird Seeds dull.

COVENT GARDEN MARKET.

May 15th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St.		
Grapes .....per lb.	2 0	4 0	Michaels.....each	2 0	7 0
Pine-apples, Eng., lb.	1 0	1 6	Strawberries.. per lb.	2 0	4 0

Canadian and Nova Scotia Apples, per barrel, 7s. to 17s.

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus ....per 100	4 0	6 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	3 0		Lettuces ..per dozen	1	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages .... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English,			Radishes ..per dozen	1 6	
per dozen	3 0	5 0	Small salading, punnet	0 4	
Celery ....per bundle	2 6		Spinach, per strike ..	2 0	
Cucumbers ....each	0 4	0 10	Tomatos ....per lb.	2 0	3 0
Endive, French, doz.	2 6	3 6	Turnips ....per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Anemone, French, per doz. bunches.	1 0	4 0	Pansies ..12 bunches	1 0	2 0
Arum Lilies, 12 blms..	2 0	4 0	Pelargoniums, 12 spys.	0 6	1 0
Azaleas ....12 sprays	0 6	1 0	— scarlet ..12 sprays	0 4	0 6
Blue Bells..12 bnchs.	1 0	2 0	Polyanthus, 12 bnchs.	1 6	4 0
Bouvardias, per bun.	0 6	1 0	Primroses..doz. buns.	0 6	1 0
Camellias, white, doz.	2 0	4 0	Primula, double, bun.	0 9	1 0
— coloured..... ,,	0 6	1 6	Ranunculus, French, per doz. bnchs.	1 0	3 0
Carnations, 12 blooms	1 0	2 0	Roses, Tea, per dozen	0 6	1 0
Eucharis ..per dozen	3 0	6 0	— Red .....per doz.	2 0	5 0
Forget-me-nots.....	1 6	4 0	— Red, French, dozen	1 6	2 0
Gardenias, 12 blooms.	1 6	4 0	— Saffrano ..per doz.	1 0	2 0
Heliotropes, 12 sprays	0 6	1 0	Stephanotis, 12 sprays	2 0	4 0
Ixia.....12 bnchs.	3 0	4 0	Tuberoses, per dozen.	1 0	2 0
Lapageria, 12 blooms	2 0	4 0	Tulips ....12 blooms	0 3	0 4
Lilium longiflorum, 12 blooms	3 0	6 0	Violets, Parme, bunh.	3 0	4 0
Lily of the Valley, 12 sprays	0 6	1 0	Wallflowers, 12 bnchs,	4 0	6 0
MaidenhairFern, 12bns.	6 0	9 0	White Lilac, French, per bnn.	3 0	5 0
Marguerites, 12 bnn.	3 0	6 0	White Narciss, French, doz. bunches	3 0	6 0
Mignonette, 12 bun.	4 0	6 0			

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	5 0	12 0	Genista ....per dozen	9 0	12 0
Arum Lilies..per doz.	6 0	12 0	Heliotrope ..per doz.	6 0	9 0
Azalea.....per doz.	18 0	30 0	Lilies of the Valley, per doz.	9 0	18 0
Bedding plants, in var., per doz.	1 0	3 0	Lobelia .... per doz.	4 0	6 0
— — in boxes ..each	1 0	4 0	Marguerites per doz.	6 0	12 0
Calceolaria ..per doz.	6 0	9 0	Mignonette, doz. pots	6 0	12 0
Cineraria ..per dozen	6 0	10 0	Musk ..... per doz.	2 0	4 0
Cyperus, ..per dozen	4 0	12 0	Nasturtiums .... doz.	3 0	5 0
Dracæna term., doz.	30 0	60 0	Palms in variety, each	2 6	21 0
— viridis, per dozen	12 0	24 0	Pelargoniums, scarlet,	4 0	9 0
Erica, various ..doz.	9 0	24 0	Pelargoniums, per doz.	8 0	18 0
Evergreens, in var. ,,	6 0	24 0	Pinks, &c. .. per doz.	6 0	9 0
Ferns, in var., per doz.	4 0	18 0	Roses, H.P, per doz.	12 0	24 0
Ficus elastica ..each	1 6	7 0	Roses, Fairy, per doz.	9 0	12 0
Fuchsia.....per doz.	6 0	12 0	Spiræa .....per doz.	9 0	12 0
Foliage Plants..each	2 0	10 0	Stocks ..... per doz.	2 6	4 0

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IN AID OF THE

GARDENERS' ORPHAN FUND

WILL BE HELD IN THE

WHOLESALE FLOWER MARKET,

COVENT GARDEN,

By permission of

His Grace the DUKE of BEDFORD, K.G.,

ON

WEDNESDAY, MAY 22,

From 8 to 12 o'clock.

UNDER THE PATRONAGE OF

Her Royal Highness the DUCHESS OF TECK.

The Duchess of Bedford
The Baroness Burdett-Coutts
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Lady George Hamilton
The Marchioness of Salisbury
The Baroness Bolsover
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The Opening Ceremony at 8 p.m. by

THE BARONESS BURDETT-COUTTS.

BAND OF THE ROYAL HORSE GUARDS.

ADMISSION (by Ticket) 5s. (number limited), to be obtained of Mr. J. ASSBEE, Market Office, Covent Garden; the Hon. Sec., A. F. BARRON, Royal Horticultural Gardens, Chiswick; and from the Publisher of "THE GARDENING WORLD," 17, Catherine St., W.C.

100 Herbaceous & Alpine Plants for 25s.

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2	Best CHRYSANTHEMUMS, distinct, Japanese, Incurved, Reflexed, or Pompon, true to name, well rooted .. per doz., 2s.; per 100	12	0
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6	CYCLAMEN, strong plants	1	6
6	GREENHOUSE BEGONIAS, 3 varieties	1	9
6	DAHLIAS, true to name, Pompons, Fancy, Show, or Single	1	9
20	Seedling DAHLIAS, Single or Double	1	6
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6	Single or Double Herbaceous PYRETHRUMS	1	3
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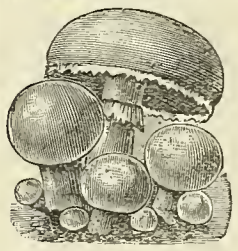

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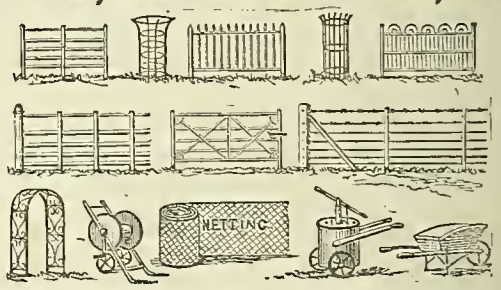

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OUR SPECIALITIES IN PLANTS AND FLOWERS.

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2 Best CHRYSANTHEMUMS, distinct, Japanese, Incurved, Reflexed, or Pompon, true to name, well rooted .. per doz., 2s.; per 100	12	0
6 MARGUERITES, White, Yellow and Blue	1	6
6 CYCLAMEN, strong plants..	1	6
6 GREENHOUSE BEGONIAS, 3 varieties	1	9
6 DAHLIAS, true to name, Pompons, Fancy, Show, or Single	1	9
20 Seedling DAHLIAS, Single or Double	1	6
6 HELIOTROPES, 3 varieties, or 6 SALVIAS, 3 varieties	1	3
6 Single or Double Herbaceous PYRETHRUMS..	1	3
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NOW IS THE TIME TO PLANT

GLADIOLI,	of which we grow		20	acres
DAHLIAS	,,	,,	2	,,
PYRETHRUMS	,,	,,	3	,,
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See our Manual for 1889, *gratis and post free.*

LANGPORT, SOMERSET

DAHLIAS.

My New Catalogue of above, No. 108,

Is the ninth Catalogue I have published this spring, copies of which have been sent to all my customers. It contains a number of

NEW VARIETIES,

Now offered for the first time, all of which are vast improvements upon all existing varieties, and such as will please the public.

CACTUS OR DECORATIVE VARIETIES.

The following new varieties I am now offering for the first time, all of which I have every confidence in recommending, they are **AMPHION, ASIA, MISS JEKYLL, HONORIA, MRS. B. S. LIDDALL, MR. GEORGE REID, PROFESSOR BALDWIN, PANTHIA, SYDNEY HOLLINGS,** and **SIR TREVOR LAWRENCE.** In addition to these,

MY GENERAL COLLECTION

Contains every variety worthy of cultivation, both old and new. They are all fully described, and many of them beautifully figured.

POMPONE OR BOUQUET VARS.

This is a very popular section, especially for cutting. The flowers are perfection in shape, and every shade of colour will be found among them.

SHOW & FANCY VARIETIES.

These are the large-flowered varieties, the kinds usually seen on the exhibition table. The flowers are of immense size and of every shade, and of the easiest cultivation. My collection is a very large one, and contains every variety up to date worth cultivating.

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Will be found fully described in this Catalogue, and I have every confidence in offering them, as I feel certain they are quite equal to my previous introductions, and will be sure to PLEASE EVERYONE. My collection is a very comprehensive one, and contains every variety of note.

STELLATE VARIETIES.

These are very useful for bedding, and are held in high esteem for cutting on account of their dwarf character and wonderfully free-flowering habit. This Catalogue also contains

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OF

CARNATIONS, PICOTEES, AND PINKS,

Of which I have a grand collection. Although my stock of some kinds is exhausted, yet I can still supply a number of really beautiful kinds.

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These are two popular families for summer decoration. The new Dwarf Cannas are specially fine, and will become a favourite group when better known.

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70,000 CHRYSANTHEMUMS, young plants; carriage paid; 25 whites, 1s. 3d.; 25 coloured, 1s. 3d; 25 Japanese, 1s. 3d.; 25 early, 1s. 3d.; 25 general collection, 1s. 3d.; 25 late, 1s. 3d.; 25 bloom Aug. to Jan., 1s. 3d.; or any above, named, 1s. 3d. per dozen. Peat, 2s. 6d. per sack; six, 10s.—TURNER, Thatto Heath, St. Helens, Lancashire.

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PURE WOOD CHARCOAL, specially prepared for Horticultural use. Extract from *The Journal of Horticulture*:—"Charcoal is invaluable as a manurial agent; each little piece is a pantry full of the good things of this life. There is no cultivated plant which is not benefited by having Charcoal applied to the soil in which it is rooted." Apply for pamphlet and prices to the manufacturers—HIRST, BROOKE & HIRST, Leeds.

JENSEN'S GUANOS are the most perfect Fertilisers. Promote and sustain all growths. Do not exhaust, but enrich the soil. Analyses guaranteed. Six Prize Medals awarded in 1888.—J. JENSEN & Co. (Lmtd.), 109, Fenchurch Street, London.

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COARSE and FINE BEDFORDSHIRE.—For Direct Supply send to the Proprietor of the Pits, JOSEPH ARNOLD, 32, POLYGON, LONDON, N.W. Established nearly 30 years. Telegrams: Alloquy, London. TRADE SUPPLIED at lowest terms for cash. Special Notice, 20,000 Tons of Splendid Coarse POTTING SAND from 6s. per ton (free on rail at Leighton Buzzard for cash), ready for quick despatch. Send to JOSEPH ARNOLD, "only address" as above, to the Polygon.

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Next Week's Engagements.

TUESDAY, May 28th.—Sale of remaining portion of Mr. Lee's Collection of Orchids at Protheroe & Morris's Rooms (two days).

THURSDAY, May 30th.—Royal Horticultural Society's Summer Show in the Temple Gardens; Meeting of the Floral Committee at 11 a.m. Sale of Orchids and Greenhouses at North Cray, Kent, by Protheroe & Morris.

FRIDAY, May 31st.—Royal Horticultural Society's Show continued. Sale of Orchids in Flower at Stevens' Rooms.

For Index to Contents & Advertisements, see p. 617.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, MAY 25, 1889.

CURRENT TOPICS.

THE TEMPLE SHOW.—We may remind our readers that the Royal Horticultural Society's chief exhibition of the year takes place in the Temple Gardens on the Thames Embankment, on the 30th and 31st inst., next Thursday and Friday. A large flower show right in the heart of London is somewhat a novelty, but the first of the series held in the same place last year—partly owing to distressing weather, and partly to insufficient advertisement—was not patronised by the public to the extent anticipated. We are very hopeful that this time the weather will be more propitious, and that really summer-like warmth and geniality will accompany the show.

That it will be more widely advertised we anticipate, or, indeed, the lessons of last year will have been sadly lost on the executive. London is so big that it is very difficult amidst the enormous number of competing attractions to fix the attention of the public on any one

thing, especially when it is an attraction of so fugitive a kind as a flower show. Yet so beautiful an exhibition as we look for should, if made widely known, attract vast crowds of people from our huge town to flock in and feast their eyes on the loveliest productions of nature. In anticipation of fine weather and a big attendance, we hope that greater tent area than was found last year will be furnished, as should a large crowd of persons result myriads will be unable to see anything. Last year many fine exhibits were too crowded for lack of space. We cordially hope to see at once a grand show, a gigantic attendance, and a big financial success.

The National Dahlia Society, the object of which is to promote the cultivation, improvement, and exhibition of the Dahlia, has just issued an admirable schedule of prizes for competition at its annual exhibition to be held at the Crystal Palace on the first Friday and Saturday in September. The year 1889 being the centenary of the introduction of the Dahlia into England, Dahlia variabilis having been sent to the Royal Gardens at Kew by Lady Bute in 1789, the committee are naturally anxious that an event so interesting to Dahlia growers should be suitably commemorated. To this end a prize fund has been started, to which the present Marquess of Bute has contributed £10; and the honorary secretary and treasurer, Mr. T. W. Girdlestone, M.A., Sunningdale, Berks, will be glad to hear from any other admirers of the flower who may be desirous either of helping to extend the list of donors, or of becoming annual subscribers.

In order to obtain a representation of the marvellous development of the Dahlia during the century that it has been under cultivation in this country, the committee have added to the schedule a novel and important class open to all exhibitors. In this—"The Centenary Class"—will be represented, as far as practicable, every known kind, form and type of Dahlia, and it is confidently anticipated that the result will be a magnificent display of the best varieties of all sections. In addition to this interesting display, a National Dahlia Conference will be held at 3 o'clock, on the first day of the exhibition, when the following papers will be read, and discussion invited:—"History of the Dahlia," by Shirley Hibberd; "Development of the Show Flower," by Mr. H. Turner; "On Cultivation," by Mr. J. T. West; and "Decorative, Pompon, and Single Dahlias," by Mr. J. Cheal. Dahlia growers, both amateur and professional, are cordially invited to assist the society in making the Centenary celebration a complete success.

A Model Professor. — Through press of matter we were unable last week to refer to the very delightful and model lecture which Professor Michael Foster, of Cambridge, gave on the Iris at the Drill Hall, Westminster, at the last meeting of the Royal Horticultural Society. Here we saw one of the most eminent of botanists, one of the secretaries of the Royal Society, and a scientist of distinguished reputation, discoursing upon a well-known family of hardy plants with just as much freedom from technicalities as if talking to a group of children on some common-place subject.

Professor Foster does not read papers. He does not orate. He is a simple talker, employing no botanical terms or phrases, but taking the most ignorant amongst his audience into his confidence, discourses plainly and readily upon his theme. How many others will follow this delightful example, and give us both science and horticulture made interesting and easy? One excellent feature marked the Professor's demonstration. He wrote upon a black-board deftly with chalk the names of all the various species he referred to, so that whilst all could follow his remarks with ease, no mistake as to nomenclature could be made.

It is to be feared that the dread of a purely scientific discourse kept away some who otherwise would have helped to swell the Professor's far from considerable audience. We can but advise them, should Mr. Foster again favour the Society with one of his delightful discourses, to attend, and enjoy what is certain to be a treat. It is pleasant to know that all Professors are not prigs, and that the ablest men may yet be the simplest and best of teachers.

The Railway Rates Act.—The very interesting meeting held at the Hotel Windsor, and which we reported in our last—if not so largely attended by those who should be most interested in the subject as we could have wished, was nevertheless one which should attract the attention not only of the seed and nursery trade generally, but of all who may be in such kind of trade as necessitates the co-operation of railway companies. It is doubtful whether the market-growing trade will not be more severely hit by the proposed new rates of transit, if adopted, than will the seed trade. No doubt many persons are wondering why this new scale of rates should be proposed, as, so far, matters had, as between the railway companies and the public, proceeded satisfactorily, as is evidenced by the fact that the new scale of charges threaten to be some twenty-five per cent. in excess of the old or present rates.

For some time there has been an outcry against preferential rates, especially as applied to imported products. Naturally, the railway companies fostered by preferential rates those trades or products which brought them most custom, and some other trades grumbled. Parliament, last year, with a view to redress the grievances of the grumblers, passed a Railway Rates Act, which gave power to the respective companies to formulate a new scale of rates of transit, subject to the approval of the Board of Trade. So far the upshot seems to be that traders are likely to find that they have got out of the frying pan into the fire. They had better have let well alone.

Before, the few suffered perhaps, but the many gained; but now, should the new scale of rates, with the abominable and unwarrantable station and serious terminal charges, be adopted, all will suffer, and trade especially so. If something of a determined kind be not speedily done, traders may find themselves bond-slaves of the railway companies.

Caterpillars. — Our pot of ointment is seldom without its fly, and our highest anticipations are often dashed with some sort of bitterness. Thus, just now, when there is such splendid promise of a grand fruit crop, our old enemy, the caterpillar, crops out and exhibits his old power for evil amongst the Gooseberry bushes. Certainly, there the enemy may, by means of carefully applied dressings of hellebore powder, be checked, and in time exterminated, but too often great mischief is done before the remedy is applied. Maggot is also exceedingly plentiful amongst Roses, and only the sharpest look out will enable myriads of buds to be saved from destruction. We trust the Apple trees will escape this year, but when the caterpillar moves out on the war path against vegetation, he proves to be a potent enemy. Our readers must be prepared to combat the foe the moment he is seen.

Chestnut Sunday.—Many of our provincial readers will perhaps wonder what is meant by the heading. Well, it is chiefly applied to the famous domain of Bushey Park, close to Hampton Court, and to those long and noble lines of Chestnut trees which border the fine roadway through the park from Teddington. We are no great admirers of long lines of trees, commonly called avenues, but, at least, the Horse Chestnut, with its fine foliage, its spreading umbrageous habit of growth, and its wondrous heads of inflorescence, do form very beautiful groups—if all the same a little monotonous. When the Chestnuts in Bushey Park are in full bloom, and they were so on Sunday last, then tens of thousands of Londoners and residents of the surrounding country flock to the park to see the trees; the railway company running special trains for the purpose. The rain, which fell rather liberally on Sunday afternoon, must have marred the people's pleasure, but the trees were superbly fine all the same.

Double Anemone, King of Scarlets.—Some beds of this fine and striking Anemone at Gunnersbury Park are objects of great beauty just now. The ordinary double scarlet Anemone, as grown and supplied by the Dutchmen in dry roots, is a poor pale-coloured type by the side of Mr. B. Gilbert's selection. Mr. Roberts states that if potted and grown on in a cold frame, but not in any way forced, which it will not bear, it comes in very handy for cutting before it is in bloom in the open ground.

Awards at the Melbourne Exhibition.—We understand that Messrs. Sutton & Sons, of Reading, have received the First Order of Merit (the highest award) for seeds, models of vegetables and garden tools; for their new seed germinator; for their educational cabinet of natural grasses and agricultural seeds, with a special mention by the Education Jury for originality and completeness; for Mr. Martin John Sutton's book, *Permanent and Temporary Pastures*, and other agricultural and horticultural works; for fodder and ensilage plants; and for Flax; and Honorable Mention for Tobacco.

Farm-grown Fruits.—We understand that a meeting of the subscribers to the Maidstone Chrysanthemum and Fruit Society will be held in the Town Hall, Maidstone. on the 12th of June, under the presidency of H. A. Brassey, Esq., to consider a proposition that has been made to hold an exhibition of farm fruits in conjunction with the annual November show of the Society.

The Walnut Trees and the Frost.—From information which has reached us from various parts with reference to the deplorable condition of the Walnut trees, it would seem as if we had not yet fully realised the extent of the damage done by the severe frost which caught so many napping last October. It would appear that not only were the Walnuts so seriously hit that they did not half fill, but that the wood was also killed right out at the tops of many of the trees—a fact which has not been discovered till now, when they should be in leaf, but fail to move a bud. We should be glad to know to what extent the trees have suffered generally.

International Exhibition of Fruits and Pomological Congress at Ghent. — The Arboricultural Society of Belgium has issued its programme, or, as we should say, the schedule of prizes offered for competition at the above exhibition, to be held in September next. It is divided into seven sections, the first of which includes various fruits, the second Pears, the third Apples, the fourth stone fruits, the fifth Grapes, the sixth sundry fruits, and the seventh sundry objects. In the first class of the first section the prizes are offered for the most numerous, the most varied, and the most meritorious collection of fruits of all kinds. The first prize is a Gold Medal worth 200 francs, or a work of art, the second a Gold Medal, the third a Silver-gilt Medal, and the fourth a Silver Medal. A Medal of equal value is offered as the first prize for the most complete and the best named collection of Pears obtained of the Belgian seed raisers (Hardenpont, Van Mons, Esperen, Coloma, Bivort, Gregoire, Daras de Naghin, &c.). Numerous other prizes are offered for dessert, stewing, and show Pears; also for the most remarkable exhibit of Pears of commerce, as well as varieties suitable for the orchard, and for cultivating along the public highways. Prizes are also offered for the most interesting lot of named varieties of Pears that ought to be rejected from collections. Numerous prizes are also offered for Apples in nearly similar classes as for Pears. Stone fruits include Peaches, Apricots, Plums, and Cherries. In the division for Grapes, the leading class is for the most numerous and the most varied collection of hothouse and open-air Grapes, and prizes are also given in separate classes for Grapes grown under different conditions as to temperature, under glass and

out of doors. The section for sundry fruits includes Pine Apples, Melons, Strawberries, Raspberries, Gooseberries, Mulberries, Figs, Chestnuts, Walnuts, Hazel Nuts, Blackberries, fruits of edible Roses, &c.

The Winter Moth.—At the last meeting of the Scientific Committee of the Royal Horticultural Society, Mr. Wilson observed that the plan recommended in the *Agricultural Gazette* of October 15th, 1888, of making a ring of cart grease and Stockholm tar round the base of fruit trees, though very effectual in catching large quantities of wingless females, had not prevented them from attacking the trees altogether, as the leaves on certain trees thus treated were all going at the present date.

GARDENERS' ORPHAN FUND.

As we go to press (on Wednesday afternoon) the streets bordering upon the Wholesale Flower Market in Covent Garden, wherein is to be held in the evening a great Floral Fête in aid of this Fund, are congested with vans laden with the best of everything in season that can be produced, and busy hands are rapidly decorating the stands for the evening display, which promises to exceed in excellence even the truly grand exhibition which the market growers made last season.

As the programme which has been issued truly states, "The Wholesale Flower Market is perfectly distinct from the well-known 'Central Avenue,' and may be fairly described as the greatest plant and flower emporium in the world. Though in the centre of the metropolis, it is practically unknown, except to the skilled cultivators, who furnish it so richly every morning, and the busy workers who distribute its floral treasures to adorn the mansions of the rich, and brighten the homes of the poor, in the chief cities and towns of the kingdom.

"It is the headquarters of domestic floriculture, and represents the magnitude of an industry on which thousands depend for subsistence, and by which tens of thousands derive pleasure of the most delightful kind. There, arranged on nearly 400 stands, are all the plants and flowers in season, each bearing the stamp of the highest culture, and the whole arranged in the most effective manner for appealing to the tastes of those who inspect them with a view to buying. Every morning at this season the display is such as cannot be seen elsewhere, either in private gardens or at public exhibitions; but on the evening of the Floral Fête, for the benefit of the orphans of gardeners, it will excel both in magnitude and diversified splendour, for the expert growers will put forth their full strength for the occasion.

"The extent of this unique floral spectacle may be indicated. It will occupy an area of nearly three-quarters of an acre, and present a frontage of flowers, tier above tier, extending over a length of seven hundred yards, with a thousand square yards of promenade between the beautiful avenues, for visitors. In the ordinary routine of this great floral industry, the stands are furnished at night, and the market is not opened to the public till four o'clock in the morning and closed at nine o'clock. It is only by special privilege, kindly accorded in the cause of charity, and by willing efforts of the numerous cultivators in completing their arrangements some hours earlier than usual, that the public can inspect and enjoy the extraordinary assortment of plants, as they are temptingly disposed in readiness for purchasers who often clamour for their acquisition before the dawn of day.

"'What choice to choose for delicacy best:

. . . . . .

Taste after taste upheld with kindliest change.'

—Milton."

The clerk of the weather promises to be on his best behaviour for the occasion, tickets are selling freely, and we hope in our next to be able to record a most gratifying success.

A CHERRY HOUSE.

At Gunnersbury Park, Acton, is a three-quarter span house, devoted to the cultivation of Cherries. A large number of varieties are grown, and a great quantity of fruit is annually harvested. When in bloom some weeks ago, the house was a sight worth seeing. Notwithstanding the adverse and sunless nature of the season last year, the trees do not seem to have suffered in the least, for the quantity of bloom was simply astonishing, and the number of fruits that have set speak to the ability of Mr. J. Roberts as a cultivator. Not only have the Cherries set well, but other houses are filled with Vines and Figs, the first crop of the latter having been nearly all matured and gathered, while second crops are coming on rapidly. The Grapes in two of the early vineries are now well coloured.

The Cherries, when we inspected them the other week, were about the size of large peas. A considerable number of varieties are grown, but we took the names of only a few. All are planted out, and those along the back wall are trained as single upright cordons. Those along the front of the house are generally trained to three upright stems, and pruned on the spur system. A few plants are grown in bush form.

Amongst early kinds we noted May Duke, Early Lyons, Amber Early (otherwise known as Rivers' Early), and some other of the Geans. Bigarreau Monstrous Heart is here grown under the name of Monstreuse de Mezel. Frogmore Early was heavily laden with fruit. Other sorts we noted at random were Emperor Francis, Bigarreau Mammoth, and Bigarreau de Mildesheim, the last two being classed by pomologists amongst the Red Heart Bigarreau kinds. The above is by no means exhaustive of the collection.

VARIETIES OF COLUMBINE.

Purple, blue and white flowers are so common amongst the varieties or forms of the common Columbine (Aquilegia vulgaris), that it is difficult to say which is

Varieties of Aquilegia.

the type of the wild plant, for all those three colours, in some shade or other, turn up in a wild state, or as escapes from cultivation. The flowers of all are exceedingly beautiful either in the single or double form. The latter are the more lasting. We give an illustration of a bunch of flowers showing both single and double varieties, some of the latter being exceedingly curious structurally, and quite anomalous for the genus. The spur of the petals is one of the most striking and characteristic features of Aquilegia; but as our illustration shows, in the upper left-hand flower the spur may be altogether absent. The doubling seems to consist of the development of a large number of sepals, which are flat and coloured. In other double flowers the sepals become broad and overlapping one another, while the doubling is made up of petals whose spurs remain very short, because there is no room for them to elongate. This form also may be seen in the illustration. Double flowers are somewhat lumpy, and lack the grace of the single ones; but they are both showy and curious, and are therefore largely grown on that account. Their cultivation is of the easiest in any fairly good garden soil, and propagation may be effected by seeds or division.

EXHIBITION SPECIMENS.

In the celebrated collection of exhibition specimens formed by J. Marriott, Esq., Warwick Green, Coventry, are many plants of great merit, rarity and beauty, and as will be seen from the dimensions appended of only a few, are extraordinary specimens, all of them being in the very best condition. Mr. Finch, who is the gardener in charge, not only has his hands full but his mind as well. Notes were made of a few plants that will do duty at the coming exhibition—viz., Cycas Neo-Caledonia, with stems 4 ft., and twenty-five splendid fronds; this is said to be the finest specimen of its kind in Europe. Ixoras still keep to the front as exhibition plants; I. Pilgrimii with forty-seven grand trusses; I. Prince of Orange 5 ft. through, and having 174 large trusses, some of which measure from 6 ins. to 9 ins. across; Stephanotis floribunda, an immense plant, with a circumference of 18 ft., trained balloon shape, and well set with hundreds of trusses; Lapageria rosea, an extraordinary piece, 6 ft. in diameter, and well set with buds; L. alba, 4 ft. in diameter, showing well for bloom; Kentias, several of this most useful decorative Palm—viz., K. australis, with seventeen fine fronds, 10 ft. high; K. Fosteriana, with nine good fronds; K. Belmoreana, having twelve fronds; Thrinax elegans, a most useful exhibition Palm, with nine grand fronds; Tabernæmontana coronaria flore pleno, a glorious plant, 5 ft. through, and covered with hundreds of fine white flowers. Florists would find this a valuable subject for cutting purposes.

Of Crotons the most prominent are C. Countess, 5 ft. in diameter; C. Warreni, C. Queen Victoria, 8 ft. in diameter; C. mortis, and C. Prince of Wales. Rondeletia speciosa still holds its own as an exhibition subject. One plant noted is 5 ft. high and 5 ft. through. Ericas still maintain their high position at the spring and summer shows, and there are at present many grand specimens emerging into bloom—a sight not soon to be forgotten. Several of these are from 4 ft. to 5 ft. through. This does not by any means exhaust the number of really fine exhibition specimens, but suffice it to say that anyone anxious to see for himself will be received with the greatest courtesy.

Fruit is not grown extensively at Warwick Green. However, a fine house of Melons changing colour, and giving off an odour, reminds us that their position will soon be on the dinner table. Orchids are extensively cultivated in this establishment, which, along with the exhibition plants, reflect great credit on the grower.—*J. McNab.*

BEES AND FERTILISATION.

If it is a fact, as asserted on the authority of Mr. Cheshire, that bees—or, perhaps, let me say, insects—are essential to the fertilisation of Apple and other fruit bloom, then I fear we shall come badly off in this district. Really there seems to be no bees about the bloom of any kind. Here are Apple trees, Horse Chestnut trees, Turnips, and Brassica in full bloom. The weather is warm and sunny, and yet I do not observe a single bee anywhere, nor hardly any other insect, except it be a few small flies. The absence of the usual pleasant hum of the bees is most noticeable. In other seasons I have found them working spring flowers of all kinds, the Pulmonaria especially, but now not a bee is to be seen.

If the story as to the essential labour of bees in connection with fertilisation of flowers is true, the look-out for us here is a bad one indeed. Happily I am buoyed up by the belief that all this stuff about insects and fertilisation is not gospel, but imaginary dogma, constructed to sustain certain theories. What I am certain of is that Nature has not done her work so imperfectly that it is needful to call in the help of bees or other fortuitous aids in the shape of insects, to perfect her operations. Why, if flowers were as dependent upon insects as the scientist would have us to believe, what should we do when, as now, there are apparently no insects to fertilise? I never saw such a dearth of insects about the flowers, bees especially, and I call attention to the matter because it will be well for all intelligent readers to note how far fruit bloom may suffer (with all the surroundings so favourable) from the lack of bees or other insects.

We have in Middlesex a county bee-keepers' association, and doubtless it believes that good work is accomplished; but there are far fewer stocks of bees now in the locality than was the case ten years ago. One of my neighbours, a member of the association, under the guidance of the experts, finds his bee stocks reduced from twenty a few years ago to two now. Of course, I do not assume that the association is in fault; really it is the seasons which have to be credited with this lamentable failure, because the same falling off in bee stocks marks all the district round. Bees seem to have been rarely scarcer than now. For that reason the theory propounded by Mr. Cheshire will be subjected

to a severe test this spring. If I were to conclude from what I see on the trees, I should say that fruit of all kinds, in spite of the lack of insects, is setting abundantly. Why should not standard tree bloom set as freely without external aid as does the bloom of Gooseberries and Currants? Indeed, no bloom sets more freely than does that of bushes, and thus it is absurd to assume that insects, especially bees, render any assistance.

That the falling off in the number of bee stocks kept is a serious matter for apiarians, and in relation to honey production, there can be little doubt; but I am not alarmed as to its probable effects on our fruit blossom. If there be eventually any failure on the part of the bloom to set, it will be fair to the bees to declare that, so far as the weather is concerned, it never had a better chance to set than now.—*A. D.*

THE BANKSIAN MEDAL.

Has the Council of the Royal Horticultural Society become weary of well-doing? Such is the question that suggests itself on reading in your columns the information that the Banksian Medal recommended by the Orchid Committee, on the occasion of the last meeting, for Lælia Digbyaua-Mossiæ had not been eudorsed by the governing body. It may be long before anything so distinct comes before them again, for a fact it is that very few real novelties turn up in a lifetime.

It has been urged, I understand, that there was no precedent for so distinguished an award for a single specimen; but that may easily be confuted by reference to the records of the society from a remote date up to the present time. Another statement current is that two distinct awards could not be given to the same plant. On May 21st, 1873, Mr. Denning, gardener to Lord Londesborough, sent a fine group of Orchids to the meeting of the society, along with which was staged the finest specimen of Utricularia montana that had ever beeu seen. The committee awarded a Cultural Commendation, and recommended it to the Council for a Lindley Medal, aud they gave it one.

The Council might do worse than give a Banksian Medal for the encouragement of such grand things, as Lælia Digbyana-Mossiæ. In days gone by Banksian and other medals were given away with great liberality, so that while being rigidly economical with the means of the society, the present Council might have endorsed the recommendatiou of the one in question without being considered extravagant, or in any way exceeding their duty. It may not be out of place here to remind them of the origin of the Banksian Medal, and the purpose for which it was originally intended. The record runs as follows:—"In order to encourage the exhibitions of various productions of the garden at the general meetings of the society, and to distinguish the exhibitors of articles of excellence, merit, or novelty, the Council have deemed it expedient to establish a class of medals of a smaller size than the original medal of the society. The resolution having been adopted at the period when the country was deploring the death of the late Sir Joseph Banks, it was determined to place his profile on the obverse of the medal, and to call it the Banksian Medal. The larger medal will still continue to be given as directed by the laws of the society for every such matter or circumstance as shall appear to the Council so essentially to advance the objects of the society as to deserve the distinction; while the Banksian Medal will be exclusively confined to rewarding the exhibitors of objects transmitted or brought to the general meetings of this society." After this resolution, which was carried into effect, a considerable number of medals were awarded every year for exhibits of the most varied kind, including groups, flowers of one species or variety, and single plants. The only restriction that was made was that no exhibitor should receive more than one Banksian Medal in any one year; but the Council ordered that an engraved certificate be given to each exhibitor for every succeeding exhibit he might make within that year, and which was otherwise deemed worthy of a medal. Encouraged by this, a Mr. Samuel Brookes, F.H.S., after receiving one medal, brought up a plant of Azalea indica with double purple flowers on the 16th of March, 1824, for which he received a certificate, and on the 6th of April following he received another certificate for a plant of Azalea indica with white flowers. These awards were equivalent to three Banksian Medals.

A Banksian Medal was awarded to Lady Long on the 3rd of March, 1824, for a flowering plant of Primula sinensis. Banksiau Medals were also given for a Providence Pine on Aug. 6, 1822; for a seedling Pear, called the Oxford Chaumontel, exhibited on Dec. 17, 1822; for Horse Radish "grown under peculiar treatment," and exhibited Mar. 4, 1823; for a flowering plant of Lilium longiflorum, exhibited on June 3, 1823; for Cactus speciosissimus, on July 18, 1820; for a plant of Azalea indica in flower, Feb. 20, 1821; for an early Cantaloup Melon, May 16, 1821; for specimens of a large oval black-berried Grape, Oct. 16, 1821; for cultivated Watercresses, Feb. 19, 1822; and for specimens of the Levant Melon, exhibited Oct. 16, 1821.

The Silver Medal of the society was also awarded in many cases where, according to modern ideas, such an award would be thought extravagant, or that encouragement for such exhibits was not particularly necessary. A Silver Medal was granted for a seedling Peach on Nov. 8, 1821; for the production of a new Providence Pine, Sept. 5, 1821; for the production and dissemination of the very superior variety of gardeu Rhubarb, called Buck's Rhubarb, Apr. 3, 1824; and to Elizabeth Davey, for her skill and attention in increasing the varieties of Geraniums during the last ten years, and particularly for a variety exhibited on June 6th, 1820.

Instances of this kind might be multiplied, but the following is an instance of encouragement which the Council has not of late been guilty of. On the 6th of April, 1821, an award of £3 was made to Mr. Wm. Christie, under gardener to the Horticultural Society, "for the care and attention given by him in composing his paper on garden Carrots, which is printed in the *Transactions.*"

Coming nearer to the present time, there are seven instances of the Liudley Medal having beeu awarded for single specimens of plants between the 18th of February, 1868, and the 21st of May, 1873. The plants were Cœlogyne cristata, Lycaste Skinneri, Lilium auratum, Phalænopsis Schilleriana, Vanda teres Andersoni, Nepenthes Rafflesiana, and Utricularia montana. All of the above cases, of which there are numerous other instances, tend to show that the giving of a Banksian Medal for Lælia Digbyana-Mossiæ would not have been without precedent. But why enumerate more? Are they not all chronicled in the *Transactions of the Horticultural Society*, in the books of the Royal Horticultural Society, and in contemporary periodicals?—*F.R.H.S.*

PEACH CULTURE UNDER GLASS.

The advent of warm sunny days after a period of unfavourable weather has resulted in a great stimulus being given to plant and fruit life, both indoors and out, which will be apparent to anyone who has the means of observation. In the Peach houses, the one where the fruit is colouring will be greatly beuefited by it, sun-heat being such a great essential to the perfect finishing and flavour of the fruit. Syringing the trees must be discontinued at this stage, otherwise the fruit will crack. When the crop is gathered, the ventilators should be thrown wide opeu, admitting as much air as possible, which will thoroughly ripen the wood. The trees should then be syringed, thus dislodging insect pests, as well as preventing them from obtaining any foothold. Attend well to the border in the matter of watering, for any neglect of this important duty will prove disastrous to the future well-being of the trees. Iu many cases this inattention is the chief cause of buds dropping off when starting, and about which not a few complain at that time.

In the house where the fruits have passed their stoning period, and are now swelling rapidly, strict attention to watering must again be advised, and manure water will now be found very beneficial. Syringe the trees morning and afternoon, closing early to utilise the sun-heat. Give a moderate quantity of air on warm days, and maintain a night temperature of 60° to 65° with a little fire heat. Tie in all the growth, while any of sufficient length can be pinched.

In the last house, where the fruits are about the size of marbles, work can be found. Thin out where the fruits are in clusters, or where there appears to be an abundance of them, deferring the final thinning to a later period. Disbuddiug will be finished in this house, while any unnecessary growth may be pinched at the third or fourth leaf from the base. Treatment similar to the foregoing holds good here, only close later, and lower the night temperature 5°.

In the last house the fruit will be set, and the chief work required will be the disbudding of the shoots. This operation is best done at intervals, then no check follows. Commence by rubbing off all ou the underside, ultimately leaving two or three, or more, according to the strength of the bearing wood, letting one remain at the base and another to carry the sap onwards. Retain only as much as is really needed, for it is preferable to do it now than allow a superflnity and cut it out afterwards, which is a waste of energy. Abundance of air should be given, and little or no fire-heat will be necessary. A sharp look-out should be kept for green or black-fly, and if any be detected fumigate at once, doing it twice in succession with moderation, as the foliage is tender, and an overstrong dose will soon injure the trees. The advisability of close watching is obvious when it is seen how this insect pest disfigures and cripples both foliage and fruit. This preventative should be adopted throughout all the Peach and Nectarine houses.—*F. R. S.*

THE PRIMROSE, THE COWSLIP, AND THE OXLIP.

Amidst all the discussions that have been raised concerning double Primroses, the garden Polyanthus, and the florists' Auricula, and the papers that have been written conceruing them, none of the respective authors have tackled the subject in so bold a manner as the Hon. and Rev. William Herbert. He was an excellent author in his day, aud a tolerably reliable observer on most occasions; but particularly with reference to his experiments on the Amaryllidaceæ, when he established a distinction between Amaryllis belladonna and the other species which are now included by the leading botanists in the separate genus Hippeastrum. He also demonstrated that there was no generic difference between the North American and other deciduous Azaleas with five stamens, and Rhododendrons having eight, ten, or more stamens. Azalea indica, to wit, has ten stamens, yet it is still spoken of in horticultural circles as an Azalea. Herbert, on the other hand, declared that they were all Rhododendrons, and modern botanists concur in that view.

He also experimented with various other subjects, and wrote respecting them; but it is to be feared that his views concerning the subjects of these notes are too radical and too sweeping to find acceptance at the present day. The following are his own words:—"I raised from the natural seed of one umbel of a highly manured red Cowslip a Primrose, a Cowslip and Oxlips of the usual and other colours, a black Polyanthus, a hose-in-hose Cowslip, and a natural Primrose, bearing its flower on a Polyanthus stalk. From the seed of that very hose-in-hose Cowslip I have since raised a hose-in-hose Primrose. I therefore consider all these to be only local varieties, depending upon soil and situation. I have raised a powdered Auricula and a Primula helvetica from the seed of P. nivalis, and I have raised a P. helvetica also from P. viscosa. I therefore esteem these Swiss Primulas to be local varieties of one species."

It would be interesting if it could be determined how he distinguished the Primrose, Cowslip and Oxlip, and whether he took the wild types as representations; because at the preseut day the cultivated garden forms have very little of the general appearance of either the Cowslip, with its cup-shaped flowers, or the true wild Oxlip (Primula elatior), with its naked or open throat, and yellow flowers. What is generally regarded as the Oxlip by gardeuers is merely a yellow Polyanthus, or garden plant, that may occasionally be picked up as an escape from cultivation. The English Oxlip—a name sometimes given to it—would not be an inappropriate appellation; but the true Oxlip is a scarce plant in this country, though very plentiful at least on some parts of the Continent. The cup-shaped and small flowers of the Cowslip all droop to one side of the scape for some time after expansion; but this character does not appear to occur amongst the cultivated forms of Polyanthus. Then again, there are no scales or thickenings in the throat of Primula elatior (Oxlip), such as form a stroug feature in the eye of the Primrose and garden Polyanthuses.

If his observations are to be relied upon, that he raised a Hose-in-hose Primrose from a Hose-in-hose Polyanthus, it would afford additional evideuce that the garden Polyanthus is intimately allied to the Primrose, if indeed it be anything more than au evolved form of it with the common peduncle elongated. All the three species, P. vulgaris, P. officinalis, and P. elatior, will hybridise with one another freely, but it is rather questionable whether the two latter have been much used in gardens either as seed or pollen parents.

The raising of a powdered Auricula from P. nivalis is also a very unlikely occurrence. The P. nivalis of gardens is, however, merely a white variety of P. viscosa, and the P. helvetica of those days was probably nothing else, and the raising of it from P. viscosa

merely proves the same thing. P. v. latifolia is a variety with violet flowers and a powdered throat, and may not the raising of a powdered Auricula from P. nivalis be correlated with this fact? The P. nivalis of the botanists is quite a different thing, and coming from the Caucasus, is not a European plant at all.—*J. F.*

FRUIT CULTURE AT SYON HOUSE.

Fruit culture, both under glass and in the open air, is a matter of great importance at Syon House, Brentford, one of the seats of the Duke of Northumberland. Generally speaking, crops grown under glass are more certain than those at the mercy of our proverbially fickle climate; but cultivators within range of the London fogs and smoke have difficulties to contend with, concerning which those living in the provinces know little or nothing. The greatest difficulty is caused by the deficiency of light in winter, augmented by the prevalence of fog and the impurities it contains. The gardens are surrounded on one side by buildings, while on the other side is the River Thames, from which and from the marshy level ground a constant moisture arises. Besides fruits of various kinds, vegetables are also forced in winter, and very successfully by Mr. Geo. Wythes, under whose able superintendence everything is conducted.

Fruits under Glass.

Several houses are devoted to the culture of Vines, and as the family resides here, or within easy distance during the spring and early summer months, it follows that forcing must be commenced early in order to get the Grapes ready during the time they are most required. The earliest vinery was closed prior to forcing the Vines about the first week in November, and the whole of the fruit has already been matured and cut in this house. Black Hamburg is the variety used both in the first and the second house. About half of the fruit is ready for cutting in the latter. The earliest Vines are grown on specially for the purpose, and in one house may be seen the eyes that have made a certain amount of growth; a second size may be seen in large pots in another house; and a third set are planted out in the bed of a house that will be closed for forcing in November. At present the Vines are being grown on strongly, but are not allowed to bear fruit.

One house is occupied with young Muscat Vines, which are making remarkably vigorous growth. The lower part of the rods is already bearing some fine bunches of fruit. Next to this is a house of Black Hamburgh Vines bearing a good and evenly distributed lot of bunches. Last year the crop was heavier, although the Vines had just been lifted and replanted. The two latest houses were not in bloom when we saw them, but promised well. The rods are large and old, and were losing in vigour when Mr. Wythes lifted and replanted them in fresh soil; the old border was taken out to a depth of 3½ ft. or thereabout, and refilled with entirely fresh material.

The first crop of Figs has been nearly all gathered, while the second one is heavy with the fruits already of some size. Two kinds only are grown—namely, the Brown Turkey and the White Ischia. The fruit of the first is of large size and pyriform, but although a favourite sort with many growers, is not so sweet and sugary as the smaller-fruited White Ischia. A large tree of it supplies a great quantity of fruit, which is held in high estimation by Her Grace the Duchess of Northumberland.

Peaches, both old and young, are carrying heavy crops under glass. In one house was a number of fine young trees, worked close to the ground, while their own stems are taken up to form the trunk. Trees so budded do not so readily become impaired in vigour, nor die off like those worked higher up. What are termed riders, having long stems, are planted to occupy the upper part of the trellis until the dwarf-trained ones have grown.

Of Strawberries some 4,000 are potted up for forcing during the winter and spring months. A large quantity is still in full bearing, including the leading kinds. Vicomtesse Héricart de Thury is a favourite, but Auguste Nicaise is highly recommended by some, and here promises to be serviceable. It is a good-sized fruit of cockscomb or triangular shape, highly coloured, and the foliage is of a rich dark green even in autumn and winter compared with that of other kinds.

Hardy Fruits.

It is yet too early to speak with certainty concerning the Apple crop, but this much may be said, that standard and bush-grown trees were heavily clad with blossom. An interesting experiment is being made with about fifty or sixty varieties of Apple. They are being grown on the horizontal cordon system with a single stem. The trees are planted 6 ft. apart, bent down, and taken along a stout wire. They are all taken in an easterly direction, and the intention is to graft the top of one on to the basal portion of the next. A fair crop of Pears seems to have set on the wall trees. Plums as standards have also set a good crop.

The Cherry is a favourite fruit at Syon House, and large numbers of trees are grown on walls, chiefly facing the north and east. Most of those on north aspect walls are Morellos. The trees were masses of bloom, and the Cherries are now seen to have set splendidly. Apricots on a west-aspect wall have set a good crop of fruit. With Peaches it seems to have fared differently, for although the trees were simply a mass of bloom, the fruits now visibly swelling form anything but a satisfactory crop—at least, compared with what one would have expected from the show of bloom. A fair crop may, however, be secured if those fruits now discernible pass the stoning period without dropping. There is plenty of bloom on the Strawberries, and if there be a moderate amount of rain after the fruits begin to swell, a good return may be expected.

THE BARBERRY OR BERBERRY.

The most common of the Berberries is Berberis vulgaris, which is found in our woods and hedgerows, the grateful acid of whose fruit has refreshed many a palate. The name Berberry appears to mean simply the fruit of the Berberis, but it bears another common title, that of Pipperidge or Piprage, meaning thereby red pip, a name descriptive of the colour and character of its small fruit, which seems to be rather a pip than a berry. Mr. Leo. Grinden states that the common Berberry counts with the Currant, the Gooseberry and the Raspberry, completing with these in its produce the quartette of what gardeners call "bush fruits." But its fruit has but little value; it merely serves as an elegant addition to the list of fruits, and can easily be dispensed with, for when absent it is not missed. "As usually seen, though not so tall when wild, it is a bushy shrub 3 ft. to 6 ft. in height, with abundance of slender pale brown twigs that nearly conceal the principal stem. Every part is studded with very sharp prickles, from the axils of which rise the obovate and serrated leaves, some of them singly, others in clusters. In May come the flowers, individually not larger than peas, but disposed in pretty racemes that hang from the arching twigs like jets of gold. The odour of these is powerful, and to many persons unpleasant. In due time they are followed by long pendulous strings of scarlet berries shaped like grains of rice, but thrice as large, rounded at the extremities, slightly curved, and intensely but agreeably acid." Such is a popular description of the Berberry.

It is not a plant altogether indigenous to this country. It is from Asia that the name seems to have been originally received. In the wild state it occurs in thickets and open woods, ranging over the greater portion of Europe and temperate Asia, and is found among the Himalayas. Mr. Grindon and other writers point out some of the curious botanical particulars that pertain to the Berberry. The growth while young is rapid; after the lapse of a few years there comes a sudden pause. Shoots and suckers from the base of the plant still make their appearance, but no particular increase takes place in the general dimensions of the plant, and in this condition it remains indefinitely—when undisturbed, it is thought, for a possible two or three centuries. Dr. Hogg points out that a singular circumstance is observable in the stamens of the Berberries, and particularly that of the common kind. They are all bent back to each petal, the concave tips of which shelter the anthers. No agitation whatever of the branch will have any effect upon them, but if the inside of the filaments be merely touched with a small piece of stick, a pin, or a needle, they instantly spring from the petals, and shake the pollen against the stigma. After irritation, the stamens will return to their original place, and on being touched again, will contract with the same facility as at first. This is a remarkable provision of nature. The anthers, bent back and sheltered from rain in the concavity of the petals, would probably never reach the stigma and thereby propagate the species were it not for this wonderful irritability. There they remain until some insect coming to extract honey from the base of the flower thrusts itself between the filaments, and almost unavoidably touches them in their most irritable part. The anthers rise and distribute the pollen on the stigma, and thus impregnation of the ovary is accomplished.

Another curious fact about the plant is that it formerly grew wild in great quantity in the hedgerows of England, but has been universally banished, from a general belief that its presence proved injurious to the growth of Wheat, from its power of communicating blight to it, and rendering the ears abortive. This supposed influence was believed to extend to a distance of 300 or 400 yards across a field, causing that part of the crop to be blighted and barren. It would appear that many experiments have been made by men of high scientific reputation to ascertain the truth of this rumour; by some it has been confirmed, and by others as distinctly denied, and the general belief now is, that it was entirely a popular delusion. The fact is, the Berberry and the Wheat are each subject to the attacks of a minute parasitic fungus, somewhat similar in appearance but quite distinct, the Berberry being attacked by its parasitic fungus, and the Wheat exhibiting that which is peculiar to it. In ignorance of the perfect distinctness of the two blights, the coincidence was laid hold of and attributed to the dispersion of the Berberry fungus upon the Wheat plants. The popular delusion, therefore, that the Berberry communicates blight to grain crops is now regarded by authorities as entirely without foundation.—*R. D.*

FORCING ASPARAGUS.

The system adopted at Syon House, Brentford, for the forcing of Asparagus in large quantities is an old one, but which might with great propriety be adopted in all private establishments where a large amount of this useful and esculent vegetable is required. The plan is to plant the Asparagus roots in long beds about 4 ft. wide. Between these, trenches about 3 ft. in width and several feet in depth are taken out, and then filled with fermenting farm-yard manure.

For the sake of economy a considerable number of these beds are formed alongside of one another, and the trenches filled with manure. A portion of them are protected with moveable wooden shutters, and if need be, with some dry litter, to preserve the crowns and economise the heat. Another portion of the beds is left exposed, so that some of them may be said to be hard forced, while others are only gently so. Those beds protected with shutters commence to furnish usable heads in February, and soon after this large quantities may be cut till those beds without shutters come into bearing. This they do a month earlier than those without manure in the trenches. The beds have all been entirely uncovered for some time, and still furnish heads if required. The same beds are not forced two years in succession. The earliest supply is obtained by forcing a few roots under glass.

NOTES FROM SCOTLAND.

The Weather and the Crops.—In reviewing the weather of the present year in the west of Scotland we have to hark back to 1884, in order to note a similarly mild period to that which we have just passed through; indeed, if we except the first week of March, which is, strictly speaking, a spring month, the past winter was a very mild one. During the first week of March the outside thermometer registered a range of from 5° to 16° of frost, the latter reading being noted on the 3rd. Although the season up to the end of April was remarkable for almost continual absence of sunshine, vegetables at that date were at least a fortnight in advance as compared with the same period last year. An old adage has it that "a warm May and a dropping June puts the farmers' pipes in tune"; but it is to be regretted that in the first half of the month the higher temperature was accompanied with so much moisture, which otherwise would have been more conducive to free healthy growth.

Reports are heard of much young Corn being destroyed by worms, while in gardens snails are unusually numerous and active. I am unable to speak of fruit prospects from a wide area, but so far as my knowledge goes small fruits promise an abundant crop. Cherries are exceptionally good on spur-pruned trees; Plums and Pears irregular; Apples on orchard wall and other trees good. Vegetables: A sowing of Carters' First Crop Peas usually made in November for a chance crop stood the winter well, the customary coating of red lead on the seed having been objected to by mice, and with the exception of one row on which snails had commenced operations this sowing presents an uniformity of growth equal to spring-sown crops. They are now (May 18th) almost in full bloom, and promise a very early gathering. Ellam's Early is still well ahead of all other Cabbages for spring cutting, and we have grown it for several seasons beside other sorts which were said to equal it. This season we began cutting heads on April 13th, or fully a fortnight sooner than last year. The percentage of "bolters" is but nominal.—*Western.*

FLORICULTURE.

Potting Auriculas.

It would, perhaps, be best if I used the term re-potting Auriculas, for this is an annual operation of the first importance. It means giving the plants new soil and clean pots as soon as possible after the flowering season. The earlier it can be done the better, because almost immediately the plants find themselves in fresh soil they put forth their summer growth, and this growth has much to do with the production of a fine head of bloom the following season. The Auricula growers of our day—meaning thereby the men who are the leading exhibitors at our Auricula shows—now adopt the practice of potting early, as soon, indeed, as the plants pass out of bloom; we may say about the middle of May. Those who save seed prefer to re-pot at a later period of the year, because they do not wish to peril the chances of the seed ripening; but the generality of those who grow for shows do not distress their plants in this way.

It is sometimes objected, in respect to early potting, that it is said to encourage what the Rev. F. D. Horner terms "that untoward Primulaceous trick the Auricula has of blooming in the autumn"; but he adds—he who adopts the practice of early potting—"I do not find this true autumn blooming is a family feature among the Primulas (of which the Auricula is one), and in a great measure it is beyond our control. Some varieties are more constitutionally given to it than others, and if the untimely display be unusually wide-spread, it is due either to existing causes in the autumn weather, or to some check the plants have suffered in the summer, inducing them to throw up their flower-stems prematurely, as if in an effort to save their species by attempting seed."

But there is another objection to early potting—viz., that the effect of early potting is for the soil to become impoverished by the following spring, thus losing its richness and therefore its ability to keep the plants in full vigour by repeated waterings. Our premier Auricula grower combats this reasoning in the following way:—"The plants themselves refute this by their unabated vigour, and the fact is ignored that rain-water is no barren liquid that can bring no refreshment to the soil; and further, that the Auricula is not a plant that ever requires heavy water treatment. On the other hand, early potting is distinctly grateful to the plant after its exertions of flower-bearing. It responds with greater readiness to the gentle stimulus of fresh sweet soil, and there are many of the best new roots just in the condition for being disturbed without being broken off.

"By the time of autumn growth the plant is completely re-established, and can devote itself to its work in a frame of mind not anxious, nervous, nor disturbed. However, both 'late' and 'early' potting are successful methods, and new growers must make choice for themselves, remembering always these two points—to plant Auriculas firmly, and not to water newly-potted plants until they plainly ask for it. The soil should be genially moist, friable, not wet, and no earth allowed to cover the base of any leaves."

Mr. T. E. Henwood thinks that the Auricula would be benefited by two re-pottings—one in May, and one in October, or even a little earlier. I think it would greatly benefit the plants; but this operation twice in the year might be objected to on the ground of the trouble it entails.—*R. D.*

New Tuberous Begonias.

Magnifica.—Improvements are still being effected in the roundness and regularity of the flowers of this beautiful class of plants. In the wild species the two inner sepals of the male flowers are very small, causing the bloom to be irregular and disproportionate. Here the inner ones approach the others in size, so that the whole flower is nearly or quite orbicular. It is a single rich scarlet variety. Gigantea.—The flowers of this variety are very much larger than those of Magnifica, equally regular, but paler in colour, being of a soft rosy red. Both male and female blooms are large and worthy of retention, the former having four, and the latter five sepals of great breadth. The stems are tall and stout. These with Stanstead Gem already described were exhibited by Messrs. J. Laing & Sons, Forest Hill, at the Royal Botanic Society's show on the 15th inst., when they were awarded Floricultural Certificates.

Imogen.—The flowers of this variety are large and fully double, but the sepals are broad and nearly flat, not too deusely crowded, as is the case with some of the earlier kinds. The whole is of a uniform soft pink. The Hon. Mrs. Goschen.—A double flower of large size and of a beautiful creamy white tinted with blush. It is made up of numerous rosettes, possessing broad sepals, moderately loosely arranged so as to allow of their perfect development. J. Douglas.—The flowers of this form are equally large, if not larger, than those of the two last mentioned double, and made up of numerous rosettes of soft rosy red sepals, somewhat undulated, like those of a Hollyhock, and not too crowded. The foliage is ample and good. J. Marshal.—Flowers large, bright scarlet, made up of numerous small rosettes, as is most frequently the case in double flowers. The individual sepals are beautifully undulated. All the four were exhibited by Messrs. H. Cannell & Sons, Swanley, Kent, at the Royal Botanic Society's show, Regent's Park, on the 15th inst., and received Floricultural Certificates.

Gold-laced Polyanthuses.

I have just received from Mr. John Pope, of the King's Norton Nurseries, Birmingham, blooms of George IV. and Cheshire Favourite, with the following note:—"I enclose blooms of George IV. and Cheshire Favourite, from plants that have been out of doors two winters, and for one year absolutely without protection. My belief is that by having them planted out and not disturbed we may get the old constitution back again into these plants." The blooms sent were in fine form. The late Charles Bullock, of Wolverhampton, grew his out of doors winter and summer, but the garden was in an elevated position, with good natural drainage. The same condition of things exists at King's Norton. I have seen in Charles Bullock's garden in the summer-time sturdy plants of Lancer and other kinds which had been grown without any protection in winter, and since I began writing these few notes a grower has dropped in, who says that the pips of George IV. just sent to me are very much larger than on any plants he has in pots, remarking that he shall give up "coddling" them as he has done, and go in for more hardy treatment. I have also received from Mr. Pope a flower of the new fancy Pansy, John Pope, named after him by one of the Scotch florists. It is a grand variety, being a great improvement upon W. Dean, Alexander Barrie and others of that class. Lower petals rich gold, with an immense black-violet blotch and richly-marked upper petals.—*W. Dean, Solihull.*

The Carnation Maggot.

In compliance with your request (p. 596), I forward some leaves of a plant which is badly affected with some kind of maggot, which I am led to believe is somewhat different to the pest that usually infests these plants, as its effect is contrary to what I have usually observed. The plant has grown to good dimensions laterally, but not at all vertically, and is the only one affected in this way out of some 200 plants.—*Richard Vesey, Clapham.* [The base of the leaves bears evidence of the larva of some insect having been at work, and which we believe to be the one so much complained of, but there were none present.—Ed.]

TOWN SHRUBS.

Osmanthus ilicifolius is not only one of our handsome evergreen shrubs but is likewise one of the few that succeeds in a really satisfactory way when constantly subjected to the impurities of a town atmosphere. Both in London and Liverpool, and in the smokiest districts too, it is unquestionably the best all-round shrub, and seems to succeed there in almost as commendable a way as it does in the most sheltered and pure-atmosphered country park or garden. The leaves are thick and of firm substance, and resemble those of the common Holly in a marked degree; while the tiny flowers are not at all conspicuous, being of a dirty white or yellowish green.

Ligustrum coriaceum is a fitting companion to the latter, so far at least as its powers of withstanding the effects of an impure and smoke-laden atmosphere are concerned. Being an evergreen species it is, in conjunction with its smoke-defying quality, peculiarly well suited for planting in the town garden, where it grows with a freedom that is excelled by few other hardy shrubs. Judging from the behaviour of a number of specimens that were experimentally planted in one of the most smoky of our town thoroughfares, this Privet will yet become a valuable adjunct to the somewhat meagre list of suitable subjects for planting in such situations, but it is at present not half so well known as its merits deserve. Then it is easily managed, a non-fastidious plant as regards choice of soil, one that is of the readiest increase, and bears hard thinning in with perfect impunity.

Aucuba japonica.—This well-known shrub has been found of great value for planting in urban districts, it being able to do battle with a more than ordinary amount of atmospheric impurities. For this reason it has been largely planted in town squares and gardens, and there, indeed, in the most crowded and densely populated parts. As an ornamental shrub, too, the Aucuba is well worthy of extensive culture, its fine, large, glossy, and beautifully mottled leaves being at all times objects of admiration. It is readily raised from cuttings, grows with great freedom in any soil of ordinary quality, and as an ornamental hardy shrub is one of great value.

Griselinia littoralis.—Although a little-known shrub as yet, this is peculiarly fitted for town planting, experiments on a somewhat large scale in a smoky garden in the midst of one of our largest centres of industry having proved that it is a most valuable adjunct to our rather sparse collection of shrubs suited for such a purpose. The appearance of the plant, with its deep green, glossy and somewhat succulent leaves, is most pleasing, and as it grows freely in soil of ordinary texture, and is readily enough propagated, it is to be hoped that before long it will meet with that notice that as a valuable hardy shrub it is fairly entitled to.—*A. D. W.*

THE MERTENSIAS.—I.

The species of Mertensia are closely allied to the Pulmonarias, under which name many of them were formerly included by Linnæus, and other old authors; and even in gardens at the present day they are frequently met with under that name. Various other species have been classed under Lithospermum, Steenhammera, Oreocharis, Eritrichum, and even Myosotis (the Forget-me-not). It will be recognised at a glance, however, that they are closely allied to the Pulmonarias, but the calyx of the latter is tubular and shallowly divided, while that of the Mertensias is separated almost to the base. The length of the corolla tube varies immensely. Those of them which are perfectly hardy are easily grown in any good garden soil, and some of them delight in partial shade. Propagation is easily effected by division of the rootstock. Most of them may be grown as pot plants, for which they are well adapted, especially the erect-growing ones; while some of the smaller kinds are extremely pretty. They are natives of the old and new worlds, chiefly in moist places on the mountains, or in their valleys and defiles. Our native species, M. maritima, is scattered all round the northern hemisphere, chiefly on sandy and muddy seashores, and extends into the arctic regions. There seems to be two head-quarters of the genus—namely, the Himalayas and the Rocky Mountains, where they occur in abundance, but are not exclusively confined to those places.

M. tibetica.—The habit of this plant is very much like that of a Forget-me-not, and one author names it Myosotis tibetica. The spathulate leaves are arranged in a tuft at the base of the stem, which rises up to a height of from 3 ins. to 6 ins., bearing a one-sided raceme of blue flowers, with a tube about ¾ in. to 1 in. long. It occurs at Karakorum, on the Tibetan side of the Himalayas, at an elevation of 14,000 ft. It has not been introduced.

M. elongata.—The stems of this plant are leafy, and 6 ins. to 12 ins. high, bearing a terminal raceme of blue flowers. As it occurs in the Kashmir Territory at an elevation of 10,000 ft., it would probably prove pretty hardy in this country.

M. Moltkoides.—Short upright-flowering shoots are given off from the prostrate main stems of this plant, and bear dense unilateral racemes of blue or purplish blue flowers, with a short tube, but comparatively large limb. It inhabits the western and north-western Himalayas, ranging from 5,000 to 7,000 ft. elevation.

M. echioides.—The stems of this pretty species rise to a height of 6 ins. or 10 ins., clothed with spathulate hairy leaves, and terminate in short dense racemes of blue flowers with a short tube. The plant has not inaptly been compared to an Echium or Bugloss, as the specific name implies. It occurs in the Pangi Valley and Chumba, on the Himalayas, at an altitude of 7,600 ft.

M. primuloides.—Although compared to a Primula, it might as happily have been compared to a Gentian,

for the resemblance is very striking, both in the dwarf stems (1 in. to 3 ins.), the radical tuft of spathulate leaves, and the dense head of deep blue flowers, which are proportionately large for the size of the plant. It occurs in certain districts or localities of Kashmir, and grows very profusely on the southern and western edges of hills, at altitudes varying from 11,500 ft. to 13,000 ft. In its native habitats, when growing profusely under favourable conditions, it must simply be lovely. As it inhabits several of the Himalayan valleys and ranges, it is rather to be regretted that such a gem has not been procured for our gardens at home. There are taller-growing forms of the species.

M. RACEMOSA.—The short-tubed white flowers of this plant render it remarkably distinct from any other species. They are produced rather sparingly, but under favourable conditions are pretty. Both in size and colour they may be compared to those of Omphalodes linifolia, belonging to the same family. It is a native of Kumaon, on the Himalayas, at an altitude of 8,600 ft.

M. SIBIRICA.—The number of synonyms with which this plant is hampered is evidence, to a certain extent, of its wide distribution; for it is not confined to Siberia, but extends over a considerable portion of Eastern Asia and North America, particularly on the Rocky Mountains. In Colorado it ranges at elevations between 10,000 ft. and 11,000 ft. Since 1801 it has been more or less widely cultivated in this country, and constitutes a beautiful border plant about 18 ins. high, much branched, and bearing numerous terminal and axillary racemes of flowers that vary greatly from bright blue to white. The foliage has a beautiful glaucous tint, characteristic of a great number of the species of Mertensia. It is quite hardy and vigorous. The radical leaves are broad and heart-shaped, or sometimes reniform, while the stem-leaves are ovate or lance-shaped. Linnæus named it Pulmonaria sibirica, while another authority called it P. denticulata, and others Mertensia denticulatum, Lithospermum sibiricum, and Steenhammera Pallasii.—*F.*

THE NEW BI-GENERIC HYBRID ORCHID: LÆLIA DIGBYANA-MOSSIÆ.

LÆLIA DIGBYANA-MOSSIÆ.

BEING to-day enabled to give an illustration of this remarkable bi-generic hybrid, commented upon in our last, we again revert to the subject. It was obtained from seed of Cattleya Mossiæ, fertilised with pollen from Lælia Digbyana. According to horticultural practice, the rule is, when simply indicating the parentage of a hybrid, to write the seed parent first followed by a × and then the pollen parent, thus—Cattleya Mossiæ × Lælia Digbyana; but in the compounding of a Latin name from two others, the male parent amongst plants is considered the most important by leading authorities, and that must be taken as the explanation for the above arrangement of the specific names of the two parents of the hybrid in question. The pseudo-bulb (not shown in the illustration) is oblong, somewhat flattened, and covered by thin, dry, pale-coloured sheaths. This is terminated by a solitary, oblong, emarginate, channelled, leathery leaf, which is deep green and tinted with a bronzy hue. Perhaps the most remarkable feature of the hybrid is that the form of all parts is so nearly that of Lælia Digbyana, the male parent, while the colour is derived from the seed parent. The shape, however, as well as the beautiful soft rose colour of the sepals, is that of the female parent (Cattleya Mossiæ). The petals are similarly coloured, but broader, oblong-elliptic, and toothed at the margin. As stated in our last issue, the lip is formed like that of Lælia Digbyana, with a widely-expanded lamina and a deeply-lacerated or fringed margin. The lamina is variously veined and marked with the same rich purple seen in some of the forms of Cattleya Mossiæ; the crest-like elevation of the male parent is discernible but is not very bulky. Botanically, one of the most interesting features of the new comer is the beak or elongation of the ovary, which is itself very short. This beak is a character very strongly developed in the genus Brassavola, in which Lælia Digbyana and D. glauca used to be included, and in the bi-generic hybrid it is 4 ins. long, including the ovary. We may safely say, speaking both from a botanical and horticultural point of view, nothing so remarkable, and at the same time so beautiful, has been produced amongst Orchids for a long time.

The Amateurs' Garden.

Dahlias.

The tubers that were put into boxes some time ago, and placed in a warm corner of the greenhouse or elsewhere, will now be sprouting freely. If it be intended to divide and make the most of the roots, the operation should be accomplished before the shoots have attained any great length, otherwise they are difficult to re-establish by amateurs who have but little artificial heat at their command for propagating purposes. Weak and slender shoots that are severed from the rest of the plant with a small amount of roots attached to them flag so much after the operation that they are a long time in recovering. Those who have command of sufficient fire heat take off cuttings without any of the old tuber, and root them. The best plan for amateurs, however, to pursue is to take off pieces or tubers of the old plant with a bud attached to them. This, inserted in the soil, will grow away with little check, and soon make good established plants. In doing this, however, care must be taken to secure a bud on the top of each tuber or piece of one, because the lower part of tubers seldom or never produce buds, and the roots would therefore be lost.

Tuberous Begonias.

Even in cases where the tubers have been kept back for want of proper heating appliances, they will now be starting away freely, and those in possession of a greenhouse only will be able to make a fine display with just a few good tubers. Very little (if any) artificial heat is required, and the only difference between plants so treated and those started in a stove is that the former will be later in coming into bloom. It is a mistaken idea—entertained not only by amateurs, but even yet by some professionals—that tuberous Begonias require a great amount of heat. They are so nearly hardy that many of the stronger varieties will outlive the winter in moderately dry soil in the open border. If the plants are still in the soil in which they were grown last year, no longer time must be lost in having them re-potted. Before doing so give the soil a good watering some time previous to the operation, so that the old material may drop away readily and allow room for as much fresh soil as possible. Should they already be growing in small pots give a size larger, and as soon as the plants are established put them in a cool airy house with plenty of light.

Double Primroses and Polyanthus.

As soon as these go out of flower they should be lifted and divided, if it is desired to increase them. In those places where they are used for spring bedding purposes, they must soon be lifted to give place to the summer occupants of the beds. At this period of the year they should be transferred to a shady border of good, holding, rather moist soil, where they will not only be able to exist during the drought of summer, but to make good growth. The finest of the single kinds may be marked while in bloom, and retained for future planting. All worthless kinds may be thrown away or planted at the margins of shrubberies. Seeds may be saved from the very finest varieties, and in this way a valuable strain may be secured. After transplanting at this season, give a heavy watering.

Vines.

The present is a very important time for regulating the growth of young and growing Vines, which amateurs, as a rule, neglect till they form such an intricate mass of growth that the production and ripening of fruit becomes impossible. Vines should be trained to one, or a few rods, but in small greenhouses a number of rods are allowed. Whatever the number, there should be 3 ft. of space between every two rods, and the latter should be trained along the lower angle of the roof, and when at the proper distance apart taken straight to the top of the house. It will not be possible to furnish all the rods during the first season, but this can be done gradually. Then supposing that these upright rods are now in position, and producing lateral shoots, the flower bunches will now or soon will be quite apparent, and when this is the case the point of the bud should be pinched out just beyond the first or the second leaf—preferably the latter if there is plenty of room for the leaves to be fully exposed to the light. Growth will soon commence again, producing secondary laterals; all of these should be pinched beyond the first leaf, and crowding rigidly prevented. Crowding prevents the free access of light, and hinders the ripening of the wood, hence the cause of so many Vines in amateurs' houses being unfruitful. The thorough ripening of the wood by exposure to light and the absence of crowding will go a long way to ensure success. The process above detailed should be closely attended to from the commencement, and if a little attention is given to the theory of it there will be no difficulty in carrying it into practice, with good results.

Gardening Miscellany.

The Japan Quince.

When nailed on walls there are two methods of treating this tree, or rather bush. Pyrus (Cydonia) japonica, when subjected to artificial treatment, acts very differently, according to the method adopted. When subjected to the spur system it always looks neatest when grown on a wall, but the production of bloom is almost invariably scanty compared with plants treated in a more natural way. At Gunnersbury House, Acton, Mr. Hudson trains the leading upright shoots to a wall, and allows the lateral branches to grow away freely from the same. When treated in this way there is no inclination to develop strong rampant shoots, but a twiggy growth is made which flowers freely. For some time past the plants have been a mass of bloom; and as the wall abuts on the pleasure ground the effect is striking, the more so as the other subjects grown there are in keeping with the Pyrus. Clematis of various kinds, Roses, including R. multiflora, come into bloom later on, and keep up a display during the summer.

Kalanchoe carnea.

The genus Kalanchoe is closely allied to that of Bryophyllum, as is evidenced both by the flowers, foliage, and habit of growth. The leaves, curiously enough, are of two distinct kinds; one is ovate and crenate, but otherwise undivided, while the other is pinnately divided. The plant may be grown to the flowering stage while it bears the simpler kind of leaves only, as we have occasionally seen it in this country. It has, however, only been recently introduced, and we cannot yet say definitely how it may behave under artificial treatment. There is a specimen at Gunnersbury Park, Acton, bearing large opposite leaves divided to the midrib into three distinct leaflet-like segments, with much of the general appearance of a Bryophyllum. The vigour of the plant must be held accountable for this kind of behaviour when it is well known that specimens may be flowered satisfactorily while bearing undivided leaves only.

Wild Mountain Hybrid Daffodils.

In reference to what I stated in last week's issue of The Gardening World, I forgot to mention that the Bernardi group have been growing here since 1886, and it is only this year that I have noticed how closely they fit the best Longford Bridge forms. Many wild Daffodils are like our garden seedlings, not exhibiting their true characters for three or four years after first flowering. For instance, when Muticus first bloomed with me in 1886, it was wretchedly small, but now many of the flowers are the size of Emperor. We shall yet have scarlet Daffodils of the Nelsoni class.—*W. B. Hartland, Cork.*

Ramondia pyrenaica alba.

Compared with the purple flowers of the type, the white variety is chaste and beautiful, especially by contrast. With the exception of the anthers and a ring at the base of the corolla, which are of a deep yellow, all the rest is pure white. The flower scapes only rise about 2 ins. or 3 ins. above the wrinkled, hairy foliage. A Botanical Certificate was awarded to it by the Royal Botanic Society on the 15th inst., when it was exhibited at their summer show by Messrs. Paul & Son, Cheshunt.

Ligularia Kæmpferi variegata.

The plant under notice is considered old-fashioned, and therefore is greatly neglected in gardens at the present day. It was formerly to be found pretty frequently in conservatories, and also as a half-hardy ornamental-foliaged plant that could be used in a variety of ways out of doors during summer. As flowers are seldom produced, the utility of the plant is dependent on its leaves, which are large, orbicular, with a cordate base, resembling to a great extent those of Petasites or Tussilago, variously and often extensively variegated with creamy white. This plant flowered recently in the large winter garden or conservatory of Messrs. Hooper & Co., at Maida Vale. The flower-stems and yellow flower-heads resemble those of the hardy Ligularias grown in herbaceous borders, and may also be compared to those of a yellow Senecio, to which they are closely allied. The plant under notice is very vigorously grown, and near by it is the other variety L. K. aureo-maculatum, better known under the name of Farfugium grande, and noteworthy on account of the large yellow blotches on the leaves. The typical green form does not seem to be in cultivation.

Fritillaria recurva.

A large number of the Fritillaries have flowers varying as to size, but a great proportion of them have not very brightly nor attractively-coloured blooms, owing to the dull brownish green ground of the segments, which are usually heavily chequered with deep brown. The subject under notice is a Californian species, with stems varying from 1 ft. to 2 ft. in height, according to their strength. They are, like most of the other species, rather sparingly furnished with linear, glaucous, deep green leaves, more or less tinted with a bronzy hue. The flowers, which are borne on a single stem, vary from one to nine, according to the strength of the plant, and are upright or somewhat nodding, bell-shaped, and beautifully chequered with scarlet on a bright yellow ground. The markings are more distinct internally than externally, where the scarlet is more diffused over the yellow. It is certainly a graceful, handsome and very distinct species, and takes its name from the segments, all of which are recurved or revolute at the tips. Flowers of it have recently reached us from Mr. T. Smith, Daisy Hill Nursery, Newry, Ireland.

Hoya imperialis.

Although introduced as long ago as 1847 from Borneo, this grand species has not yet found many cultivators; but it has no doubt been tried and given up by many on account of its being more difficult to grow and flower successfully than most of the other kinds now in cultivation. Mr. Hudson has flowered it several times at Gunnersbury House, Acton. The old spurs are not cut away after having bloomed, but are allowed to remain. The floral axis continues to elongate for several years in succession, producing fresh umbels of bloom. The plant in question showed plenty of flower-buds during the winter months, but owing probably to the unfavourable nature of the weather and the defective light, they dropped. It has recently been re-potted, and has taken favourably to the change, for at the present time there are twelve trusses of flowers in various stages of advancement, some being on the point of expanding when we saw them recently. The flowers are reddish brown, certainly not very brilliant; but their great size, coupled with the thick, waxy, and noble aspect of the blooms, constitute it an object of great interest in a stove or warm conservatory.

Aubrietia tauricola.

The name of this would indicate that it was an inhabitant of Mount Taurus. It is a beautiful dwarf and compact variety, and like all the other Aubrietias, is a variety of A. deltoidea. The flowers are small, violet-purple, and produced in dense masses, forming a cushion about 1 in. or 2 ins. above the foliage. A piece of it finely in bloom was shown by Messrs. Paul & Son, at the Royal Botanic Society's show last week, when a Floricultural Certificate was awarded to it.

Tiarella cordifolia.

So chaste and beautiful and so profusely produced are the flowers of this species, that the plant ought to receive a more extended cultivation. It belongs to the Saxifrage family, and from the midst of a dense tuft of heart-shaped leaves it sends up a great profusion of scapes, bearing racemes of white flowers with long stamens and pale yellow anthers. The plant is perfectly hardy and suitable for rockwork. Exhibited by Messrs. Paul & Son, at the summer show of the Royal Botanic Society on the 15th inst., when it was awarded a Floricultural Certificate.

Thalictrum aquilegifolium rubrum.

The typical form of this is an erect-growing herbaceous plant, with moderately finely-divided foliage compared with that of T. minus, and the stems attain a height of from 3 ft. to 5 ft., bearing a large panicle of flowers with a profusion of long, creamy white stamens. The latter constitute the sole beauty of the flowers, and in the variety under notice the long filaments are rose-coloured, with small pale yellow anthers. The stems are generally 2 ft. or 3 ft. high, rendering the plant a

showy one for the herbaceous border. A pot specimen was exhibited by Messrs. Paul & Son at the last Royal Botanic Society's show, when a Floricultural Certificate was awarded it.

Primula Sieboldi, Crimson King.

The flower stems of this new variety are about 10 ins. in height, and bear a truss of large deep crimson-purple flowers with very broad segments. It will prove useful for pot or out-door culture. A specimen was shown by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, at the summer show of the Royal Botanic Society on the 15th inst., when a Floricultural Certificate was awarded it.

Edraianthus serpyllifolius.

The genius Edraianthus is closely allied to that of Campanula, but has been united with Wahlenbergia, which is separated from Campanula by the fact that the capsule opens above instead of below the calyx limb. There are about eighty species, of which few are introduced. E. serpyllifolius has short decumbent stems furnished with linear leaves, and terminated by a single, terminal, erect, rather large purple flower. The rootstock is stout, and gives off a number of these slender stems that radiate on the soil around it. A specimen was exhibited by Messrs. Paul & Son at the Royal Botanic Society's show on the 15th. A Botanical Certificate was awarded to it.

Asplenium scandens.

Scandent or climbing Ferns—that is, those that climb by throwing out roots from an upright stem, are comparatively rare. In this case, however, the stem elongates very slowly, and bears its arching leaves in a crown much after the manner of better known kinds. The leaves are lanceolate in outline, and three or four times pinnately and finely divided, with a graceful appearance. Exhibited at the Royal Botanic Society's show on the 15th inst. by Messrs. J. Veitch & Sons, Chelsea, who received a Botanical Certificate.

Aciphylla squarrosa.

A male specimen of this, the Bayonet Plant or Wild Spaniard of the New Zealand settlers, was exhibited by Messrs. J. Veitch & Sons, Chelsea, at the summer show of the Royal Botanic Society on the 15th inst. The leaves are cut up into numerous bayonet-like, spiny-pointed segments that are densely crowded in a rounded bush, but point in all directions, forming a most effective defence against browsing animals. The male flowers are densely arranged in a compound cylindrical spike, and are well protected by forked spiny bracts similar to the leaves, but smaller. A Botanical Certificate was awarded it.

Boronia heterophylla.

When the flowers of this beautiful West Australian species first expand—or, at least, when in their prime—they are of a brilliant or intense rosy purple; but after the plant has been in bloom for some length of time, the flowers gradually fade to rose, and ultimately become almost white, except at the base of the petals. Anyone seeing the plant at different phases of its flowering period would readily take it for granted that the plant was subject to variation, and that bad forms as well as good were in cultivation. To a small extent this may be true when the plant is raised from seed; but the variation is by no means so great as that indicated, because old flowers that are primarily very dark become pale as they are about to die away. The blooms as well as the foliage are fragrant. The latter, like all other members of the Rue family to which the Orange belongs, are thickly beset with glands containing a fragrant oil. We noticed the plant recently at Gunnersbury House, Acton.

New Holland Pitcher Plant.

The popular name here mentioned is not inaptly applied to Cephalotus follicularis, a West Australian herb, which although bearing no affinity to the true Pitcher plants (Nepenthes), yet the structure and general appearance of the pitchers represent a remarkable and apparently accidental coincidence which would be difficult to account for. Most or all of the leaves of Nepenthes bear pitchers or their aborted representatives which have become arrested in growth, whereas the foliage of the Cephalotus is distinctly of two kinds, one of which is so modified as to be concerned wholly in the formation of the pitcher, while longer-stalked and more erect kinds are lance-shaped and flat, and make no attempt at forming a pitcher. The latter is dark green, more or less blotched or splashed with purple, and are furnished with a double set of pairs of wings instead of one pair, as in the Nepenthes. The glands in the pitchers secrete a fluid which has the power of dissolving or digesting insects in the same way as the true Pitcher plants. There are some old plants and a fine batch of small specimens in the Pine Apple Nursery of Messrs. Hooper & Co. at Maida Vale.

Funkias as Pot Plants.

Most or all of the Funkias are deserving of cultivation in the open border, both on account of the ornamental foliage and, in some cases, of the flowers, which are not only handsome and Lily-like in F. grandiflora, but are deliciously fragrant. Several of them are specially noteworthy for the beauty of their foliage under glass when the plants have been lightly forced in spring, a purpose for which they readily prove themselves amenable. The undermentioned are grown in this way in the Pine Apple Nursery, Maida Vale. F. Sieboldii is well known for the great size of its glaucous leaves, but in colour it is surpassed by F. Fortunei, although not in size. The latter is a capital plant for pot culture, on account of its dwarf habit and deeply glaucous leaves that retain this character all the summer out of doors. When developed under glass, however, the fineness of the tint is greatly enhanced by the clean and unsoiled appearance of the leaves. Two forms of F. ovata or the old Hemerocallis cœrulea are grown here, both under the name of F. ovata aurea. The leaves of the one which is undoubtedly the true variety are wholly of a soft or pale yellow, while those of the other form are pale yellow, with a green margin. Both are certainly worthy of cultivation in pots.

Large-flowering Pelargoniums.

As I have before remarked, in these days of cut-flower decorating, when the cry is always for more of something to cut from, these plants are beautiful when well done, but an eyesore when seen as "R. D." so aptly describes, and seldom receive the attention as regards structure and space sufficient to produce good plants. I have seen and admired the show varieties exhibited by Ward, of Leyton, and the zonals of Catlin's production. We sometimes hear specialists referred to as being selfish for the advancement of their own particular favourites, but to my mind that is the way to see a subject brought out in all its glory. As "R. D." says, few gardeners can allow space or time to these plants, or to other hobbies of their own, and seldom have the structures adapted for their successful cultivation.—*Geo. Potts, Junr., Northiam.*

NOTES ON VEGETABLES.

The Teaching of Gardeners.

I am an amateur, having an abundance of leisure, and a passion for gardening, but my business having for some years claimed the largest share of my thoughts and time, it is only during the last few years that I have had what may be properly called by the dignified name of a garden, and needless to say that my knowledge of the subject is of the most limited order. Still, I am a voracious reader of the gardening papers, your own among the number, and to the valuable teaching and advice of professional gardeners that is therein contained—I say it with pleasure—I am solely indebted for any little cultural success which I achieve. Many things I read with satisfaction, and the most profitable to me, and doubtless to many others, are those letters which tell me what to avoid. The man, in fact, who humbly chronicles his failures and tells the whole truth is the man for me, and not the clever individual who makes much sound, which means little. Fortunately for readers the latter are in a minority.

Sometimes, however, when I see an attractive headline, I read on, and acquire some fact which is of use to me, but now and again I am "riled" by the absence from a communication of the very thing which I feel I ought to know, or would like to know. An instance of this kind occurs in one of your contemporaries of last week's issue—a paragraph on early Cabbage—in which the writer gives the result of a trial of six varieties, five of which—all duly named—have done well, while the sixth, in vulgar parlance, "went wrong," in fact bolted wholesale, but its name is not even hinted at. The omitted name, however, is just the one thing needed to make the writer's statement valuable. I do not want to buy such an article as this, but how am I to avoid it? I see the best things of certain firms frequently alluded to in laudatory terms, but nobody condemns the rubbish. Why is this so?—*Querist.*

CULTURE OF THE BALSAM.

Upwards of 140 species of Balsam (Impatiens) are known to science, but of these comparatively few are to be seen at any time under cultivation. Of hothouse species, perhaps, none excel I. Hawkeri, I. Hookeri, I. Sultani, I. Jerdoniæ, and I. Balsamina under notice. A large proportion of them are comparatively weedy in their nature, and many have insignificant flowers. The common Balsam is also sometimes named Balsamina hortensis.

A good time to sow seeds is about the last week of March or the first of April. Seed pans should be well drained, and filled with light, rich, sandy soil, and after sowing the seeds, placed in a propagating pit or similar place, such as a hotbed with a bottom-heat of about 65°. Here the seedlings will soon germinate, and must be placed immediately in a light position near the glass to prevent drawing, to which their soft, quick-growing stems are very liable. As soon as the first or seed leaves have attained their full size and become firm, the seedlings may be potted off singly in 60-sized pots, using a somewhat heavier or more substantial compost. Those who have attended to seed sowing in time will now have the plants well advanced.

Some growers avoid the first shift by sowing two or three seeds in a pot, and pulling out the weaker ones after it can be seen which are the best to leave. In potting them off, however, the leggy appearance often presented by the plants can be more or less overcome by keeping them well down in the pots, so that the cotyledons will be close to the soil. No shoots are given off below the first or seed leaves.

As soon as the roots have pushed through the soil and touched the sides of the pots, it will be high time to transfer the plants to larger pots, and this may be continued till they are in 8-in. or 10-in. ones, which for all ordinary decorative purposes will be large enough, provided the other cultural points have been well attended to. If the summer turns out a moderately warm one, the plants can be grown to tolerable perfection in cold frames; but heated pits or a span-roofed stove would encourage them to make a much greater development. When grown in a high temperature, there are certain conditions that must not be overlooked. Under any circumstances they must be thoroughly exposed to light in close proximity to the glass, in whatever kind of house they are grown; secondly, free ventilation should be given during the greater part of the day, and the atmosphere of the house should be kept moist by damping down and syringing. The higher the temperature the more necessary it is to keep the house moist. The plants when growing vigorously must receive an unstinted supply of water at the root, never allowing them to flag.

Before the plants get any great size flower buds will appear on the main stem, and must be picked off as soon as they can conveniently be got at. By this means the side shoots are encouraged to make a more vigorous growth, and should be spread out or tied down to neat stakes, or to a wire carried round the rim of the pot. This encourages a free development of laterals, whereas, if the plants are allowed to expand the first-formed flowers, or to carry seed-pods, they soon exhaust themselves, and are comparatively useless and insignificant for decorative purposes. Grand exhibition specimens have been successfully reared under the above treatment.

Those who have not the convenience of a span-roofed stove may grow them in a greenhouse, pit, or cold frame, according to circumstances, noting always to keep the atmosphere of the house drier in proportion to the lowness of the temperature. In cold and sunless summers, such as the last, Balsams cannot be successfully grown in cold frames on account of the low temperature, the superabundant moisture, and the stagnant condition of the atmosphere.

The double strains only are worthy of cultivation in pots, and to make sure of their being good, they must be carefully selected from plants that have been marked while in bloom. Of course, this applies chiefly to plants raised by the grower himself. The variations in colour are very numerous, running through white, pink, purple, scarlet, crimson and others, both single and double. Others are variously blotched or variegated with dark spots on a lighter shade, while others are striped or flaked after the manner of a Carnation, or densely imbricated and blotched, resembling a Camellia. Exhibitions, a few years ago, were instrumental in causing the Balsam to be grown frequently to a high state of perfection.—*J.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

Cypripediums require a great amount of water at this season and through the summer months, therefore in repotting them it is not wise to elevate the plants so high above the rim of the pot as in the case of Cattleyas and Lælias, for close observation will soon prove to anyone that extremes in either direction are unwise, but that those plants which are mounded up several inches above the rim of the pot or pan do not make the number of breaks made by plants potted with the base of the plant about level with the top of the rim. A walk through the leading Orchid establishments will soon confirm this.

In the case of any small plants which have but few roots they had better be put in very small pots, and then plunged in larger ones, surrounded by sphagnum, which will tend to keep them moist without continual watering. Cypripedium Schlimii is usually treated as a cool-house plant, but it thrives with us admirably grown in the stove in a deeply-drained pot stood in a pan containing 1 in. of water, and since it has been standing in water now for fifteen months, and increasing in vigour all the time, it seems evident that it is at home.

Attention to the shading is now a very important matter in all sections. It may appear sometimes to be needless labour to pull the shades down and up several times a day, but it is certainly detrimental to the plants to keep the shade on for hours after the sun has become hidden if those in charge are on the spot, though, of course, they had better be left down if the houses have to be left for any length of time. The excessive use of shading may make the plants beautifully green, but in the case of Cattleyas, Lælias, Odontoglossums, and many other things, it is conducive to the formation of soft pseudo-bulbs also, which fail to flower in a satisfactory manner.

It is the practice of many owners of good collections, during the time the Orchids are in flower, to have the best varieties portrayed by competent artists, either single flowers or whole spikes, and thus keep a correct record of the merits of special varieties; this is a plan which has proved very interesting to many ardent Orchidists, and if the flowers are faithfully drawn they are very useful for comparison from time to time. But the practice of pressing and drying one or two flowers of each variety is one which might with advantage be practised wherever good things are grown. Dried flowers of all the most notable kinds, which could be pressed and dried with but little trouble, are very much more to be depended upon than memory in making comparisons, especially where special varieties are concerned, which are distinguished merely by the number or colour of the spots, or the blotches on the sepals or petals, as in the case of the endless forms of Odontoglossum crispum.—*W. P.*

A Pretty Odontoglossum Pescatorei.

We have several times published descriptions and given illustrations of varieties of O. Pescatorei, but there seems practically no limit to the modifications and number of blotches on the pure white ground of the flower. Some blooms of a charming variety have just been sent us by Mr. M. Stevens, gardener at Walton, Stone. The whole bloom was moderate in size, but with broad, blunt, overlapping segments. On the middle of each sepal was a large, variously-lobed, violet-purple blotch, sometimes broken up into two or three. Likewise on the middle of the petals were two; five or six smaller blotches of the same colour aggregated in a cluster. There was a faint tint of rose on the back of the sepals, and which seemed to increase their beauty.

A Suburban Collection.

At Dunedin, Streatham Hill, one of the pleasantest districts on the outskirts of the metropolis, where comparatively large gardens abound, and are most admirably kept, Mr. N. N. Sherwood has, during the last year or two, added considerably to the interest of his charmingly secluded, pretty, and well-stocked demesne, by getting together a collection of Orchids which promises to grow in the right direction—quality rather than excessive numbers being the object kept in view. In Mr. Jones, Mr. Sherwood has a young gardener who, combined with creditable skill in garden management, has a love for Orchids, and the health of the plants proclaim his ability to do them justice. The favourites, perhaps, are Odontoglossums, and of these the collection of young thrifty plants fairly bristles with spikes that ere long will afford their owner a vast amount of pleasure. The Cattleyas are flowering very freely, especially the Mendelii section, and some well-marked varieties are included in the group. Strange to say, Mr. Sherwood has not yet caught the Cypripedium fever, and at present this popular section is sparsely represented in his collection, but he loves the Phalænopsids—and who does not?—and his plants, of the leading kinds, are thriving in a most satisfactory manner. The various popular Dendrobes also do well with him, and among a number of odd species that are appreciated is an exceedingly fine form of Lycaste Skinneri, which is prized, and deservedly so, as one of the gems of the collection. We hope to see the collection increase and multiply, for Mr. Sherwood is a keen lover of all that is beautiful among flowers.

Epidendrum atropurpureum roseum.

Occasionally a form of this Orchid appears under the title of Epidendrum macrochilum album—the specific name being given in reference to the large lip, and the varietal one possibly to a form in which the lip is paler than usual. At all events, this variety is sweetly scented. A well-grown specimen of E. atropurpureum roseum has been flowering at Devonhurst, Chiswick, for some weeks past. It is a Mexican plant, and thrives satisfactorily in shallow pans, or tied on a block with some sphagnum; but the specimen under notice has been grown in a basket, and when we saw it, it carried eight spikes of bloom, so that the treatment accorded speaks in its favour. While growth is being made the baskets containing the plants are kept in a cool house, and as soon as the flower-spikes begin to push up, Mr. Wright transfers the baskets to a house with a night temperature of 60° in winter. Under these conditions excellent results are obtained. The sepals and petals are dull brownish purple, and curiously incurved at the tips, while the large lip is of a beautiful rose with a darker-rayed blotch at the base. The pseudo-bulbs of this species are large, green, and ovoid or egg-shaped.

Odontoglossum hebraicum excellens.

The variety shown under this name at the Royal Botanic Society's show, on the 15th inst., by Messrs. F. Sander & Co., St. Albans, is a form of O. odoratum that exhibits a great amount of variation, and goes under many names. It is, however, a beautiful kind, with lanceolate sepals and petals, all of which are heavily blotched with deep brown on a pale ground. The markings on the petals are smaller, but are more or less confluent in masses. The base of the lip is broad and yellow. A Floricultural Certificate was awarded it.

Catasetum discolor.

Many of the Catasetums are exceedingly singular, including the subject of this note. The flowers are borne in an upright raceme, and though curious, are by no means showy. The sepals and petals are of a dusky or bronzy green and reflexed, while the saccate lip is purple or brownish purple internally, and has the lateral lobes deeply cut into fringes. It is the Dingy Monk Flower, or the Monocanthus discolor of the older botanists, and is rather a rare plant, originally from Demerara. Exhibited by Messrs. F. Sander & Co., St. Albans, at the Royal Botanic Society's Show on the 15th inst., when a Botanical Certificate was granted it.

Masdevallia caudata-Estradæ.

The whole plant of this hybrid resembles M. Shuttleworthii in size, but the leaves are elliptic, leathery, much shorter, and broader than those of that species. The flowers are very much larger than those of M. Estradæ the parent, which they more nearly resemble. The lateral sepals are purple, the upper one paler and yellow externally. All terminate in yellow tails about 2 ins. long. Exhibited at the Royal Botanic Society's show on the 15th inst. by Messrs. J. Veitch & Sons, Chelsea. A Botanical Certificate was awarded it.

Oncidium sarcodes maculatum.

Amongst the winter and spring-flowering species of Oncidium, O. sarcodes is greatly valued on account of the quantity of brightly-coloured flowers, which it produces in branching panicles. The sepals and broad petals are richly blotched with brown on a bright yellow ground. The special character of the variety under notice is that the lip is spotted all over with brown on a yellow ground, whereas the type is unspotted. A fine plant of it was exhibited by Messrs. J. Laing & Sons, Forest Hill, at the Royal Botanic Society's show, Regent's Park, on the 15th inst., and a Floricultural Certificate was awarded it.

Acineta maculata.

A fine plant of this in a basket, from the bottom of which protruded two long spikes, was exhibited by Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, before the Orchid Committee of the Royal Horticultural Society at their last meeting, when a Botanical Certificate was granted. The sepals and petals are concave, and beautifully dotted all over with pale violet on a flesh-coloured ground. The terminal lobe of the lip is more heavily spotted with darker violet.

Ponthieva maculata.

This is a curious and pretty member of the Neottiæ tribe of Orchids. The flowers are inverted compared with the majority of the family—that is, the lip, which is small, yellow, and glandular, is uppermost. The small yellow petals are united by their contiguous edges so as to represent a lip. The lateral sepals are blotched with green on a pale ground, and what should be the upper one is striated with yellow. A plant was exhibited by Sir Trevor Lawrence, Bart., at the last meeting of the Orchid Committee of the Royal Horticultural Society, who awarded a Botanical Certificate.

Odontoglossum egregrum.

In general appearance this resembles an intermediate form between Odontoglossum odoratum or some of its numerous forms and O. cirrosum. From the latter, however, it seems to derive nothing except the undulated character and long somewhat twisted points of the sepals and petals, which are much spotted or blotched all over with brown on a rose or blush ground. On the lip was a large brown blotch in front of the yellow crest. A plant of it was exhibited by F. G. Tautz, Esq. (gardener, Mr. C. Cowley) at the last meeting of the Royal Horticultural Society, when a First Class Certificate was awarded to it by the Orchid Committee, but which was referred back by the Council for reconsideration.

The Gardeners' Calendar.

THE STOVE.

Poinsettias.—The old plants, or the prunings that were put into heat some time ago with the view of starting them into growth, will now have made sufficient progress to afford a supply of cuttings. Take them off with a sharp knife, close to the very base, so that the cutting will have a firm base from which to emit roots. Those removed now will attain a good size before flowering time; and if dwarf plants are desired, they must be taken off later on.

Gesneras, Achimenes, &c.—It is the custom to keep the various Gesneraceous plants that are intended for flowering late in autumn and winter in the old soil and under cool conditions, in order to retard them. This must not, however, be carried to too great an extent, otherwise the tubers and rhizomes, in their determined attempts to grow, will become weakened. Before this happens have them potted on or put into pans, and attended to properly with regard to watering, ventilation, and light.

Begonia insignis.—Cuttings of this beautiful winter-flowering Begonia should now be taken off and rooted without further delay, in order to get strong flowering plants before the advent of short days and feeble light. The quantity of flowers produced by the plant, which are so valuable at Christmas for cutting purposes, is a fact that should not be lost sight of by growers, nor should the plant be allowed to lapse into obscurity after its value for this purpose has been so well demonstrated. The flowers, too, are of a pleasing pink or soft rosy pink.

Gloxinias.—Old plants now in flower will last much longer if placed under cool treatment. If they are at present in a stove, they should be gradually inured to a cooler atmosphere, giving plenty of ventilation to harden the foliage. Those intended for the greenhouse or conservatory should first be placed in an intermediate house, and afterwards shifted to those structures where a great amount of ventilation is or should be given. Shading in these cases will prevent the strain upon the leaves that would otherwise arise by too great a transpiration and loss of moisture on exposure to sunlight. An intermediate house is, however, best suited to the requirements of Gloxinias in flower. Seedlings of the earliest-sown batches should now be transferred to 48 or 32-sized pots, which will be sufficiently large to flower them in. The stronger ones may be put into the larger-sized pots, and *vice versâ*. After becoming established in these, transfer them to cooler quarters.

THE FORCING HOUSES.

Vineries.—The earlier houses, in which the Grapes are now matured and have taken on the colour or shade of bloom peculiar to each, should be kept much drier, with

plenty of ventilation both back and front. The leading shoot at the top of the rod may be allowed to grow at random in every case where space is at command for its development. This will assist greatly in keeping up both the vigour of the foliage and the roots, which will thereby be encouraged to work. Foster's Seedling and white Grapes generally derive much advantage, while finishing off, by a gradual exposure to light. Not only will their delicate tints be greatly improved, but their flavour as well. Madresfield Court, which is very liable to crack in some establishments, should be treated to more ventilation with a drier atmosphere than is necessary in the case of other kinds generally. They should also be supplied with less moisture at the root, but not to that extent which will induce starvation. If the borders receive a good watering about the time that the berries begin to change colour, no more need be given till after they are perfectly mature. The fruit in later houses should be encouraged by a moist brisk heat.

PEACHES.—The use of fuel for keeping up the temperature in earlier houses where the fruits have passed the stoning period may be economised by shutting up earlier in the afternoon. After this phase has been reached a much higher temperature may be given with safety than in the early houses, where the fruits would drop wholesale if subjected to forcing. The borders, especially where narrow, must not be overlooked in the matter of watering at any time, but more so when rapid growth is taking place. The surface may be moist by damping down and syringing, while the roots are probably in quite a dry medium.

FIGS.—Keep the houses somewhat dry during the ripening of the first crop, and after that has been gathered a closer and more moist atmosphere may again be maintained to urge forward the second crop.

THE KITCHEN GARDEN.

FRUIT TREES ON WALLS.—Before the summer gets farther advanced, and drought affects or dries up the soil around the base of the trees, a good mulching should be given to retain the moisture. Before doing so, however, the surface of the soil should be loosened up with a fork if it is in any way trodden down. This will serve to retain any moisture that may be given when the trees are washed with the garden-engine. Continue to disbud, thin fruits where necessary, and tie in long shoots as growth proceeds.

THE COMING ROSE SHOWS.

June 24.—Ryde.
,, 26.—Richmond (Surrey).
,, 27.—Farningham, Winchester.
,, 29.—Reigate.
July 2.—Boston, Sutton.
,, 2, 3.—National Rose Conference at Chiswick.
,, 3.—Bagshot, Croydon, Farnham, Maidstone.
,, 4.—Bath, Canterbury, Hitchin, Norwich.
,, 6.—Crystal Palace (National Rose Society).
,, 9.—Brockham, Diss, Hereford.
,, 10.—Dursley, Ealing, Ipswich, Tunbridge Wells.
,, 10. 11.—Brighton.
,, 11.—Gloucester.
,, 13.—Eltham, New Brighton.
,, 16.—Birkenhead, Carlton-in-Lindrick.
,, 17.—Bedford.
,, 18.—Sheffield (National Rose Society), Helensburgh.
,, 19.—Ulverston.
,, 20.—Manchester.
,, 23.—Christleton, Tibshelf.
,, 26, 27.—Wilmslow.

Obituary.

WE regret to record the sudden death of Mr. A. FOSTER, gardener to the Honble. Payan Dawnay, at Beningbrough Hall, Shipton, near York, on the 13th inst. Mr. Foster, an old and valued servant at Beningbrough, was about sixty years of age, and had been visiting some workmen who were felling and peeling timber in Sketon Spring Wood, about four miles from York. When about to remount his horse with one foot in the stirrup the animal bolted, throwing Mr. Foster violently on to his head. Medical aid was at once summoned, but was of no avail, Mr. Foster having evidently died from concussion of the brain before a doctor arrived.

ON the 19th inst., at Hope Cottage, Ascot, Susan, youngest daughter of the late Mr. Thomas Ingram, many years gardener to H.M. The Queen, at Frogmore.

THE death last week is also recorded of Mrs. Penny, wife of Mr. Charles Penny, gardener to H.R.H. The Prince of Wales at Sandringham.

QUESTIONS AND ANSWERS.

BOOKS.—*H. A. P.*: The Guide to the Gardens at Hampton Court can be obtained of the garden superintendent, Mr. Graham.

CALCEOLARIAS.—*F. A.*: Overcrowding and insufficient ventilation will bring about the evil you complain of quicker than anything. The flowers are much more susceptible to damp than the foliage, and only by giving plenty of air, and keeping the plants thin can you maintain a dry atmosphere.

GARDENERS' BENEFIT SOCIETY.—*J. Cooper*: The secretary is Mr. W. Collins, 5, Martinhoe Terrace, Martindale Road, Balham, S.W. The Leeds Society is quite distinct from this, but we have no information concerning it.

NAMES OF PLANTS.—*E. G.*: 1, Brassia verrucosa; 2, Linaria hepaticæfolia; 3, Campanula isophylla—if white flowers, the variety alba; 4, Veronica gentianoides alba; 5, Iberis sempervirens; 6, Polygala Dalmaisiana; 7, Cryptomeria japonica; 8, Abies Pinsapo. *W. D. M.*: The Eria excavata, of Lindley. *Four Young Gardeners*: 1, Ranunculus aconitifolius flore pleno; 2, Trollius asiaticus; 3, Lupinus Nootkatensis; 4, Anchusa sempervireus; 5, Doronicum Pardalianches; 6, Lunaria biennis; 7, Centaurea montana; 8, Veronica Chamædrys; 9, Geranium nodosum; 10, Omphalodes verna; 11, Gentiana acaulis; 12, Wulfenia carinthiaca.

TEA ROSES FOR A COLD GREENHOUSE.—*Amateur*: The following varieties will suit you for pot culture:—Alba rosea, Catherine Mermet, Comtesse de Nadaillac, Devoniensis, Innocente Pirola, Madame Lambard, Madame Willermoz, Mdlle. Marie van Houtte, Niphetos, Perle des Jardins, Safrano, and Souveuir d'un Ami. Gloire de Dijon should be added if you can plant it out.

COMMUNICATIONS RECEIVED.—T. B.—H. A. P.—G. S. A.—W. C.—J. D. A.—J. F.—F. R. S.—Scotia—J. P.—W. B. H.—S. & S.

TRADE CATALOGUES RECEIVED.

MERRYWEATHER & SONS, 63, Long Acre, London, W.C.—Specialties in Garden Hose, Pumps, Reels, Lawn Fountains, &c.

GEORGE FARMILOE & SONS, 34, St. John St., West Smithfield, E.C.—Garden Engines, Pipes, and Pumps, Glass, Paints, &c.

THE WEATHER.

AT the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending May 18th, was 29·72 ins.; the lowest reading was 29·60 ins. at the beginning of the week, and the highest 29·82 ins. on Thursday morning. The mean temperature of the air was 54·0°, and 1·0° above the average in the corresponding weeks of the twenty years ending 1868. The mean was below the average on Sunday and on Saturday, whereas it showed an excess on each of the other days of the week. The direction of the wind was variable, and the horizontal movement of the air averaged 7·5 miles per hour, which was 2·9 miles below the average in the corresponding weeks of sixteen years. Rain fell on two days of the week, to the aggregate amount of 0·19 of an inch. The duration of registered bright sunshine in the week was 27·7 hours, against 35·1 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

May 20th, 1889.

MESSRS. HURST & SON, 152, Houndsditch, E., report little change in the state of market for Agricultural Seeds. A few orders are still received for Clovers and Grasses. Rape Seed meets a steady demand; Mustard dull. Hemp Seed dearer. Canary and Linseed steady.

COVENT GARDEN MARKET.

May 22nd.

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus ....per 100	2 6	5 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	3 0		Lettnces ..per dozen	1	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages .... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes ..per dozen	1 6	
			Small salading, punnet	0 4	
Celery ....per bundle	2 6		Spinach, per strike ..	2 0	
Cucumbers ....each	0 4	0 10	Tomatos ....per lb.	2 0	3 0
Endive, French, doz.	2 6	3 6	Turnips ....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemone, French, per doz. bunches.	1 0	4 0	Maidenhair Fern, 12bns.	6 0	9 0
Arum Lilies, 12 blms..	2 0	4 0	Marguerites, 12 bun.	3 0	6 0
Azaleas ....12 sprays	0 6	1 0	Mignonette, 12 bun.	4 0	6 0
Blue Bells..12 bnchs.	1 0	2 0	Pansies ..12 bunches	1 0	2 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12spys.	0 6	1 0
Camellias, white, doz.	2 0	4 0	— scarlet ..12 sprays	0 4	0 6
— coloured..... ,,	0 6	1 6	Polyanthus, 12 bnchs.	1 6	4 0
Carnations, 12 blooms	1 0	2 0	Primula, double, bun.	0 9	1 0
Eucharis ..per dozen	3 0	6 0	Ranunculus, French, per doz. bnchs.	1 0	3 0
Forget-me-nots.....	1 6	4 0	Roses, Tea, per dozen	0 6	1 0
Gardenias, 12 blooms.	1 6	4 0	— Red .....per doz.	2 0	5 0
Heliotropes, 12 sprays	0 6	1 0	— Red, French, dozen	1 6	2 0
Ixia.....12 bnchs.	2 0	4 0	— Saffrano ..per doz.	1 0	2 0
Lapageria, 12 blooms	2 0	4 0	Stephanotis, 12 sprays	2 0	4 0
Lilium longiflorum, 12 blooms	2 0	4 0	Tuberoses, per dozen.	1 0	2 0
			Tulips ....12 blooms	2 0	6 0
Lily of the Valley, 12 bunches	3 0	6 0	Violets, Parme, buuh.	3 0	4·0
			Wallflowers, 12 bnchs,	4 0	6 0
Lily of the Valley, (French) 12 bns.	9 0	18 0	White Lilac, French, per bun.	3 0	5 0
Lily of the Valley, 12 sprays	0 6	1 0	White Narciss, French, doz. bunches	3 0	6 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Grapes .....per lb.	2 0	5 0	Strawberries.. per lb.	2 0	4 0
Pine-apples, Eng., lb.	1 0	1 6			

Canadian and Nova Scotia Apples, per barrel, 7s. to 17s.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	5 0	12 0	Genista ....per dozen	9 0	12 0
Arum Lilies..per doz.	6 0	12 0	Heliotrope ..per doz.	4 0	8 0
Azalea.....per doz.	18 0	30 0	Lilies of the Valley, per doz.	9 0	18 0
Bedding plants, in var., per doz.	1 0	3 0	Lobelia .... per doz.	4 0	6 0
— — in boxes ..each	1 0	3 0	Marguerites per doz.	6 0	12 0
Calceolaria ..per doz.	6 0	9 0	Mignonette, doz. pots	5 0	10 0
Cineraria ..per dozen	6 0	10 0	Musk ..... per doz.	2 0	4 0
Cyperus, ..per dozen	4 0	12 0	Nasturtiums .... doz.	3 0	5 0
Dracæna term., doz.	30 0	60 0	Palms in variety, each	2 6	21 0
— viridis, per dozen	12 0	24 0	Pelargoniums, scarlet,	4 0	9 0
Erica, various ..doz.	9 0	24 0	Pelargoniums, per doz.	8 0	18 0
Evergreens, in var. ,,	6 0	24 0	Pinks, &c. .. per doz.	6 0	9 0
Ferns, in var., per doz.	4 0	18 0	Roses, H.P., per doz.	12 0	24 0
Ficus elastica ..each	1 6	7 0	Roses, Fairy, per doz.	9 0	12 0
Fuchsia.....per doz.	6 0	12 0	Spiræa .....per doz.	9 0	12 0
Foliage Plants..each	2 0	10 0	Stocks ..... per doz.	2 6	4 0

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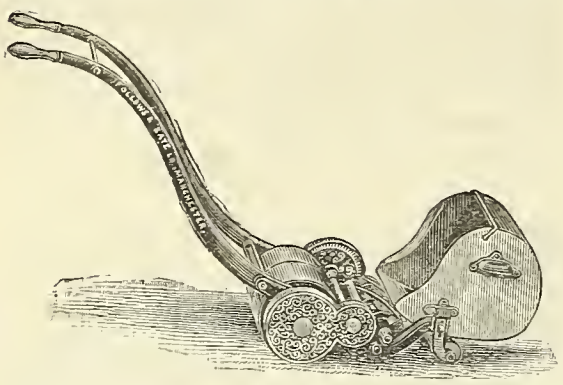

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Next Week's Engagements.
TUESDAY, June 4th.—Sale of the Foston Hall Collection of Orchids at Protheroe & Morris's Rooms (two days).
FRIDAY, June 7th.—Grand National Horticultural Exhibition at Manchester opens. Sale of Imported and Established Orchids at Protheroe & Morris's Rooms.
SATURDAY, June 8th.—Show at Manchester continued.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.
SATURDAY, JUNE 1, 1889.

CURRENT TOPICS.

PRECOCIOUS SUMMER.—The remarkable heat for the time of year which prevailed last week was too precocious to be enduring. To have had a whole week of really hot weather in the month of May was a matter so unusual, as to call forth the observation that nothing like it had been experienced at that time of the year since 1873. It was indeed an odd experience to have one of the coldest and dullest of Aprils, and one of the warmest, brightest, and most beautiful of May months in the same year. Naturally the recent heat was productive of unusually rapid growth on the part of vegetation, and some loss of time previously was recouped.

Practically we are not more behind-hand appreciably, but it is not to be assumed that a long period of repression of growth as existed during April, followed by unusual heat and excitability, forms the most desirable of weather conditions for vegetable life. The heat of last week, for instance, caused the rich and abundant Apple bloom to fall somewhat rapidly, due perhaps as much to sudden development of sap activity, as to withering of the petals of the bloom in the sun's rays. That, it is probable, will prove harmful to the setting of the flowers, although there was such a wealth of bloom that five-sixths of it could very well be spared. We may not conclude that because we have had such heat in May, we shall have a hot summer, but we may at least hope for an enjoyable one.

WELL WASHED.—We referred last week to the prevalence of insects amongst our fruit trees and bushes. The great heat previously noted, materially helped to increase these pests, although we must do the small birds justice, the much-maligned sparrows especially, that they worked hard to clear the trees of the maggots, and with considerable success. But still, not only were myriads left, but also a big lot of aphis, which soon began to show itself after the warmth set in. But aphis, maggot, caterpillar, and spider must, indeed, have been tenacious to have withstood the steady downpour of rain which fell during Sunday night and on Monday morning—a rain which, unlike ordinary thunder-storms, was not the outburst of an hour, and then over, but began with a steady determination, and increased in force as morning came on, until a thorough downpour was the product.

Such a rain-fall should have thoroughly cleansed and purified all vegetation, as even the most profusely foliaged trees could not have been impervious to its force. It has beaten the soil very much, and that was undesirable, but labour can to some extent remedy that evil, whilst human labour could never afford trees and bushes such a washing and purification as they have received, and the soil should be so thoroughly saturated as to set up everything

rooted for the next month at least. Very likely we shall hear of precociously heavy grass crops being laid, but on less fertile soils the recent rain should make the swathes heavy. The soil generally is now getting well covered with vegetation. Peas, Beans, Potatos, and all other crops are rapidly developing and affording some shade to the soil, so that drought can hardly now be feared by anyone.

AQUILEGIAS.—It is difficult to find any hardy border plants which exhibit more grace and elegance than Aquilegias. The plants have a very pleasing habit, as their broad and handsome foliage forms to each plant a graceful base, from out of which the stout flower-stems rise to a desirable height, and when these are laden with some of the charming flowers of which Aquilegias of all kinds produce, we have lovely plants indeed. Many of the common garden forms are pleasing, and they also give a quaint variety of colouring. The hybrid forms which have grown out of crossing garden varieties with species, are more robust and beautiful, and beyond these come the species, such as Chrysantha, Cœrulea, Skinneri, &c., with their hybrids, which are of all the most charming.

There is a peculiar grace about the long-spurred flowers of Aquilegias which bring them nearer to Orchids in quaint beauty than is found in other hardy flowers. The beautiful but somewhat sparse-flowering Glandulosa, although almost spurless, is held in very high esteem, but we regard Cœrulea as perhaps the loveliest of all the family. It comes intermediate between Glandulosa and the canary-flowered Chrysantha in habit, and is none too robust, but is a very free bloomer and seeder, and a stock of it may, therefore, be readily maintained. We should like to see Aquilegias, and especially all the long-spurred kinds, more widely grown in gardens. Ladies we find invariably admire them greatly, as, indeed, it would be very difficult for anyone to do otherwise. The plants seem to favour almost any soil, are very easily raised, and once existent will endure for some years.

TULIPS.—That admirable home grower of bulbs, Mr. Walker, of Whitton, seems to be of opinion that bulb roots for sale may be produced as finely in this country as in Holland. The matter is one well worthy the attention of bulb fanciers of all kinds, because we may well have some regard for our own products, whenever they prove to be as good all round as are those of other countries. Whether we can grow bulbs as cheaply as we can purchase them in Holland is a matter open to considerable doubt, but at least, Mr. Walker, who seems to have found admirable soil for bulb culture at Ham, just beyond Richmond, Surrey, is competent to give an opinion on the matter.

We have been informed that one great drawback to the production of Dutch Tulip bulbs here (and by Dutch bulbs we refer chiefly to the numerous single and double early kinds so commonly termed), is that the skins split or burst, and show the white flesh of the roots. That fact, if it be true, would suffice to materially discount the value of the bulbs in the market, even though they may grow ever so well. Late Tulips, and evidently the Parrot kinds, seem free from that defect when grown at home, and if, as stated on Mr. Walker's authority, they really produce finer blooms than do Dutch-raised roots, then English bulbs, if fine and clean, should meet with ready sale. After all, it becomes really a question of cost, and unless we can produce fine Tulip bulbs as cheaply as the Dutch can, our aspirations must be limited indeed.

BLOOD SHOWERS.—A newspaper reports as a sort of local wonder that recently a shower of rain fell in a country district which was so suffused with red colour as to bear the construction of being a shower of blood. We have heard of these wonderful things before, and, indeed, have often seen after showers that a sulphureous aspect has been given to their deposits, but then anyone acquainted with the nature of pollen when abundant on trees, was enabled to elucidate satisfactorily the nature of the phenomenon. Our country friends who have been so alarmed at the blood shower that they have prognosticated all sorts of coming ills, may take heart of grace that the visitation has been but a natural shower of water coloured by pollen of a reddish colour which happened to be just then abundant in the air, and was brought to earth by the falling rain.

THE STRAWBERRIES.—It is a pleasing fact that Strawberry plants this year have not only bloomed with almost marvellous profuseness, but that the plants are very strong and full of luxuriant foliage. Then, during the blooming period, whilst there has been remarkably warm sunny weather, there has not been the least frost; indeed, the whole of May was marked by an entire absence of frost. The prospect of a really grand crop of Strawberries therefore seems assured. But there are two dangers, the first of which is that the wondrous profusion of fruit set may materially deteriorate from the fineness of the whole crop—most certainly a misfortune, and one which may, in a small way, be avoided by judicious thinning; the other is the possibility of a wet ripening time, such as prevailed last year. The latter evil we earnestly hope will not befal us.

Rose Show at the Alexandra Palace.—We understand that a Rose show will be held at the Alexandra Palace early in July, of which particulars will shortly be announced.

Norton Pansy Club.—The fourth annual exhibition of Pansies and other flowers promoted by this club will be held in the large Hall at King's Norton, near Birmingham, on Whit-Monday, June 10th, and the secretary, Mr. R. Austin, Woodfield Road, King's Heath, will be glad to receive entries from growers outside the district in which the show is held.

The Order of the Netherland Lion.—We learn from Haarlem that His Majesty the King of the Netherlands, at the celebration of his reign of forty years, honoured Mr. J. H. Krelage with the Cross of Knight of the Order of the Netherland Lion.

The Lord Mayor at Swanley.—On Saturday last the Lord and Lady Mayoress, accompanied by a number of ladies and gentlemen, paid a visit to Messrs. H. Cannell & Sons' Nursery at Swanley, and were highly delighted with the superb display of flowers now to be seen there. The Lord and Lady Mayoress on leaving thanked Mr. Cannell, senr., most warmly, complimented his firm on the lovely display of flowers shown to their visitors, and expressed their determination to repeat their visit the first opportunity.

The Thousand-headed Kale.—The death is announced of Mr. Robert Russell, of Horton Kirby, Kent, at the ripe old age of four-score years. Mr. Russell was a famous breeder of Hampshire Down sheep, and for many years enthusiastically promoted the cultivation of the Thousand-headed Kale, which has proved in the south of England such a valuable crop for the winter and spring feed of sheep.

Seedsmen's Enemies. — "A Cork Seedsman" writes:—"The greatest enemies the seedsman has, and which lose him many customers, are slugs and snails. I would suggest their destruction in this way: Brewers' grains (full of sugary matter) should be put down under an ordinary deal floor-board, tilted on one edge, with some moss put over the grains. In this way you provide for the invading hosts a rich and attractive repast—so rich, in fact, that the moss and board become a place of seclusion after the night's debauch, and there they remain, generally adhering to the board, and are easily captured. A few nights' entertainment of this kind will generally result in great slaughter."

The Production of Seeds on the Pacific Coast.—The seed trade, says the *Society of Arts Journal*, appears to be destined to a very great expansion in California at a not very distant period. In the single county of Santa Clara, not less than 1,200 acres are now devoted to the production of garden seeds. Over 60,000 lbs. of Lettuce seed, and 120,000 lbs. of Onion seed, have been shipped east from these grounds in a single season. In other counties a quite important business has been developed in the production of Clover seed, Beans, and Peas, for the supply of distant markets. Whilst that State may not secure the monopoly of the seed business, because good seeds are grown in the Atlantic States, the rapid increase of business in California indicates that one at least of the great centres of the seed business is to be in this State.

A Floral Car.—The flower trade of New York was represented in the grand civic parade at Centennial by Messrs. Siebrecht & Wadley, who had a beautifully decorated vehicle, representing Flora's Car. It was a very large truck drawn by four white horses. Each horse was attended by a man on foot leading it with a rope of Roses. The harness was trimmed with Smilax, and each horse wore a green saddle cloth trimmed with flowers. In the front of the vehicle was the Goddess Flora, her arm resting on a huge cornucopia filled with choice Roses. Behind her was a superb specimen Thrinax, and on either side of this a huge tree Fern. Wires extending from one tree to another were hung with Orchids. In the centre was a formal little bed of Cacti; on either side were banks of Palms and flowering plants. A Japanese stood in the rear grafting a Camellia; an Indian was standing on the other side holding an Orchid; two girls in fancy costume sat in the waggon holding huge bouquets and baskets of loose flowers, which they threw out into the crowd. The vehicle was escorted by marching spearmen and outriders.—*American Florist.*

Floricultural Joe Millers.—I have read a good many humorous sayings, and the witty things which used to pass current 60 or 80, or 100 years ago, of well-known wits, and I say that from many of our humble Lancashire florists I have heard more wit and more genuine humour than there is to be found in Joe Miller or every jest book that I have read. I will give one example as an instance. It is not quite "garden gossip," but it is nearly allied to it. In August, 1851, I went to the Glodwick (near Oldham) Gooseberry Show. I went rather early in the afternoon because I wanted to have a look round. There were a number of men sitting in the house with glasses of beer before them, and all of them listening somewhat intently to a man who was relating a terrible experience he had had of a railway accident, which happened in the month of May of the same year, in Frodsham Tunnel, to a train coming from the Chester Races. He evidently interested his listeners very much, as some of them interrupted him with ejaculations, such as "It must have been terrible, though," and so on; and the man wound up by saying—"Aye, I'se never forget it, I con assure yo', I've never bin reet sin'," and went out; when an old man, who hitherto had said nothing at all, said, "Well, I dunno' kno' whot he's been sin', for this is the fost toime I've seen him, but I kno' he never wor reet afore." Now I think it would be difficult to improve upon that, because it was quite natural; it was not a forced plant at all.—*S. Barlow.*

THE HORSE CHESTNUT.

IF the Horse Chestnut were now introduced for the first time into this country, how we should rave about it, and award it First Class Certificates without the possibility of a dissentient voice. This large, showy, much-admired ornamental tree, which bears the botanical name of Æsculus Hippocastanum, is a native of central Asia, but flourishes in the temperate climes of both hemispheres. I wonder who first applied to it the name of Horse Chestnut! It is said to bear it from the fruit being used in Turkey as food for "horses that are broken or touched in the wind." That old gardener, Mr. Parkinson, says, "Horse Chestnuts are given in the East, and so through all Turkey, unto horses to cure them of the cough, shortness of wind, and such other diseases." In this country horses will not eat them, and Dr. Prior thinks the name is more likely to have been given to these nuts to express coarseness. The ingenious conjecture of a writer in *Notes and Queries*, that the name was suggested by the cicatrix of its leaf resembling a horse-shoe, with all its nails evenly placed, has no support of ancient authors.

"Now this term Horse is continually cropping up in local flower names, and is apparently intended to designate the coarser kind as distinguished from the smaller. In Cornwall, the Elms of various kinds which have broad leaves, and were not employed as

the narrow-leaved kind was in personal decoration, are called Horse May. Thus we have the Horse Daisy as a common name for the Ox-eye (Chrysanthemum leucanthemum); and Horse Violet is the local name in Somersetshire for the Pansy or Heartsease. Then there is the Horse Mushroom, Horse Radish, Horse Mint, Horse Parsley and others more or less familiar. In Devonshire, the large heads of the Knapweed (Centaurea nigra) are called Horse Hardheads, to distinguish them from the common Hardheads, or Soldiers, as many children call them, which grow by the roadside and on waste land everywhere, and belong to the Ribwort Plantain (Plantago lanceolata)." I have extracted this from the Rev. H. Friend's *Flower Lore*.

It will be seen that many of these plants bearing the name of Horse, are not so called on account of any particular liking that creature has for the flowers and fruit, for in many cases the animal will not touch the plants, even when it finds them in the green grass or well-dried and fragrant hay. Sir Thomas Brown long since remarked in his "Vulgar Errors": "And so are they deceived in the name of Horse-radish, Horse-mint, Bull-rush, and many more; conceiving therein some prenominal consideration; whereas the expression is but a Grecism, that is, Horse and Bull intending no more than great."

The Horse Chestnut is by no means a picturesque tree, being too regularly rounded in its outlines, and too compact and close in its surface to produce a spirited effect in light and shade; still the regular rounded pyramidal shape is something so different from that of most of our large trees as to strike the spectator with an air of novelty and distinctness. But the great beauty of the Horse Chestnut is in the splendour of its inflorescence, surpassing that of all our forest trees; the huge spikes of gay blossoms, which every spring are distributed with such luxuriance and profusion over the surface of the foliage, and at the extremity of the branches, give the whole tree the aspect rather of some monstrous flowering shrub than of an ordinary tree of the largest size.

The scarlet Horse Chestnut is Æsculus rubicunda rosea, a tree of slow and irregular growth, differing greatly from our ordinary Horse Chestnuts. But it has its ornamental uses, and produces its deep red flowers in May and June, but later than its congener. It is said to be a good tree for planting in smoky districts.

The growth of the Horse Chestnut is slow for a soft-wooded tree when the trees are young; after five or six years, however, it advances with more rapidity, and in twenty years or so forms a beautiful and massive tree. It prefers a strong, rich, loamy soil, and is easily raised from the large nuts, which are produced in great abundance; and seedlings show variations, some being much earlier in leaf than others.—*R. D.*

THE STRAWSONISER.

Mr. G. W. Strawson's invention of a pneumatic drill for distributing either liquid or solid insecticides, or for broadcasting evenly and expeditiously corn, grass seeds, or manures, received a public trial on Saturday, May 18th, in Windsor Great Park. The patent rights in this most ingenious and efficient invention have now been transferred to a company, whose chairman is Mr. Jacob Wilson; and several of his colleagues on the R.A.S. council are among the directors. Mr. W. S. Forster, Gore Court, Maidstone, has also joined the board; his crops having been sometimes nearly ruined, like those of his neighbours, by parasitic pests, of which in future he hopes, by means of the new power, to be able to accomplish the destruction.

A party of thirty persons assembled by invitation at the Queen's Flemish Farm, near the show-yard of the R.A.S., for the purpose of witnessing a thorough trial of its powers. Passing by permission through the homestead, a level, fallow field, newly harrowed and rolled, was reached. In this, for the sake of saving time, two machines were provided; and although the drills were newly made, with the paint upon them hardly dry, and though they had been turned out by unpractised hands, not a hitch occurred, the machines being of such simple construction that they are not liable to get out of order.

In the distribution of the substances—such as seeds, soot, lime, manures, paraffin, or other liquids charged with chemicals—a fast-moving horse should be used; and the driver should be seated on the machine. The materials, liquid or solid, are fed out of a hopper or tank; and as they quit the machine they are subjected to a strong blast of air, which is obtained from a fan, whose rapid revolutions are caused by the ordinary action of the wheels. The nozzles by which the delivery of liquids takes place can be so adjusted as to give the spray a horizontal or a vertical direction. The latter is necessary in order to reach the tops of Hop poles or orchard trees. Nothing can exceed the perfection of the delivery. As little as a gallon per acre of paraffin can be distributed—a quantity so small that it could only cover that large space in the form of minute spray. The first trial, last Saturday, consisted in the distribution of paraffin, which fell in a cloud of mist on the vegetation of a green lane, where every leaf was covered and tainted by it; whilst every insect—in the case of infected crops of Hops, Vines, fruit trees, or others—would have received its quota, and probably its quietus. Some Barley was then put into a hopper and sown over the ground at the rate of 3 bushels per acre, in breadths of about 25 ft., in an admirable manner. Top-dressings were next tried in the form of nitrate of soda. This was distributed over the surface with perfect regularity. But the most remarkable of all the trials—at least from a pictorial point of view—consisted in the distribution over the fallow of powdered quicklime. This issued from the machine like a cloud of dense white smoke, that drifted down the wind, and would have covered every leaf of Turnip—if there had been any, and the body of each Turnip-fly—with a thin caustic film, too minute to injure the crop, but quite sufficient to disturb, and to a great extent to destroy the insects. Last year some Turnips, badly attacked by fly, were dressed with quicklime across the middle of the field; and the belt thus dressed yielded a good crop, while the rest of the field was entirely spoilt.

Double Pæonies.

"The more wind the better," remarked one of the spectators, who had experienced the benefits of the process. It was a light breeze on Saturday and the cloud of lime only drifted a moderate distance; still, it was estimated from the breadth covered in a single bout, that at least 25 acres per hour might readily have been dressed. It is scarcely necessary to remind the practical agriculturist of the importance of dressing a large breadth of stricken Turnips rapidly, while the dew is still on the leaf. Such work as a rule, to be serviceable, should be completed by four o'clock a.m.

The quantity of dry artificial manure which the machine is made to distribute is from ¼ cwt. to 7 cwt. or 8 cwt. per acre; and six or eight acres may be covered in an hour. From a gallon to six bushels of corn may be sown per acre. We did not, of course, witness the actual dressing of Hops or fruit trees, but we saw the vertical delivery of the spray of liquid by which such work can surely be accomplished. For Hops, a narrow machine has been constructed, which is able to pass between the rows; and we believe that for the first time Hop growers now really have within their reach a practical method of battling successfully with the pests, which have hitherto so often destroyed their crops. English agriculture has, by this new invention, acquired a machine simple in construction and easy to use, which will insure it against some of its heaviest risks; besides sowing corn and manures better and more expeditiously than they were ever sown before. The wine-growers of France, Spain, and Germany will gain the means of safe-guarding their valuable crops; while sanitary and local authorities have acquired a power of flinging upon streets, market-places, or show-yards deodorisers or disinfectants. It is anticipated that hand-power machines, as well as those of greater size, will be called for. The cost of these has not yet been fixed. The present price of the larger horse-power machines is £30.—*H. E., in the Field.*

PÆONIA OFFICINALIS FLORE PLENO.

Many years ago the double forms of the common Pæony were the most common in cultivation, and were the glory of many a cottage garden. Since then, however, the Siberian P. albiflora has developed into a great number of varieties, both single and double, and the latter are finding their way into numerous market gardens, private establishments, and others. We have no intention to gainsay their beauty and decorative value, but the old-fashioned P. officinalis with its double form is still very beautiful, and when well grown the latter develops flowers of immense size, perfectly double, as may be seen from our illustration which is greatly reduced, and of a deep crimson-red. There is another variety passing under the name of P. o. Anemonæflora, with equally double flowers, but the supernumerary petals are very narrow, as seen in some double Anemones; whereas in the ordinary double form the petals are broad and rounded, giving the flowers a handsome appearance.

THE TULIP, OTHER THAN SHOW VARIETIES.*

The history of this family would, in itself, afford sufficient material for opening a discussion at a meeting such as ours. It is always interesting and instructive to know the history of any family, but I must own I am not well up in the history of the Tulip, and so will leave the treatment of that part to someone else. The lines I wish to follow are practical and commercial. The latter word prevents me from including the show varieties here. I believe they will never become popular as cut flowers. As proof of this, one has only to look at the leading florists' windows to see that not broken, but solid or decided colours are used for effect. All efforts, I fear, will fail to revive the florists' Tulips section as market plants.

The three classes I wish to refer to are the Dutch or bedding, the Parrot, and the species of the genus Tulipa. Their culture is simple and well adapted to this country. The treatment of the varieties varies but little. The few species that are not quite hardy will be kept out of view. The first thing to be done is to select a sheltered situation. The land ought to be sandy, light up to medium loam. Wet heavy land ought by all means to be avoided. Select a piece that has grown a crop without manure, then apply plenty of new stable manure. It may be put in with the plough just before planting, or by bastard trenching, so as to place it 6 ins. from the surface. When recommending new manure I am aware I clash with many good cultivators, but I here give the finding as I have found it—that is, our results have always been better from new than from old manure. However, let it be new or old, it ought never to come in contact with the bulbs.

Early in October is the best time to plant; 3 ins. to 4 ins. deep, 3 ins. between the bulbs, and 8 ins. between the rows represents my practice. Some recommend planting 6 ins. deep, but when grown at this depth in large quantities the expense is largely increased in lifting. After planting there is little to do except keeping the bulbs clean. For ordinary seasons they will be ready for lifting early in June. The time varies a little according to the season, but it is always safe to lift whenever the foliage begins to get yellow. If they have been in good quarters the flowering bulbs in most instances will have produced a good second-sized and also a small bulb, and the small ones will have developed into flowering bulbs. I may here say that if they are allowed to remain in the ground after they are ripe the skin of the bulb will be dark, and not the bright colour a saleable bulb ought to be. When lifted they ought to be placed in trays, boxes, or laid out in lofts, with plenty of air. A dark shed or out-house is preferable, for if exposed to the sun or much light the skin will crack and come off.

I have already said that the treatment is simple, but there can be no success if annual lifting is not practised, and the lifting and planting done at the proper time. I have also said that the culture is well adapted to this country. Now, how is it we do not grow our own bulbs? Seeing that no nation in the world grants us the same privileges that we grant them, it becomes us to look round and see if we are not spending large sums of money on a plant we could grow, if not better, equally as well ourselves. For a number of years I have planted Dutch-grown bulbs by the side of home-grown ones, the latter producing larger flowers than

* A paper read by Mr. James Walker, of Whitton, at the last meeting of the Horticultural Club.

the former, and this was more striking in the Parrot species—a clear proof that these two sections prefer medium loam to sand. I am a little surprised that the species are not more cultivated. If we take Gesneriana, Fulgens, Elegans, Elegans alba, Retroflexa, &c., their effect in beds or borders is simply grand.

The question will naturally arise, Can they be grown to pay? I have had some experience in growing them by the acre, and cannot throw out the hope that a fortune can be made, but if properly managed a fair profit may be realised. In field culture we cannot always be certain of sound market flowers. I have seen a shower of hail damage thousands of buds, and the sun shine out ten minutes afterwards and smile on all the destruction the hail had done. Partridges and rooks are fond of the buds when young. Such are a few of the difficulties to contend with. However, so far as I have seen, none of these misfortunes interferes with the development of the bulbs.

Now, if we compare our advantages and disadvantages with the Dutch growers, how do we stand? One thing is very certain—we do not find the Dutch growers asleep. What they do they do well. Our advantages over them are better and cheaper land, and no one can dispute but that we have more of it. There are hundreds of acres of suitable land in this country. We can also procure cheaper manure. Our great disadvantage is the want of skilled labour; in this the Dutch grower has a great advantage over us. I believe one of their workmen will lift as many bulbs in one day as ours would do in four. No doubt, if cultivation increased here, our workmen would improve. Taking all things into consideration, I believe we could place the Tulip in the market as good and as cheap as the Dutch grower.

I have a robust faith that with a sturdy will and a little skill England truly may be made the home for the Tulip.

HERBACEOUS CALCEOLARIAS.

Among the notable triumphs of the hybridising florists of a generation or two ago may be instanced the herbaceous Calceolaria. The species from which they have been derived were introduced between the years 1822 and 1830, and very soon attracted the attention of the improvers, whose labours were rewarded with a considerable amount of success. The species Arachnoides and Corymbosa are credited by some as being the forerunners of the present race, of which there are various strains, differing to some extent in size, in the colour of the flowers, and the habit of growth.

In years gone by, many growers kept up named collections—a practice which was attended with some difficulty, and which, we believe, has fallen into entire disuse, owing to the uniform good quality of our best strains having rendered it quite unnecessary, as a packet of seed contains an almost endless variety. Our best growers still devote much time and attention to the cross-fertilisation of their flowers, and so secure strains of seed in which every confidence may be placed. Their efforts, too, have not been solely confined to the colour and form of the flowers, as the habit and style of growth has been kept constantly in view, so that in the best strains there is little or nothing more to be desired. It ought to be impressed upon the minds of those who would undertake the culture of this popular flower that although its cultivation is really of the simplest character, it will stand no nonsense, but soon succumbs to careless or injudicious treatment, and very little neglect will quickly spoil the results of previous toil and care.

To insure success, every operation in connection with the growing of Calceolarias must be well done, the attention given must be unremitting, and those who cannot give this had better leave them alone. On the other hand, where it can be done, there are few things which so well repay what skill may be bestowed upon them. The seed may be sown from May till August, but the times of sowing must be decided upon by every cultivator for himself, and be ruled as to the size of plant required, and the time at which he requires them to be in flower. Too early sowing, however, except for special reasons, should be avoided, there being as a rule less failures among the later sown batches; and it would seem that the climatic conditions prevalent during the autumn months are more favourable to the later sown than to the earlier plants of larger growth.

The seed being very fine requires great care in the sowing, and is best done in shallow pans, well drained, using fine sandy soil for the surface, well pressed down and made smooth, and watered with a fine rose previous to sowing the seed, which should be scattered evenly on the surface, then given a slight sprinkling over with silver sand, and covered with a pane of glass, which must either be wiped or turned over daily. Keep the seed pans in a shady position, and as soon as the seed leaves show themselves remove the glass, but be very careful not to expose them to the sun, nor allow them to suffer either from drought or an excess of moisture.

When the second leaf is formed, commence pricking off into pots or pans, which should be well drained, and use fine sifted soil. Do not select the strongest to the exclusion of the more backward ones, because there will be found among the latter some of the best and richest colours. Those which at the first start are the strongest, are mostly the yellow ones; but the others, although smaller at first, will often make as good plants in the end. It is best to give them ample room in these store pans, as every precaution should be taken to avoid their becoming drawn in all stages of growth. A shady frame is perhaps the best place for them at this period, and when large enough, and before they touch each other, pot them off singly, and place them in a frame or on a cool shelf. Never let them suffer from drought, and when rooted to the side of the pots give another shift, keeping them always growing and near to the glass.

Although they will stand a very low temperature, they will not endure frost, and must on no account be allowed to get frozen or they will be spoiled. Keep a sharp look-out for aphis, and fumigate at their first appearance. By the beginning of March they ought to be ready for a final shift into their flowering pots, 8-in. or 10-in. will generally be large enough. Special attention should be given to the drainage, as they cannot endure sour soil; and for compost use light yellow sandy loam if obtainable, with leaf-soil and well-decayed cow-manure, say two-thirds of loam, and the rest leaf-soil and manure. Use also plenty of sand if the loam does not contain enough in itself. Pot moderately firm, so that the roots can readily work through it, and when fairly full of roots give liquid manure once a week till the flowers show colour.

The staking out should be done by that time, and a final fumigation be given. Maintain as far as possible in all stages of growth that condition of atmosphere which causes a nice dew to form on the plants during the night; but give air during the day to dispel any excess of damp. Avoid cutting draughts; use rain-water if obtainable; be careful in watering to avoid all extremes of drought or an excess of wet, of which they are very impatient; and remember that slight sprinklings over the foliage on all favourable opportunities are highly beneficial.—*W. B. G.*

ROOK'S NEST, GODSTONE.

Within easy distance of Oxted, Godstone, and other railway stations, Rook's Nest, the seat of the Hon. Pascoe Glyn, lies embowered amongst tall trees of Elm, Horse Chestnut (now grandly in bloom), Limes, Oaks, and other subjects. The house itself is a fine-looking, old-fashioned building, situate on a piece of rising ground commanding some fine views of the North Downs in that part of Surrey. On an outlying hill or rounded knoll, and in close proximity to the house is a spring furnishing a copious supply of water, which, although chalky and in popular parlance termed hard, is otherwise of good quality.

The mansion itself is a massive block, oblong in outline, with a flat roof; and the interior, which we had the pleasure of inspecting, is handsomely furnished, and contains many fine works of art, as well as a library richly stocked with botanical and horticultural literature. Amongst other large volumes is a magnificent copy of Hooker's *Himalayan Rhododendrons.* In connection with this it may be stated that there are several species of the Himalayan Rhododendrons in the American garden here. Some huge glass vases in the rooms were filled, not with blooms, but with flowering branches of Rhododendrons arranged in a loose but most natural and charming way. Azaleas, Lilacs in variety and other subjects were treated similarly. The outside walls of the house and conservatory are draped with Clematis Jackmanni, Jasmine, Briers and other Roses. The lawns in the immediate neighbourhood are in excellent keeping with the house, and on one oblong piece of grass are vases representing spring, summer, autumn, and winter. Amongst the choicer trees in the vicinity of the mansion are two fine Amelanchier canadensis, from 25 ft. to 30 ft. in height, seldom if ever equalled for size in this country. Then there are the pretty purple and white-flowered Magnolia conspicua Soulangeana, Walnuts, Picea morina, 40 ft. to 45 ft. high, Cupressus Nutkænsis, 35 ft. high, double Cherries, Berberis vulgaris purpurea, Laburnum vulgare, Lilacs, in soft violet and other colours, and many other fine old-fashioned subjects. The broad-leaved Holly (Ilex latifolia) is usually grown on walls, but there is a tree on the lawn here about 14 ft. in height, with clusters of small red berries on some of the branches.

The Glasshouses.

The conservatory is oblong in outline, and forms a wing of the mansion, into the drawing-room of which it opens. It is in keeping with the mansion, and has its ground floor on two levels, from the lower of which a flight of steps leads into the drawing-room. The best view is obtained from here. One side of the building is entirely covered with Camellias, which supply a large quantity of flowers; and the pillars of the other sides are well furnished with Lapageria rosea, Fuchsias, Cantua dependens, with its long tubular rose and yellow flowers, Acacia dealbata, and other climbers. On the pillars supporting the two-ridged roof are a variety of Abutilon venosum, with orange-scarlet flowers, the Tea Rose Van Houtte, and others. To the right of the spectator are the Tangerine Orange and the Shaddock (Citrus decumana), the latter carrying a number of large pale yellow fruits. The central bed is occupied with large old Camellias, and facing the spectator is a varied assortment of flowering plants, including pieces of Oncidium sphacelatum, with panicles 3 ft. to 4 ft. in length of richly-coloured flowers, Datura Knightii, Rhododendron Countess of Haddington, Spiræa palmata, Astilbe japonica, and other popular subjects flowering at this season.

The rest of the hot-houses are some distance away, and almost hidden amongst trees. The roof of the stove is largely occupied with Passiflora racemosa, well named, for the showy scarlet flowers are produced in long racemes at the end of pendent shoots. The species is better known in gardens under the name of P. princeps. The body of the house is filled with a variety of subjects, amongst which are Caladiums, including well-grown pieces of C. argyrites. A number of Orchids are grown in this house, including Cypripedium Lawrenceanum and C. barbatum Crossii, with a fine Λ-shaped blotch of purple on the standard, which was of wonderful size. Miltonia vexillaria also finds a suitable home here. In a cool house adjoining this are Begonia fuchsioides, and double Ivy-leaved Pelargoniums trained up the rafters. The quantity of flowers produced by plants under this mode of treatment shows that all strong-growing varieties should be cultivated as climbers. Nearly the whole end of this house is covered with Asystasia (Mickaya) bella, literally a mass of bloom. Mr. James Friend, the gardener, may well be proud of it, for a finer plant is probably not to be found in Britain. Baskets of flowers have been cut from it, and yet the racemes were heaped over each other in a manner that rendered the counting of them laborious and out of the question.

On the top shelves of a vinery was a splendid crop of the President Strawberry, rich in colour, and highly flavoured. Early Tomatos in this house are also well advanced. The favourite is Perfection, as Hackwood Park does not set so freely, or has not done so this year. A set of young Vines, consisting of Black Hamburgh and Foster's Seedling, have just been planted in this house, and fine growths the rods are making. Close by is a house of old-established Vines, consisting of Black Hamburgh, Muscat Hamburgh and Muscat of Alexandria, now rapidly swelling. In the earliest house the berries are nearly ripe, and of good size. The favourite varieties here again are the same as the young Vines mentioned.

Three houses are devoted to Peach culture. In the earliest one Early Mignonne is now ripe and beautifully coloured for this season of the year. Curiously enough the fruits of Early Albert will take some time yet to ripen. There is a good set of both Peaches and Nectarines in the latest house. Mr. Friend speaks of transferring the trees to the back wall, and of growing Tomatos and early crops of other useful subjects along the front of the house. Hero of Lockinge Melon and the Telegraph Cucumber are grown in pits; and the latter have been in constant use for a long time.

The Kitchen and Fruit Gardens.

There are practically two gardens situated in different parts of the estate. Near by the glass houses is the smaller of the two, mainly occupied with fruit. Gooseberries, Red Currants and Cherries, the latter on walls, are bearing heavy crops of fruit, while Raspberries promise well. Green Gage Plums also on walls are heavily laden. Apples are not yet certain, as the trees

were scarcely out of bloom. They are mostly grown as standards in both gardens, and some of the trees are very old. Strawberries in the larger garden promise well, and are now well furnished with bloom. Beans are in full bloom, and the earlier crops of Peas are also advancing rapidly. The earliest sowing suffered considerably from the ravages of sparrows, which find plenty of shelter amongst the surrounding trees.

Herbaceous plants are not as yet largely grown ; but we noticed healthy pieces of Galtonia candicans, and along the borders of the kitchen garden were clumps of Limnanthes Douglasi, with its yellow and white Buttercup-like flowers, also Lupinus polyphyllus, Star of Bethlehem, and Forget-me-not.

THE AMERICAN GROUNDS.

These occupy a shady, irregularly, undulating valley, rising slightly on each side, and moistened by a tiny brooklet winding down the middle, but mostly concealed by a luxuriant growth of Rhododendrons. It is fed from three ponds or pieces of ornamental water situated on higher ground, and of which the uppermost one is near the house, and contains luxuriant masses of Water Lilies. All are fed from the spring already mentioned on the top of a neighbouring hill. The sides of the valley are naturally moist at all times, and give rise to several springs.

The Rhododendrons and Azaleas amply testify to the suitability of the soil by the size they have attained. Some of them are of great age, and consist of the early hybrids of R. ponticum and R. Catawbiense, with an intermixture of R. maximum, R. arboreum, and others possibly. Few, if any, of the kinds presumably are to be found in nurserymen's catalogues of the present day. There are several Himalayan species, including large plants of R. campanulatum and R. Thomsoni. The latter is still in flower, and forms a handsome bush about 12 ft. high and 15 ft. through. No protection whatever is afforded them.

Hybrid kinds are very numerous, and no doubt represented the best varieties in their day. A large proportion would be considered fine even yet. One tree, from 15 ft. to 20 ft. in height, with stems from 6 ins. to 9 ins. in diameter, was a mass of deep red bloom, resembling R. arboreum at a short distance ; many of them were from 8 ft. to 15 ft. in height, and showed lilac, purple, rosy purple, blush with rich spotting on the upper segments, and pink flowers with a rose margin resembling a Picotee. Some of the white kinds, with numerous dark reddish purple spots, were very handsome. A double violet-purple and very handsome kind with large flowers seems to be the old Punicea plena.

The Azaleas were simply grand, and filled the air with their powerful yet delicious perfume. A fine old bush of Rhododendron (Azalea) indicum album was well set with bloom just expanding. The other kinds consisted of Rhododendron (Azalea) flavum, R. (A.) viscosum, and R. (A.) nudiflorum, with their varieties. Popularly of course they are known as Azaleas, and with the exception of the first mentioned are deciduous. R. flavum was literally a mass of rich yellow, and its odour was very powerful. Of R. nudiflorum there was the splendid scarlet variety R. n. coccineum. Others of the varieties had white, double white, orange, red, rose, blush, salmon and yellow, and salmon and pink flowers in various combinations. The whole forms a picture well worth seeing.

THE MERTENSIAS.—II.

M. RIVULARIS.—The blue flowers of this species are borne on two-branched racemes, while the strong stems are well furnished with ovate, glaucous leaves. It has several synonyms, and appears closely related to M. sibirica.

M. STYLOSUM.—The deep blue flowers of this plant are borne in a bifid raceme on comparatively dwarf stems furnished with lance-shaped, glaucous leaves. It is an Asiatic species, but has not yet been introduced.

M. KAMTSCHATICA.—We have in this further illustration of the arctic or Alpine character of the genus from Kamtschatka. It is a very vigorous species, growing from 12 ins. to 18 ins. in height, furnished with elliptic or lanceolate, glaucous leaves and blue flowers. As a garden plant, however, it would be inferior to M. sibirica.

M. DAVURICA.—In its native home in Dahuria this species has been collected in sub-Alpine meadows, but, notwithstanding, proves somewhat tender in our changeable climate, and does best when afforded a little protection. The decumbent slender stems grow from 12 ins. to 18 ins. in length, and terminate in more or less branching cymes, bearing blue flowers. The plant is graceful and pretty.

M. MARITIMA.—The most striking peculiarity of this plant is its extensive distribution. It is popularly known as the Oyster Plant in this country, and is often grown out of curiosity. Specimens have been collected from time to time, both on the east and west coasts of Scotland ; while it also occurs on the coasts of Norway, the Island of Spitzbergen, Japan, Canada, Labrador, Greenland, Behring's Straits, and other arctic shores. The prostrate stems are thickly furnished with ovate or oblong, deeply-glaucous leaves, and terminate in corymbose racemes of blue flowers. It is a distinct and striking plant when seen in broad patches spreading over the sands of the seashore. Lithospermum serrulatum seems to be the only synonym with which it is hampered.

M. PANICULATA.—Occasionally this North American species makes its appearance in gardens, and in stature and habit may be compared to M. sibirica, but the leaves instead of being glaucous are green, hairy, and ovate or lanceolate. The stems grow from 1 ft. to 2 ft. in height, branching at the top, and bearing a profusion of large bright blue flowers, or sometimes a light litmus-blue. There is no difficulty in its cultivation, and it might with great advantage be more extensively planted in borders. Other names are sometimes given it, such as M. denticulata and Pulmonaria paniculata. M. pilosa is a name given to a plant similar to M. paniculata, and may be a form of that species having narrower lance-shaped stem-leaves.

M. FENDLERI.—Such is the name given to a pretty new Mexican species by the late Asa Gray. The stems are of no great height, but closely furnished with somewhat glaucous leaves, spathulate in the lower part of the plant, passing to linear and lanceolate upwards. The flowers are small and pale blue, produced in terminal leafy racemes. It would be well worthy of cultivation in pots, even should it not prove hardy.

M. LANCEOLATA.—In this we have another exceedingly pretty species, which although it was introduced from the Rocky Mountains in 1874, must yet be considered a rare plant. Generally wild specimens vary from 3 ins. to 6 ins. in height, the stems being furnished with linear spathulate leaves. The blue flowers are produced in dense capitate heads. It has been picked up in various parts of the United States, sometimes in light sandy soil. A form of it, with much taller stems, well furnished with narrow leaves, and resembling a Forget-me-not in habit, has been picked up in both damp and dry shaded positions in Colorado at elevations ranging from 11,000 ft. to 12,000 ft.

M. OBLONGIFOLIA.—In some instances this would appear to approach M. lanceolata in general appearance, but in the majority of cases it is characterised by much broader, oblong or spathulate glaucous leaves. The flowers are also larger, of a beautiful blue, and produced in large capitate heads. Its home is in the United States, but particularly in the Rocky Mountains, where it ascends to 12,000 ft. or 13,000 ft., and is abundant in Upper Oregon on wet rocks in company with small Fritillarias and Claytonias.

M. ALPINA.—The stems of this plant vary from 6 ins. to 10 ins. in height, bearing spathulate or lanceolate glaucous leaves. The flowers are deep blue, and borne in dense terminal heads. Wild specimens vary immensely in size and general appearance, some having taller stems, others larger flowers and leaves, while again it dwindles till it greatly resembles a Myosotis. In this country it succeeds very well on a rockery, where it proves a most attractive little Alpine. From its native home on the Rocky Mountains it was introduced in 1875. Specimens of M. a. hirsuta from the Platte Valley, where it grows in shady, grassy places, as well as fertile meadows, are taller, and well clothed with hairy leaves. In Colorado it ascends to an elevation of from 11,000 ft. to 14,000 ft.

M. VIRGINICA.—The three tallest and most suitable kinds for border decoration that have been introduced would include M. virginica, M. sibirica, and M. paniculata, of which the first two are certainly the best. M. virginica enjoys a wide distribution in the United States, including the Alleghany Mountains, and goes under the name of the American Cowslip, just as Pulmonaria augustifolia is known as the Blue Cowslip in this country. In its native home it delights to grow on the banks of brooks. The stems attain a height of from 1 ft. to 2 ft., and are rather thinly furnished with large, oval, blunt, glaucous, very distinct-looking leaves. The flowers are large, showy, freely produced in terminal panicles or cymes, and vary in colour from pale rose to violet and blue. It was introduced to Britain nearly a hundred years ago—namely, in 1799—but is yet comparatively rarely met with, although an exceedingly handsome herbaceous plant. There is a figure of it in the *Botanical Magazine*, t. 160, under the name of Pulmonaria virginica.—*F.*

NOTES FROM SCOTLAND.

Fruit Prospects in the North.—I see by your last issue that the fruit crops in the south promise to be of a satisfactory nature. Here, in the Isle of Raasay, I may say that I have seldom seen the fruit trees look better, and the Apples especially. The blossoms were so thick, and the individual flowers so large, that the foliage was almost completely hidden from view. Plums have set abundantly, and also Cherries, but Pears are very poor indeed. The small fruits look very well, and we expect a good fruit harvest, as, practically speaking, we have had no frost to hurt the blossoms for the last seven weeks. Rain is the greatest bugbear in this district.

Syringing Vines.—I cannot altogether concur in your correspondent's (Mr. Gaut's) idea that it is antagonistic to the laws of nature to dash water on the under-side of the leaves. What do we syringe Vines and other plants for but to keep down the insect pests, which are found most generally on the under-side of the leaves. Water carefully applied through the syringe to Vines up to the time of colouring is in many cases very beneficial, and if perfectly clean water be used there is little fear of the foliage or berries being spotted. I do not uphold syringing Vines if the foliage is not attacked by red spider, and it is not the practice of the leading grape growers to syringe them under such circumstances.—*William Minty, The Gardens, Raasay House, Stromeferry, May 22nd.*

Royal Horticultural Society of Aberdeen.—The acting directors of this society met the other day, Mr. Alex. Robson (of Messrs. William Smith & Son), vice-president, occupying the chair, to discuss the estimates for the various works in connection with the grand floral fête to be held under the auspices of the society in the Duthie Public Park, on the 22nd, 23rd, and 24th August next. Additional marquee accommodation is to be provided, and the grounds are to be illuminated in the evenings on an extensive scale ; indeed, the programme of fireworks and illuminations promises to be one of the most elaborate ever witnessed in the north of Scotland. Altogether the fête promises to be the largest and most successful held under the auspices of the society. It was agreed to recommend to the annual meeting that a spring show be held by the society in April next year. A cordial vote of thanks to the chairman terminated the proceedings.

Sciadium arbuscula.—At a well-attended meeting of the members of the Natural History Society of Aberdeen, held in the University Buildings some weeks ago, Mr. John Roy, president of the society, communicated the occurrence of the Sciadium arbuscula (Braun), discovered for the first time in the British Isles in the month of November last by himself. The finding of the plant is somewhat interesting. Mrs. Farquharson, of Haughton, forwarded to Mr. Roy, with other plants, a specimen she found growing amongst leaves in a pool near Haughton (Aberdeenshire), and that gentleman was enabled from descriptions given by Dr. Braun to make the plant out to be the Sciadium arbuscula, which is found in Germany and other parts of the Continent. In his communication on the plant to the society, Mr. Roy in a very instructive manner described its growth in its various stages, and illustrated his remarks by drawings executed by Dr. Braun. Prof. J. W. H. Trail (Botany Chair), Aberdeen University, proposed a hearty vote of thanks to Mr. Roy for his interesting contribution to the science of botany, which was warmly accorded. [An individual specimen of this singular and interesting Protophyte is a very simple plant indeed, consisting of a single elongated cylindrical cell of no great length. The specific name arbuscula means a little tree, and the name is really applied to, and descriptive of a colony of individuals. The contents of the primitive cell constituting the organism break up into a number of ciliated zoospores, which do not, however, escape from the mother cell, but germinate there, and commence throwing out cells similar to that of the parent, but smaller. These in their turn do the same as the first, and so on for three or four generations, until the colony assumes the appearance of a small branching shrub or tree. The cells of the third and fourth generation are very much smaller than those of the primary one, and all resemble branches of a common plant, whereas the whole four series simply form a colony surmounting one another, with the base of the younger individuals springing from the apex of the older ones.—ED]

FLORICULTURE.

Carnations.

"Carnations are spindling," is the burden of the complaints I have heard from two or three Carnation growers of late. Dull weather and much wet have operated to draw the plants, and the grass, instead of being short, thick, and vigorous, is fast becoming long and thin. Warm, dry, open sunny weather is badly wanted to restore the balance. All that one can do is to give the plants the best possible open and airy position. Keep the rising flower stems carefully secured to stakes; the plants free from decaying foliage; the soil from weeds, stirring it occasionally when an interval of drying weather enables it to be done. We have just got through a May characterised by great variety, as also by extremes of weather. Heat and cold, wet and dry, dullness and sunshine have alternated. We have had it unusually hot during the month, and at times quite cold—though, happily, we have been free from destructive frosts, and there has been a heavy fall of rain at times; in fact, the May of the present year proved unusually moist.

Mr. Dodwell says, in his hints to beginners in cultivation, "Disbud as soon as the young buds can be conveniently removed." As a matter of course, a good deal of discretion is necessary in this matter, and it is a great advantage to have some knowledge of the variety. How many blooms a plant should carry depends a good deal upon whether it is a variety that is thin or full in the flower. If thin, then only a very few should be left if they are required to be as full as possible; on the other hand a full-flowered variety can have more buds left on it. Much depends also upon whether the flowers are wanted for exhibition, decorative or seed purposes. But Mr. Dodwell, with his large experience, and with an eye to the production of good exhibition blooms, states: "If 'full,' and of strong growth, three buds may be left; if 'thin,' two buds, and if of weakly growth, one bud only. As a rule, the buds to be left will be the main bud and those proceeding from the third and fourth joint, or fourth and fifth, counting from the top, but the operater must be guided in his selection by their appearance, vigour, healthiness, and their regularity of form. A 'full' flower may be expected where the young bud presents a broad obtuse top, whilst a 'thin' variety is generally indicated by a sharp and long pointed bud."

It is scarcely necessary to say that the plants should be kept scrupulously clean of all insects of a hurtful character; cleanliness is one of the foremost marks of good cultivation.—*R. D.*

Tulips at the Temple Show.

As we go to press early, any extended notice of these must be left over until next week. It is something to see the florists' Tulips again publicly exhibited in London; with the exception of a stand shown some five years ago at one of the meetings of the Royal Horticultural Society at South Kensington, they have been comparatively unknown for years. From a point as far north as Burton-in-Lonsdale, the Rev. F. D. Horner has sent a collection, and one from Cardiff in the west, sent by Mr. James Thurstan. Mr. Samuel Barlow, J.P., Stakehill, Manchester, has a very good collection, consisting of fifty-four flowers, thirty-six rectified and eighteen breeders, and they illustrate in a remarkable degree the great beauty and variety which is seen in a collection of exhibition Tulips. They are the outcome of forty-one years of perseverance, industry and enthusiasm in acquiring the very best varieties attainable, and in discarding inferior varieties. Let us hope a Tulip revival will be the result of the display of this gorgeous flower in the Temple Gardens.

The Carnation Maggot.

My losses from this pest last autumn were fully 20 per cent. of my layers, and I find that of these losses, sixteen in every twenty were from plants grown and layered in the open border. I had some 500 plants in pots and about 100 in the open; those potted were syringed once a week with a mixture made as follows:—A 48-size pot of Quassia chips and 2 ozs. of soft-soap, boiled in 1 gallon of rain-water for about half an hour; this was diluted so as to fill an ordinary bucket. Those in the border had no special attention, and this seems to prove that, although not thoroughly effectual, yet there is some check in this mixture. I find they are already at work, and would advise all growers to well examine their plants. Where they are is easily ascertained by the centre leaves of the young layer dying; these can be pulled out and the intruder fished out with a sharp needle.—*Wm. L. Walker, Dunollie, Earley, Reading.*

A Black Tulip.

Perhaps the Old Louis XVI. came the nearest to black in colour, although I think the black Tulip would be like the parson's horse, "it would take a great deal of looking for, and when you got it it would not be worth while keeping." A man once said to me, "Do you want a black Rose, because if you do I can tell you a safe way to get it. Graft it on a Black Currant tree," he said, "it will not fail thi." I knew he was not particular about the truth, and I said to him, "But the flowers on a Black Currant tree are green." "Well," he said, "just thee try it, it will not fail thi." "Have you got a black Rose?" I asked. "No," he said. "Have you had one?" "Yes," he said. "Where is it now, then?" "Well," he said, "it dee'd."—*S. Barlow.*

Large-flowered Zonal Pelargoniums.

The perfection to which the zonal Pelargoniums as a class have been brought at the present day is truly astonishing. The size, roundness and regularity of the flowers cannot be overlooked, and the real dimensions in inches are very deceptive to the eye when looked at in a mass, owing to the size of the trusses. On examining the plants that have been in bloom all the winter—even recently they were one blaze of scarlet, purple, crimson, magenta, orange, pink, and white—in the nursery of Messrs. H. Cannell & Sons, Swanley, Kent, individual flowers, or pips as they are sometimes termed, measured $2\frac{1}{2}$ ins. across, and made a fair-sized English lever watch look small when placed over them. Some were not as regularly circular in outline as others, but the following are handsome for conservatory decoration:—John Mason, scarlet; Sissy, rosy salmon; General Boulanger, plum-purple and orange; Lady Rosebery, rich salmon, with a large white eye; C. H. Swinstead, bright scarlet; Omphale, satiny salmon; Swanley Gem, deep rosy salmon; Rev. H. Harris, rosy red, and of great size; Mrs. Strutt, pink, shaded purple; and International, equally large and white.

Chrysanthemum leucanthemum semi-duplex.

TWO HARDY MARGUERITES.

The plant which, by the kindness of Mr. Ware, is illustrated above, is a recently-obtained form of the common Ox-eye Daisy or May Weed, and is named Chrysanthemum leucanthemum semi-duplex. It is probably the first instance on record of a plant of this species bearing flowers which show a tendency to become double, and if the florist takes it thoroughly in hand, we may yet obtain a race of beautiful garden plants well adapted for cut-flower purposes. The stems grow from 12 ins. to 18 ins. in height—a very suitable size for small or narrow herbaceous borders. The extreme hardiness of the plant, and the facility with which it can be propagated, would recommend it to the attention of all classes of plant growers. As the illustration shows, the supernumerary ligulate or flattened florets are much narrower than the outer ones, but they may yet be greatly improved by seed sowing and selection, by which perfectly double heads may in time be obtained.

The species with the so-called single flower-heads is the true Chrysanthemum maximum, a plant by no means common as yet in gardens. What formerly passed muster for C. maximum was really C. latifolium, a much taller and coarser plant, with the habit of C. acustre, also widely disseminated in British gardens. The latter is readily distinguishable by its broad, oblong or ovate, rather coarse leaves. C. maximum grows from 18 ins. to 2 ft. in height, each stem terminating in a large flower with long white rays and a central yellow disc. Others may be produced later from axillary shoots, but the terminal one is the largest, and equals that of C. latifolium. The plant is perfectly hardy and of the easiest cultivation, and all the rosettes of leaves develop a flower stem, so that a good-sized specimen is an acquisition literally covered with a mass of white bloom. As cut flowers the heads last in perfection for a week or more. We are indebted to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for an opportunity of illustrating the two kinds.

PARAFFIN AS AN INSECTICIDE.

More than once have the merits of paraffin been liberally dilated upon in the horticultural press, and that it is an efficacious and inexpensive insecticide is indisputable; but after all its good qualities have been taken into account, one is prone to fancy that in some communications its excellence has been overrated. For the destruction of grubs and other vermin in the soil it is a first-class agent; but for the eradication of mealy-bug, &c., from houses that contain a collection of valuable plants, its use is, in my opinion, far more extensive than judicious. Such insecticides as methylated spirit, Lemon and Fir Tree Oils, Nicotine Soap, &c., cannot be too highly recommended for use in houses amongst valuable plants; but for this purpose I hold a correspondingly low opinion of paraffin, because when it is improperly or indiscriminately applied it inflicts irreparable injury on the subjects operated upon.

After all the comments that have been made upon the proper method of applying it, instances could be chronicled which demonstrate that it is still sometimes either improperly or carelessly applied, otherwise such catastrophes as we hear of would not happen. In the spring I observed a valuable Lapageria, which monopolised the side and roof of a conservatory, and which was flowering beautifully; but unfortunately a few stray bugs were detected in the axils of the leaves, and the gardener, knowing that paraffin would speedily stamp out the pest, the undertaking was immediately proceeded with, and the consequence was that in a few days afterwards the beautiful dark green foliage turned to the colour of ebony, and the stem shrivelled up; in short, it was so injured that its lamentable appearance necessitated its removal from the conservatory; and when I saw it last—one morning

when the thermometer registered 12° of frost—it was lying in a corner of the kitchen-garden. In this instance I am positive that if methylated spirit had been used instead of paraffin the bug would have been as easily and speedily eradicated, and the life of a valuable Lapageria would have been saved from destruction.

It has been asserted that frequent syringing with this infallible insecticide will prevent mealy-bug from gaining a lodgment on such plants as Gardenias, Stephanotis, and similar rambling subjects, and that little or no sponging will be required; but of the accuracy of this assertion I am extremely doubtful, because I know of several Gardenia houses that are syringed regularly with petroleum, and if it were not for the periodical sponging, the state of the plants would, in a short space of time, be disgraceful. Every time that houses are syringed with this mixture, a quantity of it cannot be prevented from running down the stems and penetrating the soil at the roots, and if they sustain no injury from this, the benefit derived therefrom is what I yet fail to discover.

The inconvenience and labour occasioned by the removal and re-arrangement of the plants when paraffin is used, and the offensive smell that remains for days in the houses, are only a few of the objections that could be lodged against its use; but I had better not multiply them, lest some of its supporters should think that it is with a desire to under-estimate its value that I do so. But this is far from being the case, because, in my opinion, the benefit derived from its use in this respect is so remote, that if it is much minimised there will be none left.—*J. Peebles.* [There is no question about the value of paraffin as an insecticide, the difficulty is to make sure of always getting it of the same strength and quality, and of getting men to use it in the right way. The safer plan is to use some of the carefully prepared emulsions that have lately come into the market. We are at present trying that prepared by Messrs. Donald & Co., of New Scone, Perth, and so far it has answered all expectations.—Ed.]

Chrysanthemum maximum (true).

GARDEN INSECTS.

(Continued from p. 563.)

Aphides.

We shall commence the discussion of injurious insects by looking at the Aphides family, which contain numerous kinds of aphis; and, in fact, almost every plant has its own peculiar kind. The Aphides belong to the order Homoptera, which means "same-winged," and we shall find that both fore and hind pair of wings (when present) are alike in shape and size. They belong to the division Dimera, which means that the tarsus or foot of the insect has only two joints. The antennæ, with seven joints, are invariably long and slender; the body is small in size, and soft, with a peculiarly constructed mouth or proboscis with three joints, suitable for sucking out the juices of plants; having this feature, it belongs to the "Haustellata" class. There is one remarkable peculiarity connected with them—that is, that they are "parthenogenetic," and that during the greater part of the year, pairing is not necessary for the production of young. In autumn both males and females are found, and after pairing, the female lays a number of egg-like pupæ, which produce in the spring female Aphides, which in turn produce perfect females, and so on till autumn by viviparous production. The individuals of the last birth, instead of being females, are of both kinds, mostly winged, the males arriving just at the time they are required for pairing. After briefly reviewing the general characteristics of the Aphides, we will notice a few of the principal kinds.

The Bean Aphis, or Black Fly (Aphis rumicus) commences, as you are all aware, at the most tender part, and by rapid propagation it spreads, if not destroyed, all over the plant, thereby producing disease and ultimately death. The attack is commenced by the wingless ones, and then by those having wings. The whole of the species seem to attack plants in the same manner and have similar features; they block up the pores of the leaves, which prevents transpiration and absorption, things necessary for successful plant culture.

The "Jumping Plant Louse" is an insect nearly allied to the Aphides, known in Germany as the Pear-sucker. It belongs to the genus Psylla, containing many species. The size of the male is 1-10 in. long, and the female 1-7 in. They do their work like the Aphides, suck the sap of plants, and discharge their excretions all over the same. They chiefly attack Pear trees, but sometimes the Apple, if circumstances are suitable. The mature insects conceal themselves in winter under the bark and other suitable hiding places, and readily emerge forth in spring to again perform their destructive operations. The next of the Aphis kin is the Aleyrodes, commonly called the Snowy Fly, which may be seen in the season like showers of snow. One peculiarity is that they breed in winter as well as summer. The eggs laid by the female hatch in about twelve days. They chiefly attack the Cabbage family.

Cocci, or Scale Insects.

These belong to the same family as the Aphides—viz., the Haustellata, and to the same order, Homoptera. The females and larvæ are the hurtful members of the family, while the males when fully developed do no harm whatever. Males are very unlike females; they possess two delicate wings, six legs, and usually, but not always, two slender filaments at the hinder end of the body. They have no mouth, and consequently cannot take in food. They seldom live more than a few days, their sole function being to fertilise females. In certain species both winged and wingless males are found. The females develop from larvæ of an oval form which possess the usual appendages, and are protected by a scale-like covering on the back that is brought about either by the excretions from the body or by the cast-off skins. When once the larva fixes itself in a suitable part of the plant it never leaves the spot. As it develops it undergoes great alterations in structure, the body becoming rounder and the other parts almost or entirely disappearing. In certain species they are like Aphides viviparius. We have a large number of species which attack both outdoor and indoor plants, and would involve us in a lecture by themselves. One writer gives the average size as $\frac{1}{8}$ in. in length.

Earwigs (Forficula Auricularia).

These troublesome pests are well known to the Chrysanthemum grower as being very destructive. They belong to the Mandibulata class, and according to some the Orthoptera order, whilst others say Euplexoptera. These insects attack ripe fruit in addition to plants and flowers. At certain times the Earwigs migrate from place to place in great numbers—a fact which clearly accounts for their being more numerous in some seasons than in others. The size is said to average $\frac{3}{4}$ in. in length. The female after laying her eggs does not leave them like most insects, but actually broods over them similar to a bird, and sits on her young after they are hatched. There are but two or three species in England, and are distinguished by having a three-jointed foot and a forceps-like terminus to the body, Forficula meaning pincer-like. If insufficient food is given them they will eat any of their family that dies, but only under such conditions. They are very voracious during the larva and pupa state. The Earwig has four wings; two are membraneous, and when folded lie beneath the others, which are very short, of a dark colour and horny texture.

Cockroach (Blatta orientalis).

One remarkable thing is the cleanliness of this animal. If some syrup or grease be placed upon the antennæ of the insect, and the latter watched, it will be seen how diligently and cleverly it performs its work. In a mature state the male has wings extending only half the length of the body, whilst the female possesses only rudimentary wings. Her eggs she carries about in an oblong case fixed to the abdomen by a sort of gum. The tarsus or foot has three joints.

Red Spider (Tetranychus telarius).

This subject is not, strictly speaking, an insect, for instead of having only six legs it possesses eight. Then, again, it is rather different to the ordinary spider, for its body and abdomen are in one continuous piece, instead of being jointed by a thread-like connection. These mites are so small that they are scarcely discernible by the naked eye. They spin their webs on branches, trunks, and leaves of trees, on which they travel, drawing from the plant its juices with their suckers, and where a number are collected together, great injury is done to the plants in a very short time. The eggs are oval in shape, colourless, and are found on the webs upon leaves. The larva hatches from the eggs in about eight days, and is much like the parent, except that it has only three pairs of legs, and acquires its fourth pair with a change of skin. One peculiarity is that two pairs of legs bend forwards, and the other two pairs backwards. At the end of each foot it has bristles, which are globular at the tips, and assist the Spider in moving on smooth surfaces, which it can only do with great difficulty. It fastens its eggs to the web by some glutinous secretion.—*S. Heaton.*

(To be continued.)

THE BRIARS, CHISLEHURST.

Bounded on two sides by Chislehurst Common, with its rural scenery and pure air, is the home of T. R. Watt, Esq., who is the possessor of a collection of Orchids, which has been enlarged considerably during the past year, and which contains a good number of plants in bloom at the present time. A fine new house for Cattleyas, which was erected last summer, appears to suit its occupants admirably, and in it I found three varieties of Cattleya Mossiæ in flower, of extraordinary merit, besides a good sprinkling of other good varieties. The three under notice most nearly resemble Cattleya Mossiæ Williamsii and C. M. aurea grandiflora, the third being a fine form with rose sepals and petals, and very rich lip.

About a dozen plants of C. Warnerii, in baskets, were just opening their flowers, one of them being of very decided merit, while C. chrysotoxa had a sheath coming along. In the new Odontoglossum house there is a nice display, including some fine forms of O. crispum, one with mauve spots being specially attractive, while another was identical with O. crispum fastuosum; several good distinct varieties of O. Andersonianum were also in bloom, as well as O. Pescatorei, O. facetum, fine; O. Ruckerianum, O. Rossii majus, and various Masdevallias. In another house I found Anguloa Ruckerii sanguinea, A. Clowesii, Cypripedium Godefroyæ, C. bellatulum, C. Lowii, C. Dominianum, and others. Dendrobiums are making fine strong growths, including good plants of D. nobile nobilius, D. n. Cooksoni, D. Leechianum, and D. n. Sanderianum, among which was a plant in flower of Oncidium Kramerianum, with petals $\frac{7}{8}$ of an inch wide.—*W. P.*

The Amateurs' Garden.

Thinning Annuals.

One of the greatest faults in the cultivation of annuals, both by amateurs and professionals, is the crowded state in which the seedlings are allowed to remain. This applies chiefly or almost solely to those the seeds of which are sown in the place where they are to remain. The seedlings come up in a crowded state, and in that condition they are allowed to remain till they flower. One crowds out the other till the remainder push into bloom with only a single stem. They produce a few flowers, run to seed, and what beauty they had is gone for a season. The stronger-growing kinds should be thinned out to 1 ft. apart, dwarfer ones to 6 ins. or 3 ins., according to their habit and the bulk of the plant. Those who closely observe the ways of their plants will soon find which require most thinning. When judiciously done the plants are able to throw out side shoots that continue to develop flowers over a long period of time. Those that are raised under glass and ultimately planted out give better results, because their numbers are limited, and they are not therefore allowed to be planted too thickly.

Summer Bedding.

The more hardy kinds of subjects used for this purpose may safely be planted out the first week in June, provided they have been thoroughly hardened off by tilting of the lights from the frames for some time previously. Annuals reared under glass, including Stocks, Asters, Phlox Drummondi, Everlastings, Saponaria calabrica, and similar things will now be quite safe. Pelargoniums, Fuchsias, Calceolarias, Lobelias, Golden Feather, Violas, and all the hardy variegated subjects used for edgings to beds may also be put out. Marigolds, both French and African, Dahlias, Heliotropes, Nasturtiums, and similarly tender plants, had better be kept a little longer in places where they can be readily covered up at nights in case of frost.

Primulas and Cinerarias.

Those about to try their hand at the growing of these may now commence by sowing a few seeds. The heat of the sun will now be sufficient to germinate the seeds, even in a cold frame, by keeping it close. A frame can now be spared for the purpose by the placing out of the bedding plants, or by transferring them to the open air. Take some seed pans, and drain them well by placing a good quantity of broken potsherds in the bottom. Over this put a layer of moss, and fill up with a compost of sifted loam, leaf-soil, and plenty of sand. Cover the seeds very lightly, and place a square of glass over the seed pans. Keep the frame quite close and shaded till the seedlings appear, when they should be gradually inured to the light. As soon as they are fit to handle, have them pricked off into other pans or boxes, about 1 in. apart. Then, as they make a few rough leaves, pot them off singly, using a somewhat richer compost.

Harrison's Musk.

Few plants are more suitable for gracing the front row of the benches in the greenhouse or conservatory than this. It is just now coming finely into flower, and the stems are erect and short-jointed ; but as the summer advances they will continue to elongate and produce a succession of flowers, and ultimately hang down over the front of the stages to the length of 12 ins. or 18 ins. The foliage is almost as fragrant as that of Mimulus moschatus (the common Musk), which was one of its parents. It is propagated chiefly by the division of its underground stems in spring, a few small pieces being placed in each pot. Those who have greenhouses to fill would find it admirably suited for the purpose, and as easily cultivated as the common kind.

Window Boxes.

Except where planted with Arabis, Forget-me-nots, Wallflowers, and other things now in season, all plants used for winter and early spring work, such as Euonymus, Conifers and bulbs should be transferred to their summer quarters, and the boxes refilled. A few plants of Canary Creeper, tall climbing Nasturtiums, Ipomæa purpurata, generally called Convolulus major in gardens, or other climbers according to choice should be planted at the ends for training up the sides of the windows. Then a few tall plants should be placed along the back of the box, either of Pelargoniums, Petunias, Fuchsias, Calceolarias, white Marguerites, or something of a free-flowering nature. Then along the front, dwarf plants, such as blue Lobelias, Creeping Jenny, or even Ivy-leaved Pelargoniums may be used ; but the arrangements should always be simple.

Bulbous Plants.

Cultivators in this country are beginning to recognise that it is not only possible, but can be made tolerably profitable to grow on their old bulbs again. Those now in the beds intended for summer planting will have to be lifted at once, or at an early date. This will, to a certain extent, check the proper development of the bulbs, but if planted thickly in lines in some out of the way part of the garden, and well exposed to the beneficial influence of the sun, they will gradually ripen. Daffodils, Tulips, and Crocuses take more kindly to lifting than do Hyacinths, and the Daffodils, if properly treated, will flower even better next year.

Gardening Miscellany.

Narcissus poeticus patellaris.

In 1886 I procured a few bulbs from a locality in England said to be the original one for the true variety. In 1887 most of the flowers were right ; in 1888 half had gone into the double form, known in Ireland ast he local one. This year the entire lot are double, but the seed vessels are not sufficiently suppressed to prevent seed formation if fertilised. While single the pods were annually full of seed, and I am now persuaded that in this way we may have obtained our varieties Codlins and Cream, Butter and Eggs, and Eggs and Bacon. The double Poet's Narcissus, imported from France, the large pure white one without a sign of red, is quite a different plant. N. patellaris plenus always retains the original tinge under the florets, and is also wild in the Pyrenees.—*W. B. H., Cork.*

The Dusky Geranium.

One occasionally meets with this plant in a wild state, and a beautiful wilding it is. There are several forms of it in cultivation, differing chiefly in the colour of the flowers, which under certain conditions are remarkably flat and round compared with other species. The petals, however, when fully exposed to the sun become partly reflexed. They are purple in the best varieties, with a darker blotch on the base of each petal ; but in the variety G. p. lividum, the flowers are of a dusky brown. There are some fine beds of this species amongst the trees in the pleasure grounds at Syon House, Brentford, which when seen in the mass have a fine effect, and are well worth attention for planting in this way.

Lily of the Valley Tree.

Such is the popular name given to one of the finest of the Clethras—namely, C. arborea. Being a native of Madeira, it requires greenhouse treatment, and on account of its size we seldom see it grown, notwithstanding its beauty. It is stated to attain a height of 8 ft. or 10 ft., but specimens in the large conservatory at Syon House, Brentford, considerably exceed this, although not planted out. When we saw them recently they were bristling with flower buds, which are borne in long branching racemes or panicles at the ends of the stems and side shoots. When expanded, the flowers are somewhat bell-shaped and pure white, resembling Lily of the Valley, hence the popular name. The oblong, lanceolate, leathery, evergreen leaves may be compared to those of a Rhododendron, and when lightened up with the snowy blossom have a fine effect amongst other conservatory plants.

The Smaller Evergreen Trumpet Honeysuckle.

Bearing in mind the beauty of both the species and the variety under notice of this Honeysuckle, it is surprising how seldom it is grown—at least in the south of England. It is regarded as rather tender, but when planted against a wall, it not only survives our winters out of doors, but flowers beautifully even in some of the northern counties of Scotland. In severe winters it loses the greater part of its foliage, although naturally evergreen, but the wood remains quite fresh. In conservatories, where we more generally find it, flowers are produced during the greater part of the year, and a fine effect they have when hanging in short dense racemes in whorls at the end of long pendent shoots. The flowers are narrowly trumpet-shaped, with a short nearly regular lamina, and the whole is of a bright scarlet. The species is a native of the United States, from New York to Carolina, in dry stony woods, and when being planted in this country, this fact should be borne in mind ; it should not be placed in heavy clayey soils, which it dislikes. It is nearly always in full bloom in the conservatory at Gunnersbury House, Acton.

Cotyledon farinosa.

Healthy pieces of this species are very pretty in their snowy covering of farina or powdery material. Its appearance would suggest that it is a native of a dry country, where the rainfall is light, and the sunshine abundant. Conditions like these cannot be given it in this country except when grown under glass, where the foliage can be kept dry enough certainly. In the suburbs of London the fogs or some other atmospheric condition seem to disagree with it, as it does not thrive very satisfactorily at Gunnersbury House, Acton. That it can be grown to perfection, however, in this country under glass we have had ample means of verifying from a large healthy batch of specimens we noticed in the nursery of Messrs. H. Cannell & Sons, Swanley, Kent, where it is kept in a span-roofed house, and under dry conditions. In dry seasons it also does very well in carpet bedding designs during summer, where its dense tuft of narrow snow-white leaves shows off green-foliaged subjects to advantage. The stems elongate on old plants, so that the rosettes vary from 2 ins. to 4 ins. high or even more.

Sulphuric Acid on Lawns.

Sulphuric acid is often strongly recommended in different ways to be used for destroying Plantains and Dandelions on lawns. I have often used it and found it very effectual. The best method in my opinion is to take a large-mouthed quart bottle and fill it about half full of sulphuric acid ; tie a piece of strong string securely round the top, attaching a piece of wood to carry it by. Then take an iron skewer about 15 ins. or 18 ins. long, and run it through a round flat piece of wood or a large cork at a convenient distance from the top to act as a guard for the hand ; dip the skewer into the acid, and pierce the centre of the weed it is intended to destroy. A large piece of ground can be quickly gone over in this way with little expense and labour. Great care must be taken, as it is very dangerous stuff, and should never be left about or in the way of children, but always kept under lock and key when not in use. It would be wise on the part of the operator to put on some old clothes (boots especially), as the least drop will quickly burn a hole in them. I will give an instance : a few years ago I was operating in this way upon some Plantains, and the young ladies, thinking it fine fun, asked me to let them do it for themselves. I provided each with sulphuric acid, bottle, and skewer, and they went merrily to work, little heeding the caution I gave them. One afternoon was quite sufficient, as their clothes and shoes were completely spoiled by the acid. The acid should not be put into watering pots or metal implements of any description, as it quickly corrodes. It is also not necessary to dilute the acid with water, as a small quantity goes a long way, and the stronger it is the more effectual is its action. In fact, it would be better not to attempt its use unless the operator fully understands what he is about. When sulphuric acid is mixed with water, violent action takes place, and great heat is evolved, the temperature reaching above boiling point, and should any get into the eyes or on the face blindness or disfigurement would probably be the result. If it be mixed, water should never be poured on to the acid, but the acid mixed gently with the water, keeping it stirred all the time.—*Alfred Gaut.*

Cunonia capensis.

In order to flower this freely, a large house is necessary for its accommodation, as it is naturally a tall-growing subject, acquiring something of the dimensions of a small tree. Occasionally it may be seen in private establishments grown as an ornamental-foliaged stove plant, for which its pinnate leaves are admirably adapted. It cannot, however, be described as a popular plant, for the simple reason that flowering plants, and especially soft-wooded ones, are the most popular at present. At Syon House, Brentford, it is grown planted out in the large conservatory, at one of the cool ends devoted to the cultivation of greenhouse plants. Being a native of the Cape, stove treatment is altogether unnecessary, except to cause a more rapid development of the foliage, which is ample, pinnate, and evergreen. The flowers individually are small and white, but they are densely aggregated in cylindrical spikes or spicate panicles really, and from the great length of the inflorescence, become pretty and interest-

ing. They are very seldom seen, however, in this country for the above-mentioned reasons.

New Cucumbers.

What is a new Cucumber, and who is to determine its novelty? I am induced to ask this question, inasmuch as I was much struck with some fruits staged as a new variety at the Crystal Palace and Royal Botanic Society's late meetings. The fruits I saw were, in my mind, to all intents and purposes identical in shape, colour, and peculiarity of handle with Monro's Duke of Edinburgh, a variety that has been before the public for some years. Whilst no one would welcome more than myself a real improvement, it appears to be a pity that cultivators, sometimes from want of knowledge, are disposed to exhibit so-called new varieties, and if the authorities of the show in which the exhibit takes place have not the courage to point out its identity whilst no recognition is given to it as a new variety, the exhibitor assuredly labours under what he considers to be a grievance. It seems to me desirable that any article of the kind staged as new should be very thoroughly examined by competent judges, and the opinion of that authority should be distinctly expressed upon the exhibit for the future guidance and benefit of others, whereas if no remark is made, the exhibitor is apt to feel that he has been passed over and not properly treated.—*S. H. C.*

The Broad-leaved Holly.

There are two species to which the above designation may with some propriety be given, but the plant or tree intended in this instance is Ilex latifolia, a native of Japan, where it grows to the height of 20 ft. It was first introduced from thence to the Continent, and about the year 1840 or 1841 was brought to this country, where, however, even yet we seldom find it in collections. Occasionally it may be seen on walls, because it is evidently regarded as tender. The great size of its leaves, which grow from 8 ins. to 10 ins. in length, renders them liable to be destroyed during stormy weather, and more especially if they are subjected to gales of wind while in a frozen state; and to this may be attributed the tenderness of the tree rather than anything else. In general appearance they resemble those of the common Cherry Laurel (Prunus Laurocerasus), but are much larger, hence the application of the garden name of Ilex laurifolia sometimes given. A tree of 14 ft. in height is now carrying some clusters of its small red berries on the lawn near the house at Rook's Nest, Godstone, Surrey, where it receives no other protection than that of the surrounding trees.

Platytheca gallioides.

As far as the flowers are concerned, this is the finest species of the plants grown in gardens under the names of Tetrathcca and Tremandra. It is generally known under the title of Tremandra verticillata, the specific name referring to the whorled leaves and flowers. The latter are of large size and bright blue, whereas those of the true Tremandras are rose or purple. P. gallioides is the only species belonging to the genus, and is a native of Western Australia, having a slender twiggy habit comparable to that of a Heath. Small plants are more common than large ones, owing to the fact, probably, that it is less easily managed than the Tremandras or Tetrathecas. Owing to its peculiar nature, it must be kept cool and well exposed to light, while there must be no neglect in the matter of watering—not because it requires a large quantity at any time, but the slender and fibrous roots resemble those of a Heath, and must therefore be kept in the same happy medium, otherwise they get killed. We saw some finely-flowered but small pieces in the gardens at Syon House, Brentford.

Peperomia resedæflora.

A few of the species of this large genus, including P. Sandersii, P. marmorata and P. nummulariæfolia, are grown for the sake of their ornamental foliage; but P. resedæflora owes its value to its branching, dense head of small white flowers, which have been compared to that of some species of Mignonette (Reseda). The whole plant does not exceed a foot in height, and is furnished with heart-shaped, deep green, sub-fleshy, and very neat leaves. Being a native of New Grenada it requires stove treatment, and constitutes a welcome addition to the flowering subjects grown in that structure during the winter and spring months. Propagation of its fleshy stems is readily effected by means of cuttings. A compost of fibrous loam and peat, with plenty of silver-sand, will answer its requirements admirably in the matter of soil; and it must not be over-watered during the winter months. At that period it may be fully exposed to the sun, but shading in summer will prove very beneficial. It was introduced as recently as 1870, but has not yet found its way into many private establishments. Some specimens are now flowering in the stove at Syon House, Brentford.

The Pontic Azalea (Rhododendron flavum).

Except in old-fashioned gardens we do not now see the magnificent bushes of this plant which used to form such a conspicuous ornament of the shrubberies, when this class of plants was more popular. True it presents no striking features during a great portion of the year; but when in flower it is simply gorgeous, forming a mass of a clear attractive yellow, diffusing a powerful but agreeable aroma for some distance around it during the months of May and June when the Pontic Rhododendron (R. ponticum) and its numerous varieties or hybrids are at their best. Originally it was named Azalea pontic, and will no doubt for many years to come be popularly spoken of as an Azalea, although it is now well known amongst botanists that there is no real distinction whereby it may be separated from the genus Rhododendron. Its strongest character lies in the flowers having five anthers, while Rhododendron was stated to have ten; but then the Indian Azalea (Rhododendron indicum) has ten stamens, while in the different species the latter organs may vary with five, eight, ten, fifteen, or more than twenty stamens. There are some fine masses of the species at Rook's Nest, Godstone, now finely in bloom.

Passiflora kermesina.

This beautiful species is an object of great interest in one of the stove houses at Gunnersbury Park. It is trained just under the roof, and it produces its bright magenta-crimson flowers in great abundance on long slender stems. It is nearly always in bloom.—*R. D.*

Lady Banks' Rose.

It was a recognised fact fifty years ago, that neither the Banksian Rose (Rosa Banksiæ) nor any of its varieties liked the atmosphere of London. Since then the city has so enlarged that its influence now extends far beyond the original limits, but we were pleased to note a fine specimen of the above-mentioned Rose at Syon House, Brentford, and which is not only in healthy condition, but well set with flowers. It is grown on an east aspect wall, a large area of which it covers, and bears a considerable quantity of trusses about to burst into bloom. Taller plants we have seen somewhat nearer the great metropolis; but although they seem to grow tolerably satisfactorily, they seldom produce any flowers, and then only in the most limited quantity. The foliage, however, is pretty, and consists of finely serrated deep green shining leaflets, with a cheerful aspect. The flowers in the type are pale yellow, almost white, while there is a buff-yellow and a white variety. All are double and very pretty, from the fact that they resemble a cluster of Cherry blossom rather than that of a Rose, and are deliciously fragrant. The white variety smells like Violets, and were it not for the delicate constitution of the plant would be more generally cultivated.

Gentiana acaulis.

A border on one side of the well-kept pleasure grounds at Abbyfield, Bickley, containing about 2,000 clumps of Gentiana acaulis, has been a very attractive feature during the past two or three weeks, and has been visited by many lovers of hardy plants in the locality. The border is 115 yards long and 2 ft. wide., and has been extra well flowered this season, the effect of which can be better imagined than described.—*W. P.*

Dielytra spectabilis.

Here, in the north-west of Monmouthshire, this beautiful hardy perennial is flowering freely in a western border. Its lovely long racemes of drooping pink flowers suspended over its light green foliage form a perfect picture of plant beauty. Gardeners and amateurs should have a good stock of this useful plant in their gardens, as it cannot be excelled at this season of the year for decorative purposes. I have seen it last quite fresh in water for ten days. It is also a most beautiful plant for forcing, and is well adapted for the decoration of the conservatory in spring. Strong roots must be obtained for this purpose, and should be potted in the autumn in a light compost of two parts of loam, some leaf-soil and a dash of sand. Plant them firmly in 6-in. pots, and plunge in a bed of coal-ashes until well rooted, when they should be gradually inured to light and air. When they assume their natural colour stand them close up to the glass, and see that the roots are well supplied with water. It is a native of China.—*W. H. N.*

Rivinia humilis.

The few known species of this genus are grown entirely for the sake of their brightly coloured berries, which in this case are red. The small insignificant flowers are produced in long racemes, and during expansion are greenish, but ultimately become whitish rose. Soon after this the berries commence to develop, and ripen in a comparatively short time, when the plants may be transferred to the stove, intermediate or greenhouse as required. The berries hang on a long time, and may often be seen in all stages of development, from expanding flowers to ripe fruit on the same plant. The latter may be grown to various sizes from 1 ft. to 2 ft., and consequently require but little room in a house, which they greatly enliven during the winter and spring months. Numerous plants about 1 ft. in height are still beautifully furnished with fruit in all stages of development at Syon House, Brentford. Propagation may readily be effected by means of cuttings in spring in a moderately high temperature, or by seeds, which they ripen abundantly, and which readily germinate even on the stages where they happen to drop.

CONCERNING LILACS.

I have been endeavouring to ascertain the derivation of the word "Lilac," and I cannot get further than this—that it is a native name received from Persia with the plants. Perhaps some learned reader of The Gardening World—of which I am persuaded there are many—can give me further information on this point. It is curious to note that this plant should come to us with a native designation that not only becomes a common title, but actually gives a name to a distinctive colour or shade of colour.

I am a great admirer of the small-leaved Persian Lilac, Syringa persica. There are some very fine bushes of it at Gunnersbury Park, where Lilacs are a great feature. There is a marked contrast between its small leaves and its large and striking panicles of flowers. There is a cut-leaved variety, known as Incisa or Laciniata, and there is a white form also. It is said to be the Persian forms that are forced into flower in France and elsewhere, and brought to this country. Our common Lilacs are S. vulgaris, and it is said the types of this came originally from China, but I fancy they are all of Persian origin. The lilac must have been introduced to this country many years ago, certainly during or before the reign of Henry VIII., for in the inventory taken by order of Cromwell, the attendant on Cardinal Wolsey, of the articles in the garden of the Palace of Norwich, are numbered "Six Lilac trees, which bear no fruit, but only a pleasant smell." Syringa is a name commonly given to a shrub the stems of which are used in Turkey for making pipe sticks. It was applied to the Lilac by Evelyn, and for the same reason it has been called the Pipe Tree.

In some country places the Lilac is known by the name of the Laylock, and in south Devon the peasantry speak of the Lilac under the name of Duck's Bill. It is said that the name Duck's Bill is explained by the appearance of the separate flowerets, which have something of the shape and form of a Clove, and are flattened much after the fashion of the bill of a duck.

The Lilac, like the Guelder Rose, will bear a great amount of rough treatment, but it does best in a good depth of loam, and it is readily propagated by means of suckers, which are thrown up from the roots in great abundance.

Of varieties of the Lilac there are now many. One of the best forms of the Persian is that known as the Siberian Lilac—S. Rothomagensis. Of the common Lilac, Charles X. and Dr. Lindley are two fine varieties of modern date, with very large rich purple blossoms. Then there are Aline Mocquery, Madame Bertha Daman, Marie Legraye (which is regarded as the best white), Mathieu de Dombasle, Philemon, and Souvenir de la Spath. The last named is said to be the finest of all the Lilacs. The double varieties, which are not nearly so showy to my way of thinking as the single ones, are Hyacinthiflora plena, Rubella plena, and Lemoinei fl. pl. There is, therefore, no lack of fine varieties to choose from, and it is to be hoped some of the best forms will be selected for planting purposes.—*R. D.*

ORCHID NOTES AND GLEANINGS.

MILTONIA VEXILLARIA SUSPENDED FROM THE ROOF. ONE is so accustomed to see this plant grown in masses on stages, even by good cultivators who grow it largely, that the idea might exist that no other method of culture would be suitable. Mr. Wythes, at Syon House, Brentford, grows his plants in pots suspended from the roof of the house, and that success may be attained under this system of treatment the plants themselves amply testify by the healthiness of the foliage and the size and number of the flowers. The plants were comparatively small, or rather consisted of few crowns, but each pseudo-bulb carried two spikes with eight blooms on each.

CYPRIPEDIUM BARBATUM GRANDIFLORUM. THIS is generally regarded by competent authorities as one of the best forms of C. barbatum ; and if anyone were to see the grand batch of plants in bloom at Syon House, as we saw it, they would be pretty well satisfied about the merits of the variety. Judging from appearances, there might have been 100 plants in the batch, bearing many hundreds of blooms, although a large quantity had been cut. The standard was large and round, similar both in dimensions and colour to that of good forms of C. Lawrenceanum, being variegated, with green lines at the base, and purple upwards on a white ground. The pouch was something remarkable in size for the species, and deep purple, almost black. There are numerous colour varieties of this species in cultivation, and as notified, the distinction of this one consists in the size and colour.

DENDROBIUM TORTILE. A WELL-GROWN plant of this, such as we saw at Syon House, the other day, is a pretty object, notwithstanding the comparatively pale hues of the blooms. It was suspended from the roof in a pot, and had numerous erect, somewhat flattened but stout and pale-coloured pseudo-bulbs, which bore a number of flowers of good size. The sepals and petals were rose coloured and twisted, while the deeply-hooded lip was creamy white, veined with purple at the base.

CATTLEYAS AND LÆLIAS FROM ARDDARROCH. THERE has been an excellent display of these for some time past in the collection of R. B. White, Esq., Arddarroch, Gærlochhead, Dumbartonshire, and Mr. R. C. Fraser, his gardener, in writing to us, says there are still about 500 blooms in the house, although they are going out of season. Some splendid blooms were sent us, including a form of Lælia purpurata that measured 9 ins. across the petals, which were of great width and pure white, with the exception of a few pale purple veins near the apex. The lip was unusually dark purple. L. p. Bryseana had the sepals and petals flushed with pale rosy purple, while the lip had a crimson-purple lamina, with a pale tip. White's variety of this species is a very fine one, and of great size. The sepals are nearly white, the petals blush, and the tube of the lip rose with darker veins, while the lamina is a very dark purple. Cattleya Mendelii gigantea has, as its name implies, flowers of great size and high-class quality. The sepals and petals are white, with a faint blush tint, and the margins of the latter, together with the edge of the lip, are much undulated and crisped. The blade of the lip alone is about 2½ ins. long, while the auricles or side-lobes are white, and the rest a deep rosy purple. C. M. Mrs. Brooman White is another very fine variety, having sepals and petals of a soft lilac-pink, the latter being also furnished with a purple blotch near the apex. The crimson-purple lamina of the lip is finely fringed. The sepals, petals and tube of the lip of C. Mossiæ Horsmanii are of a rich warm rose, and the lamina of the lip is heavily crisped.

ONCIDIUM SPHACELATUM. THIS old Oncidium is deserving of more attention and a better position in Orchid houses than usually falls to its lot; often have I seen it standing in some out of the way corner away from the hand of the cultivator, and only receiving the most meagre attention. Happily, it has a robust constitution, and the effect of this hard treatment does not show itself so rapidly as in more delicate species. On the other hand, where the plant is appreciated and receives its fair portion of attention, how marvellous are the results! I recently saw two medium-sized plants in baskets suspended from the roof of the conservatory at Dunstall Hall (Mr. Coulson, gardener); each plant was carrying seventeen racemes. One had an aggregate of 636 fully-expanded flowers, the other 629. When arranged amongst other Orchids it gives a pleasing effect to the whole.—*J. McNab.*

THE GARDENERS' CALENDAR.

THE STOVE.

CALADIUMS.—The leaves of these have now attained considerable size, and their durability will greatly depend upon the treatment they now receive. Plenty of room must be afforded, so that the leaves may not become crowded. In the early stages a high temperature and a moist atmosphere are necessary to bring them on ; but more ventilation and a better exposure to light must now be given, otherwise the foliage will be badly coloured and thin in substance, rendering them unable to withstand the dry atmosphere of the show room or exhibition tent, where they are designed for that purpose. The same holds good if they are intended for conservatory decoration. While ventilating freely, the floor and stages of the house must be well damped down.

CLERODENDRONS, ALLAMANDAS, &c.—As soon as the flower buds begin to show themselves on these and other stove or greenhouse flowering plants—including Dipladenias and Vinca rosea—they will be much benefited by applications of weak liquid manure. If stimulated previous to this, while still making vegetative growth, it would tend to make them coarse by a large development of wood and leaves at the expense of the flowers, which will accordingly be scanty. As in the case of most flowering plants, they will benefit by being well exposed to the sun. Damp down and ventilate freely at the same time. Bougainvillea glabra also enjoys plenty of exposure and an abundance of air. The bracts are more freely developed and last longer if kept in a cool or intermediate house.

THE GREENHOUSE.

AZALEAS.—The earlier-forced batches of both the Indian and A. mollis type will now have completed their growth, and if not already done, have them moved into cool houses or pits, where plenty of ventilation may be given, so as to gradually harden the shoots and foliage preparatory to standing the plants out of doors to ripen their wood and set their buds for early winter forcing. Those that are naturally inclined to flower early should be used in preference to the later kinds, because they require very little stimulation to get them into flower. Several of the white kinds, including A. indica alba and A. narcissiflora are very suitable for this purpose.

HELIOTROPE.—Cuttings may be struck if small plants are desired for table or winter work late in the season or winter. A stock of the best plants selected from those intended to be bedded out, may now be taken and potted on for summer work. In order to render them dwarf and bushy pinch out the point and stimulate them to make a free growth, and later on when the older parts of the stem are getting hard they will flower freely. President Garfield is a large-flowered and dark variety, while Mina is pale, and White Lady, white. All are highly fragrant.

FUCHSIAS.—Young plants may be brought on by shutting up the house early, and syringing or damping down heavily. In fact, a heavy syringing overhead they very much enjoy, even when in bud or flower. This, of course, should be done late in the afternoon or just before leaving off work. Old plants that are now well advanced may be stood in the open air after being well hardened off, if the intention is to retard them. They will make short-jointed wood, and consequently a close arrangement of the flowers. Just as the buds are about to expand they may be taken to the greenhouse or conservatory, where they will make a fine display. They will continue to produce an abundance of flowers during the greater part of the season if they are properly attended to in the matter of moisture and ventilation both night and day.

THE FRUIT HOUSES.

VINERIES.—Muscats must now be kept pretty warm, shutting up early in the afternoon, when the temperature may be allowed to run up to 90° with sun heat. A little fire-heat at night will still be necessary in order to keep up the temperature to 70°. Of course, in the very earliest house, where the berries are now colouring, or soon will be, less moisture will be required than where the berries are merely swelling. More air should also be given when they are colouring, and this will considerably improve their flavour. In those houses where the berries have now commenced to swell the whole should be gone over, removing all small or badly-placed ones. After attaining some size they should not be interfered with, because the skin of white varieties is so easily injured.

THE FLOWER GARDEN.

THE mildness of the weather and the suitable condition of the soil will now offer great temptations to commence bedding out. Gardeners had better be reminded, however, that all danger of late frosts is not yet over, as the injured leaves of the Walnut trees recently showed. What is to be chiefly avoided, however, is the planting of such tender things as Dahlias, Heliotropes, and Nasturtiums. The Hyacinths used in spring bedding have now been out of flower for some time in all the southern counties, and the Tulips are all but done for, with the exception of a few late doubles. These, then, together with Crocus and Narcissi, may be lifted and laid in thickly in the reserve garden. Dig and otherwise prepare the beds ready for their summer occupants. Calceolarias, Fuchsias, Pelargoniums, Lobelias, Pansies, Alyssum, Cotyledons (Echeverias), and similar subjects may be planted without further delay, provided they have been properly hardened off.

GARDENERS' ORPHAN FUND.

THE COVENT GARDEN FÊTE.

"An unqualified success," was the general verdict when the doors of the great Wholesale Flower Market were closed after the fête held on the Wednesday night of last week. It was indeed a glorious display of flowers and foliage, and will be long remembered by those who saw the gaily-dressed market for the first time, and will be looked back to with pleasure even by the growers and standholders themselves, as by far the finest display made by them. As to the quality of the plants, perhaps there was little or no improvement to record over those put up last year ; we should, indeed, be surprised if there were, but in the matter of grouping and arrangement there was a marked advance, for this time every grower made a point of arranging his wares in the most artistic way that the limited space and circumstances of position allowed, so that the general effect was greatly enhanced, and unstinted praise was bestowed all round by the visitors.

The opening ceremony took place at 8.15 p.m., when the Baroness Burdett-Coutts, accompanied by her husband, Mr. Burdett-Coutts, and numerous friends, were received by Sir Julian Goldsmid, Bart, M.P., the president of the fund, Lady Goldsmid, Mr. George Deal, chairman of the committee, Mr. A. F. Barron, honorary secretary, and the members of the fête committee. When the reserved enclosure was reached, Mr. Deal read the following address :—

"The committee and subscribers of the Gardeners' Orphan Fund desire to express the very great pleasure they have in welcoming your ladyship and Mr. Burdett-Coutts on this occasion, and to thank you for the honour conferred upon them by so kindly consenting to open this Feast of Flowers so generously provided by the market growers, and held in this spacious building through the kindness of His Grace the Duke of Bedford.

"The deep interest which your ladyship has at all times taken in good and charitable works is too well known to require comment. Your noble deeds are shown in the improved condition and increased welfare of large classes of the community, and have caused your name to become a household word throughout the length and breadth of the land.

"The Gardeners' Orphan Fund was established in 1887, in commemoration of Her Majesty's Jubilee, its object being to afford maintenance and education to the orphan children of gardeners. The generous support it received enabled all the candidates at the first election (eleven in number) to be placed on the benefits of the fund, but the committee regrets that at the ensuing election, in July next, five only out of the fourteen candidates can be elected.

"In again thanking your ladyship for the honour conferred, the committee begs to express the hope that you may long be spared to continue the life of charity and benevolence with which your name has been so intimately and honourably associated."

The Baroness then declared the fête open, and expressed her pleasure at being able to be present among all the lovely flowers, and her warm sympathy with the object for which the fête was held. By this time a large number of ticket-holders had assembled in the huge building ; Mr. Charles Godfrey's fine band

commenced the first part of the musical programme, and the Baroness, escorted by Sir Julian Goldsmid and party, commenced a tour of inspection that lasted over an hour, and which afforded the greatest pleasure to all. Earlier in the evening the market was also visited by the Duke and Duchess of Bedford, upon whom Mr. Assbee, the superintendent, was in attendance to explain the arrangements, and magnificent bouquets of Orchids, composed of flowers sent by Mr. Thomas from Chatsworth; Mr. Sander, St. Albans; and T. B. Haywood, Esq., the treasurer of the fund, were presented to the Duchess of Bedford, the Baroness Burdett-Coutts, and Lady Julian Goldsmid.

Where all worked so indefatigably for the success of the fête, and each individually strove to the utmost to dress his stand in a manner worthy of the occasion, it would be invidious to make comparisons, and we shall not attempt to do so, even were it possible, which it was not, so strikingly distinct in character was one from another, and so widely different the style and characteristic of each grower's specialty. The most predominant subjects—those shown in massive blocks of colour or greenery—were the Regal, decorative and zonal Pelargoniums, Roses, Spiræas, Liliums, Irises, Narcissus poeticus, Lilies of the Valley, Coleuses, Palms, and Ferns, and in smaller quantities were Orchids and a great variety of cut flowers. Perhaps the most striking object in the market was a huge bank of Coleus, surmounted by Lilium longiflorum, shown by Mr. Poulton of Edmonton, and which excited universal admiration, on account of the fine effect produced by the variously tinted foliage under the gas-light. Mr. Aldridge had a finely-arranged bank of Lilium longiflorum intermingled with Iris germanica and I. florentina, and beneath these were Funkias, Ferns, Pansies, Roses, and Persian Ranunculus variously arranged; the whole having a very effective appearance. One of the boldest groups of Palms was that of Mr. Drost, of Richmond. On the top shelf a large Cocos plumosa towered nearly to the top of the building, and all beneath this was arranged a large number of other decorative Palms of various sizes, interspersed with masses of Negundo aceroides variegata, Laburnum and white Lilac.

A fine, bold, and massive bank of Dracænas, Palms, Ferns, and Crotons was that of Mr. Bause, of Anerley, and on the top shelf was a fine specimen Nepenthes. Messrs. Hawkins & Bennett, of Twickenham, displayed their usual taste in the arrangement of Lily of the Valley, scarlet, pink, and white Pelargoniums in pots, cut Maidenhair fronds, and other subjects. A fine stand of numerous flowers was shown by Mr. T. S. Ware, Tottenham, including Narcissus poeticus, Iris germanica and I. florentina, varieties of Oriental Poppies, bedding Violas, Forget-me-not, Centaurea montana alba, Persian Ranunculus, and Solomon's Seal. Mr. James Walker, of Whitton, had also a fine lot of cut flowers, amongst which were the Gardenia-like double Poet's Narcissus, Lily of the Valley, Iris germanica, I. florentina, Persian Ranunculus, Tulips, Scilla hispanica alba, and others. Mr. W. Poupart, Twickenham, had Anemones, Lily of the Valley, Yellow Globe Flower, Forget-me-not, and a fine mass of Ranunculus aconitifolius flore pleno, all beautifully massed.

The usual masses of Ferns, including Pteris serrulata compacta, Aralias, Crotons, and other decorative subjects, were to be seen on the stand of Mr. H. B. May, of Edmonton; and an effective group of Palms, interspersed with numerous Orchids, was put up by Mr. W. Denman, Covent Garden. Conspicuous kinds were Odontoglossum crispum, Dendrobium thyrsiflorum, D. fimbriatum oculatum, D. transparens, D. Dalhousiæ, Cattleya Skinneri, C. Mendelii, and Odontoglossum vexillarium. Mr. Philip Ladds, of Bexley Heath, occupied several stands; but that devoted to cut flowers was the most effective. Here were masses of white and scarlet decorative Pelargoniums in boxes, white and pink Tea Roses, scarlet zonal Pelargoniums, and Maidenhair Fern.

One of the finest lots of Orchids was exhibited by Mr. Henry M. Page, of Teddington, the most conspicuous being Cattleya Mossiæ and C. Mendelii, with smaller lots of Oncidium Marshallianum, O. concolor, and Cypripedium caudatum. He also had fine Mignonette and Marguerites. Lilium longiflorum Harrisi was shown in great quantity by Mr. G. Monro, and was effectively set off by Maréchal Niel Roses, the double Poet's Narcissus, Fair Maid of Guernsey Chrysanthemums, Pansies, and ornamental Grasses.

A beautiful bank of Fuchsias, Caladiums, Regal Pelargoniums, Petunias, Roses, Lilium longiflorum, and Miss Jolliffe Carnations, was that of the Messrs. Beckwith & Son; and nicely-flowered Heaths, including Erica Cavendishii and E. ventricosa, were shown by Messrs. Gregory & Evans, who also had Pteris serrulata cristata, Astilbe japonica, Heliotropes, and Regal Pelargoniums. A fine bank of the Trumpet Lily (Richardia africana) was put up by the Messrs. Mizen. They also had Roses, Marguerites, Forget-me-not, dark Pansies, and Maidenhair Fern, mostly cut. Beautiful samples of Saxifraga Cotyledon pyramidalis were shown by Mr. E. Brown, together with Harrison's Musk and decorative Pelargoniums.

On both sides of one of the avenues were stands evidently put up by the same owner, whose name could not be discerned for the flowers, consisting of the Bermuda Lily, Spiræa palmata, Palms, Ferns, white Spiræa, and others. A fine bank of Pelargoniums, Fuchsias mixed with Maiden-hair Fern, Marguerites and Pandanus Veitchii, was shown by Mr. H. R. Wright, Lee, Kent. Very unique in its way was a stand of New Holland plants, consisting of Boronia elatior and Leptospermum scoparium, together with Caladiums, Azaleas, and Ferns. The owner's name was concealed by the masses of flowers. Mrs. Weatherill had a large quantity of the Rose, La France, in excellent condition, together with others in pots, regal Pelargoniums and Mignonette. The pretty Crassula jasminea set off with Adiantums was shown by Mr. W. Warren, together with Ferns, Selaginellas and Palms. A very showy lot of Hydrangeas in 48-size pots, and measuring 10 ins. or 12 ins. across the head of bloom, was staged by Mr. C. E. Woodroffe. A varied assortment of flowers was exhibited by Mr. William Cale, Covent Garden, including fine blooms of Cattleya Mossiæ, Dendrobiums, Roses, and Pelargoniums; and cut blooms of Tea and Noisette Roses, including the white Niphetos and Maréchal Niel, were shown in beautiful condition by Mr. W. Unwin, Covent Garden. The brilliant glare of white and scarlet zonal Pelargoniums and decorative or Regal varieties was toned down by being freely interspersed with Ferns, in the group shown by Mr. S. W. Brown.

The Blenheim Palace Gardens.

It was a happy thought of Mr. T. Whellans, gardener to the Duke of Marlborough, to get the sanction of His Grace to the opening of the gardens at Blenheim in aid of the Gardeners' Orphan Fund, and it is gratifying to know that as a result the fund will benefit to the extent of a considerable sum. The gardens, which have undergone extensive alterations and renovation since the present Duke took possession, were opened on the 22nd and 23rd ult., on the occasion of the holding of the Oxfordshire Agricultural Show in Blenheim Park, and we understand that about £40 was taken on the first day and £80 on the second.

QUESTIONS AND ANSWERS.

Begonia John Heal.—*Inquirer:* Being a winter-flowering plant, the tubers should be started about July and allowed to grow away slowly, giving water as required—that is, according to the rate of its progress. Late in autumn it will commence flowering, and should be well exposed to the light, although not to intense sunshine, which, however, will not be of frequent occurrence at that season of the year. Give plenty of ventilation, with an intermediate or warm greenhouse temperature, but close the house during foggy weather, as this causes the whole of the flowers to drop off in a very short time. After flowering is over the plant should be allowed to gradually go to rest. Keep the tubers moderately moist, to prevent shrivelling, in a moderately high temperature till summer.

Dipladenias.—*Constant Reader:* You cannot keep back till August the flowers showing now, and if you put the plants in a cooler house the buds would probably drop off. If you pick off the flowers now showing, keep the plants in strong heat and feed them with liquid manure, you will stand the best chance of having them in bloom by the date wanted.

Drying Orchid Blooms.—*C. P., Preston:* Orchid flowers are dried in various ways. If you would like to have them in their natural shape or form after being dried, you must get a box of clean silver sand, and thoroughly dry it until it runs through the fingers like dust. Then bury the flowers in the sand with all the parts in their natural positions. The sand will gradually abstract the moisture from the flowers, which will retain their natural colours, or nearly so, and if mounted in cases they will last good for many years. Another method must be adopted if the flowers are intended to be mounted on sheets of paper. They must then be dried between sheets of any soft kind of paper, including blotting paper, and placed between two flat boards or frames made of laths for the purpose, and subjected to heavy pressure. A heavy weight may not be placed on them at first until the flowers become limp, otherwise many of the fleshy kinds would be crushed and broken. After being under pressure for one night, the flowers may be taken out and arranged perfectly flat, as some of them will now be found to be more or less doubled up or crumpled. Place between dry sheets of paper, and subject to a heavy weight. Change the paper every day, or every second day after a time, until the specimens are dry.

Enamelled Pots.—*Omega:* An ordinary workman outside of a pottery knows nothing about enamelling or glazing pots, and we have never seen it attempted in gardens. The glazing is usually done before the pots are fired. You might try Aspinall's Enamel without much trouble—anyone can paint that on.

Kalanchoe carnea.—*Inquirer:* The species of Kalanchoe are succulent herbs, or sub-shrubby plants with fleshy stems and leaves, and require treatment similar to that class of subjects. Pot them in a compost consisting of sandy loam and brick rubble; drain the pots well, and keep in a rather warm or intermediate greenhouse. While making their growth they will enjoy a fair quantity of water; but towards the end of summer this should be gradually withheld, to cause the stems to ripen and develop flower buds. Keep your plants on the dry side during winter, and they should come into flower early in the year.

Names of Plants.—*Saxon:* 1, Petasites vulgaris; 2, Luzula sylvestris; 3, Piptanthus nepalensis or Evergreen Laburnum; 4, Trollius asiaticus; 5, Stellaria Holostea; 6, Ranunculus amplexicaulis. *M. P.:* 1, Erysimum ochroleucum, erroneously called Cheiranthus alpinus in gardens; 2, Veronica repens; 3, Trollius europæus; 4, Diplacus glutinosus. *H. McM.:* 1 and 2, imperfect; 3, Adiantum cuneatum grandiceps; 4, A. assimile; 5, A. cuneatum, var.; 6, A. incisum; 7, A. hispidulum; 8, A. cuneatum Pacotti; 9, A. Rhodophyllum; 10. Asplenium Filix-fœmina; 11, Selaginella Martensii; 12, Aspidium capense; 13, Pteris (no fruit); 14, Nephrodium decompositum glabellum; 15, Nephrodium (Lastrea) Filix-mas cristata; 16, Selaginella uncinata; 17, Asplenium Trichomanes; 18, Selaginella (shrivelled up); 19, Pteris serrulata cristata; 20, Pteris serrulata; 21, Sedum sarmentosum variegatum; 22, Stenotaphrum glabrum variegatum; 23, no specimen; 24, Nephrolepis cordifolia; 25, Adiantum cuneatum. *W. K. Glover:* Ranunculus montanus. *Juno:* Lastrea Filix-mas cristata; 2, Polystichum angulare var.; 3, Medicago echinus. The Stanhopeas next week. *W. J. D.:* 1, Cyperus alternifolius; 2, Euphorbia Cyparissias; 3, Jasminum Sambac; 4, Chlorophytum elatum variegatum; 5, Fittonia Verschaffeltii. (We did not receive your last consignment or we should have named them.) *B. O.:* 1, Choisya ternata; 2, Adiantum cuneatum grandiceps; 3, Ophiopogon japonicus intermedius argenteo-marginatus; 4, Asplenium viviparum; 5, Davallia pallida, better known as D. Mooreana. *Thomas Campbell:* A lovely variety which we should call Odontoglossum crispum Stevensi, otherwise known as Stevens' variety. It may differ slightly from the originally named specimen, but not sufficiently so to make a distinct variety. There are a few more of the small spots on the lip than on the first one. You have certainly got a very fine thing, and seeing that it was an imported piece, we should advise you to cut off the flowers at once, and grow on the plant strongly for next year.

Pansy.—*Amos Carter:* The Pansy you sent us would be classed amongst the fancy kinds, and for that class we consider it very good. Exhibition varieties would either be selfs or would have a ground of some other colour, with dark blotches round the eye and a dark margin. But in all these the markings and bands of colour should be well defined, and not running off into streaks or rays. This is the fault with your one, otherwise it would constitute a good yellow-ground exhibition kind. The blotches on the three lower petals are of great size, and of a rich velvety brownish violet, almost black; but they are a little broken at the edge of the colouring.

Treatment of Orchids.—*Robert Savage:* Most of the Orchids you mention require warm treatment in the East Indian house. Cymbidium bicolor should be grown in a pot, using a compost of sphagnum, fibrous peat, and lumps of charcoal or broken potsherds; give plenty of water in summer, and never dry off the plant even in winter, although less water must be given at that time. Acampe Whitiana and Vanda spathulata should be grown in baskets in the East Indian house, and will require less water in winter than the Cymbidium. Pholidota imbricata may be treated much in similar way as Acampe, and grown either in a pot or basket. It should be kept rather dry in winter till it develops its flower stalk. Cirrhopetalum Macræi may be grown on a block of wood or cork, or placed in a basket. A certain amount of water must be given even in winter, but nothing like the quantity given it in summer, and shading must be given while in flower. All the above may be grown in the same house, which should be kept at a night temperature of 60° or 65° in winter, 70° to 75° during the night in summer, and 10° or 15° higher by day with sun-heat.

Valisneria Fertilisation.—*Omega:* The male and female flowers being borne on separate plants, it is impossible that they can be self-fertilising, unless by accident your plants have produced hermaphrodite flowers, which we hardly think likely. If you have male and female plants in the same tank, fertilisation has taken place in the usual way with this plant—*i.e.*, the female flowers have been "set" by the pollen from the male blooms floating about on the top of the water.

Communications Received.—W. J. M.—T. S. W.—B. F.—G. C.—J. V. & S.—W. L. W.—H. A. J.—C. S.—R. D.

TRADE CATALOGUES RECEIVED.

Williams Bros. & Co., Pershore Street, Birmingham.—Patent Flower and Plant Support, Syringes, &c.

Stansfield Bros., Southport.—Alpine and Hardy Perennials.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending May 25th, was 29·70 ins.; the highest reading was 29·93 ins. on Monday evening, and the lowest 29·37 ins. on Saturday morning. The mean temperature of the air was 61·9°, and 6·7° above the average in the corresponding weeks of the twenty years ending 1868. The mean was below the average on Sunday, but exceeded the average on each of the other days of the week; the excess was exceptionally large on Thursday and Friday. The direction of the wind was variable, and the horizontal movement of the air averaged 5·8 miles per hour, which was 4·6 miles below the average in the corresponding weeks of sixteen years. Rain fell on three days of the week, to the aggregate amount of 0·51 of an inch. The duration of registered bright sunshine in the week was 49·1 hours, against 49·0 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

May 27th, 1889.

Messrs. Hurst & Son, 152, Houndsditch, E., report sowing demand for Clover and Grass Seeds has ceased. Rape Seed is in moderate demand. Mustard meets with attention at present low prices. Hemp steady. Linseed firm; other Bird Seeds unchanged.

COVENT GARDEN MARKET.

May 29th.

No alteration in prices of FRUIT and VEGETABLES.

OUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Anemone, 12 bunches.	1 0	4 0	MaidenhairFern, 12bns.	6 0	9 0
Arum Lilies, 12 blms..	2 0	4 0	Marguerites, 12 bun.	3 0	6 0
Azaleas ....12 sprays	0 6	1 0	Mignonette, 12 bun.	4 0	6 0
Blue Bells..12 bnchs.	1 0	2 0	Pansies ..12 bunches	1 0	2 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 spys.	0 6	1 0
Camellias, white, doz.	2 0	4 0	— scarlet ..12 sprays	0 4	0 6
Carnations, 12 blooms	1 0	2 0	Polyanthus, 12 bnchs.	1 6	4 0
Eucharis ..per dozen	3 0	6 0	Primula, double, bun.	0 9	1 0
Forget-me-nots.....	1 6	4 0	Ranunculus, French, 12 bnchs.	1 0	3 0
Gardenias, 12 blooms.	1 6	4 0	Roses, Tea, per dozen	0 6	1 0
Heliotropes, 12 sprays	0 6	1 0	— Red .....per doz.	2 0	5 0
Ixia.....12 bnchs.	2 0	4 0	— Red, French, dozen	1 6	2 0
Lapageria, 12 blooms	2 0	4 0	— Saffrano ..per doz.	1 0	2 0
Lilium longiflorum, 12 blooms	2 0	4 0	Stephanotis, 12 sprays	2 0	4 0
Lily of the Valley, 12 bunches	3 0	6 0	Tuberoses, per dozen.	1 0	2 0
Lily of the Valley, (French) 12 bns.	9 0	18 0	Wallflowers, 12 bnchs,	4 0	6 0
Lily of the Valley, 12 sprays	0 6	1 0	White Lilac, French, per bun.	3 0	5 0
			White Narciss, 12 bunches	3 0	6 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	5 0	12 0	Foliage Plants..each	2 0	10 0
Arum Lilies..per doz.	6 0	12 0	Genista ....per dozen	9 0	12 0
Azalea.....per doz.	18 0	30 0	Heliotrope ..per doz.	4 0	8 0
Bedding plants, in var., per doz.	1 0	3 0	Lobelia .... per doz.	4 0	6 0
— — in boxes ..each	1 0	3 0	Marguerites per doz.	6 0	12 0
Calceolaria ..per doz.	6 0	9 0	Mignonette, doz. pots	5 0	10 0
Cineraria ..per dozen	6 0	10 0	Musk ..... per doz.	2 0	4 0
Cyperus, ..per dozen	4 0	12 0	Nasturtiums .... doz.	3 0	5 0
Dracæna term., doz.	30 0	60 0	Palms in variety, each	2 6	21 0
— viridis, per dozen	12 0	24 0	Pelargoniums, scarlet,	4 0	9 0
Erica, various ..doz.	9 0	24 0	Pelargoniums, per doz.	8 0	18 0
Evergreens, in var. .,	6 0	24 0	Pinks, &c. .. per doz.	6 0	9 0
Ferns, in var., per doz.	4 0	18 0	Roses, H.P , per doz.	12 0	24 0
Ficus elastica ..each	1 6	7 0	Roses, Fairy, per doz.	9 0	12 0
Fuchsia.....per doz.	6 0	12 0	Spiræa .....per doz.	9 0	12 0
			Stocks ..... per doz.	2 6	4 0

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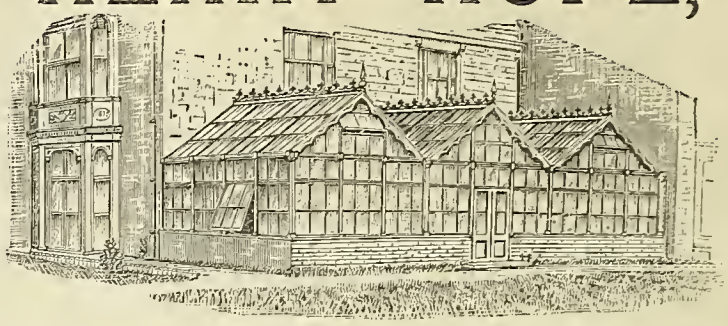

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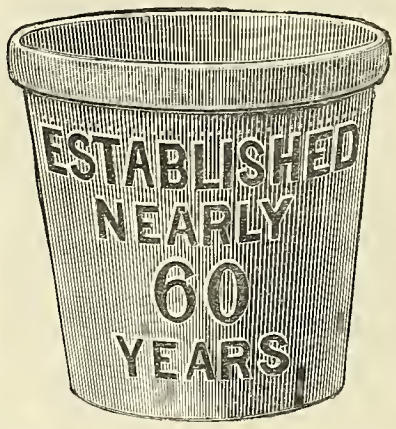

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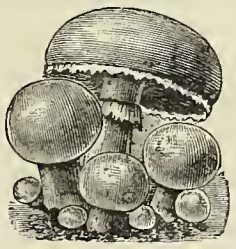

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Next Week's Engagements.

Monday, June 10th.—Continuation of the Great Horticultural Exhibition at Manchester (and four following days). Norton Pansy Show.

Tuesday, June 11th.—Royal Horticultural Society: Meeting of Fruit and Floral Committees at 11 a.m.

Thursday, June 13th.—Jubilee Festival of the Gardeneas' Royal Benevolent Institution at the Albion, Aldersgate Street, 6 p.m.

Friday, June 14th.—Sale of Orchids at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.
SATURDAY, JUNE 8, 1889.

CURRENT TOPICS.

Facile descendens.—This should now be the motto of the Royal Botanic Society. We have never held the work of this body in very high appreciation, as at best the highly-favoured gardens in the Regent's Park, valuable land literally purloined from the nation and placed at the entire disposal of a select body of private individuals, has never been little other than a show place—a fashionable promenade. But the appellation "Botanic" has gulled many persons into the belief that the royal society which has its habitation in the Regent's Park, is doing some excellent scientific work, yet no greater fallacy ever existed.

Now, as if to show how low the mighty can fall, we hear of a Battle of Roses, and a parade of florally decorated donkeys—four-legged ones, not bipeds—that is to take place in this fashionable resort next month, and the ostensible scientific garden, devoted to the study of botany, is to become a sort of floral pandemonium, during which the Rose, our national flower, is to be prostituted to the worst and meanest of uses. What has the National Rose Society to say in this matter? Can it make no protest? Every Rose grower in the kingdom, who loves Roses because to him these flowers are his floral queen, should protest in the strongest language against such a desecration of lovely flowers as is threatened at Regent's Park on July 15th. We commend this matter to the attention of the Chiswick Rose Conference. Dean Hole is to be the chairman of that gathering; he is a fearless and outspoken man, a devout admirer of *Rosa, regina florum*, and we do hope that he will have the courage to denounce a desecration of our floral queen and national emblem as a disgrace to our nationality.

The Temple Show.—We can heartily congratulate the Council of the Royal Horticultural Society on the splendid character of their second Temple Gardens show, but even in so doing must admit that but for the enterprise of some of our leading Orchidists, the show would have been, so far as plants were concerned, almost a failure. It may be interesting to establish comparisons between the display of Orchids made on the Thames Embankment last week and that seen at the Orchid conference at South Kensington in 1885, but the matter has little general concern. What we aver is that a grander show of these gloriously beautiful flowers has never before been seen in London, and to the Orchidists belong the honour of having made the finest feature of this brilliant exhibition.

But apart from Baron Schroder's, the Duke of Marlborough's, and some few other collections, real specimen plants were rare, even among the Orchids; whilst Mr. George Paul, almost alone in his huge and finely-flowered Roses, presented to us *bonâ fide* specimen plants. Our London shows, or at least those of the Royal Horticultural Society, seem now to have dwindled down to a battle of masses, rather than of individual merit in plants. The prevailing idea seems to be to captivate the eyes of the public rather by creating a crowd of flowers than by showing how the highest art of the gardener can be applied in the production of noble specimens from single plants. This may be the proper thing for the society to do, but mindful of the immense gain to horticulture, from an educational point of view, which accrued from the grand shows of specimen plants at Chiswick and South Kensington, we beg leave to doubt it, and in any case we are still thankful that they think differently at some other places, as our grand provincial shows—Manchester to wit—testify.

The almost entire absence of the market growers from the show, although classes were specially provided for them, shows that their alliance with the Royal Horticultural Society was but a broken reed, and that Mr. Bourne, the Duke of Bedford's agent, as a representative on the Council of the market trade is a failure. After all, it may be as well to put the matter boldly—there is no affinity between Covent Garden and the Royal Horticultural Society.

The Fruit Prospect.—It really looks, after all, as if the rich promise of bloom on fruit-trees, Apples and Cherries especially, will prove to have been but a temporary illusion. There will evidently be but a thin Apple crop, although we hope that thinness will be compensated for by the fineness of the fruits. Generally, on all standard trees the fruit is very thin, and the earlier anticipations that imperfectly ripened wood could not produce perfectly matured fruit-buds is evidently justified. Bush fruits will be fair crops where the caterpillar is not ravaging, but this pest is unusually rampant this year, and is a perfect terror to growers in many directions. Our finest fruit crop promises to be found in Strawberries, which is a profitable fruit in fine weather, but a sadly troublesome one in a wet season. On the whole the outlook for fruit growers is anything but hopeful, indeed it is a very depressing and disappointing one. Year after year goes by, and still the average fruit crop is so moderate that decent profits are impossible. Either our climate is grievously out of gear, or else our cultural methods are wrong. Certainly, there will be no great profits made in fruit-growing crops this year, whilst some backs will be severely tried.

The Veitch Memorial Medals.—Amongst horticultural innovations the new arrangement of the Veitch Memorial Trustees, by which one medal yearly—which has hitherto been given to some form of horticultural produce—is now to be given to some distinguished horticulturist, claims attention. The selection of Mr. A. F. Barron, of Chiswick, as a recipient of this undoubted honour, is one which will meet with universal approbation, as did the award to Mr. Seden a few years ago. Mr. Barron is so highly esteemed universally, and has made his mark in so many ways as a horticulturist, that the granting to him of one of the handsome and coveted medals is one of the most appropriate things yet done under the auspices of the Royal Horticultural Society. Mr. Barron has been at Chiswick for many years and still remains, the right man in the right place. During the troublous times the society has lately passed through, his wide experience and consummate tact was of the greatest value in keeping supporters of the society together, and with others of the same way of thinking, we should be glad if he had a larger amount of control over the society's proceedings, as his experience is, after all, of little value unless it is freely exercised.

But the question remains, how, henceforth, are other recipients to be selected, for it is hardly to be assumed that the Memorial Trustees will place the medal at the disposal of the Royal Horticultural Society annually? Probably the thoughts of many will turn towards Manchester, where there is one of the foremost of horticultural leaders and administrators. But some method or basis of selection must be adopted, which shall satisfy not merely the Trustees, but the whole of the horticultural community, if the awards are to carry with them absolute satisfaction.

Will the Trustees indicate each year that the most acknowledged leader, or representative worker in connection with some special section of horticulture, will be selected for the honour, and invite nominations from those specially concerned in that branch of gardening? Whatever course be taken henceforth, it is earnestly hoped that whilst the recipient of the medal shall be a first-class man, the award shall carry with it popular approbation.

Professor Reichenbach's Herbarium.—Judging from the terms of this German botanist's will, an extract from which will be found in another column, the distinguished Professor seems to have left behind him rather a big grudge against his scientific brethren, as he practically shuts up his great collection of dried Orchid specimens and drawings for the next quarter-of-a-century, and, as far as this country is concerned, has left no hope of our ever having the collection among us. What could have been his real motive for so deliberately cutting his English friends we shall not attempt to discover, though, perhaps, not far to seek, but in leaving his collections subject to certain, perhaps impossible, conditions to German, or Swedish, or American, or, finally, to French botanical establishments, he has acted in the most selfish manner, and ill requited the generosity for many years shown to him in this country, whence he must have obtained a very large portion of his specimens at no cost to himself, and at the same time found a market for his descriptions of the same which, in a pecuniary sense, must have been of some importance to him.

The Orchid craze, which the old Professor condemns, and which, strangely enough, in life he so strenuously fostered, will not die out because his labours are over and his collections are closed for a generation. There was more of real encouragement to the continuance of the Orchid craze—if craze it be—seen in the grand show of the lovely flowers in the Inner Temple Gardens, than the spleen of any dead botanist can counteract. To a whole host of people the Orchid display in the City came as a sort of revelation, so little conception had they of the wondrous variety and beauty found in these plants, and the cultivation of which plenty of English gardeners are now comprehending. England, indeed, can hold its own with the whole world, as the superb Orchids staged last week testify, and the death of a Professor or two will make no difference, nor will the locking up of Reichenbach's herbarium. People will continue to grow and admire Orchids, because they are the most beautiful of flowers, and the dry details attached to their nomenclature and classification may be left to be wrangled over by crusty scientists.

Peripatetic Exhibitions.—The *Daily News*, in its report of the Temple Show, advised that, having regard to the immensity of London, it was worthy of consideration whether the Royal Horticultural Society should not creep out of the Westminster Drill Hall shell and hold its exhibitions here and there about London, as places suitable for the purpose may be found. Now, whilst we hold that the proposal is well worthy of all consideration, yet that a specified and permanent place for the holding of the society's ordinary meetings is indispensable, although the Drill Hall seems to be about the most unfortunate one to be found.

But if it is well to hold a summer exhibition in the Temple Gardens, it may be equally worthy of consideration whether districts like Clapham or Streatham in South London may not be served, or aristocratic Kensington may not have its show in Holland Park, or whether the Royal Botanic Gardens, Regent's Park, may not be borrowed by the Royal Horticultural Society for the holding of an occasional exhibition in that most fashionable quarter. Then the Royal Horticultural Society may, perhaps, organise a fruit, vegetable, and cut-flower show amongst the plebs of East London, say at the People's Palace, or at the Agricultural Hall in the north. That w take to be the desire of our eminent daily contemporary.

The danger would be that with so many diverse habitats, it would be hard to light upon the right one at the right moment, and the taking of the mountain to Mahomet might for this reason fail. Perhaps it is wiser to have a fixed show centre, and to bring Mahomet in the shape of the masses of London to the horticultural mountain at the Temple. The society's one swallow, however, don't make a summer, nor its one chicken, over which there is so much cackling, a poultry yard. We should like to see several really good shows held in London annually if possible.

The Mansfield Horticultural Society will hold its fourteenth annual exhibition on Monday, August 5th, and has just issued a schedule of prizes, which embraces a great number of subjects. This is one of the few provincial societies which holds monthly meetings all the year round, and gives prizes for some flowers and vegetables at each gathering — good practical work which we are glad to see meets with liberal recognition.

Gardening Engagement.—Mr. G. Potts, late of Hill House, Morden, as gardener to Sir Edmund Hardinge, Bart., Fowler's Park, Hawkhurst, Kent.

The Finchley Chrysanthemum Society has fixed the date of its next exhibition for November 5th and 6th, and has just issued its schedule of prizes.

A New Departure in Special Prizes.—An interesting feature in connection with the Reading Horticultural Society's Show on the 29th ult. was the institution of a series of premiums by Messrs. Sutton & Sons, by which the first prizes given by the society in certain classes are augmented, with the object of inducing larger competitions. Thus in a class in which the first prize is, say, £8, the premium of £2 goes to the amateur or gentleman's gardener winning it, the value of the prize being in this way raised from £8 to £10. The new departure will no doubt greatly tend to bring about the desired results.

Presentation to Mr. A. Dean.—On the 20th ult., at a vocal and instrumental concert given in the Feltham Public Hall, and at which Mr. John Ashby, J.P., of Staines, presided, and Mr. Alexander Dean and several members of his family most ably assisted, Mr. Dean was presented with an admirable portrait of himself in acknowledgement of valuable services rendered during a long period as honorary secretary of the Feltham and Bedfont Liberal Association, from which office he has now retired. In making the presentation Mr. Ashby remarked that, "he had always admired Mr. Dean as a thoroughly honest and consistent politician, and as a man who always acted up to his principles."

The Railway Rates Question.—The objections to the proposed revised lists of railway rates formulated by the committee of the Nursery and Seed Trade Association were, we understand, duly lodged with the Board of Trade on Saturday last. In the House of Commons on Tuesday evening Sir M. Hicks-Beach stated that over 3,000 objections had been received, and that he was of opinion that in the first instance an attempt should be made to settle such points as were capable of solution without a formal hearing by the Board of Trade. The railway companies had therefore been directed to arrange for interviews with objectors,

Every possible facility would be given to enable objectors to support their cases before the Board of Trade. It is highly desirable, in the interests of the horticultural trade, that the objections raised should now be pressed home, but to do this the trade association must be guaranteed against any expenses that may have to be incurred, and we direct attention to the list of guarantors, published in another column, in the hope that it will soon be largely increased.

The Chiswick Chrysanthemum Conference.—A meeting of the Executive Committee was held in the Temple Gardens on Friday, May 31st, T. B. Haywood, Esq., president of the Conference, presiding; and we learn from Mr. E. Molyneux, honorary secretary of the committee, that a representative schedule of classes was drawn up, consisting of thirteen for plants and twenty-two for cut blooms, embracing all sections and methods of cultivation, with a view to obtain competition to suit all classes of cultivators and lovers of Chrysanthemums. To make the exhibition still more useful, a class was made for appliances best suited for growing and showing Chrysanthemums. The subjects of papers to be read at the Conference were selected, and readers suggested. Particulars will be announced as soon as the arrangements are completed. It was decided to issue papers to a large body of growers of the Chrysanthemum for statistical returns of various subjects connected with the plant and its growth, for future usefulness.

Prof. Reichenbach's Will.—We take the following copy of an extract from the will of the late Prof. Reichenbach from the *Gardeners' Chronicle* of Saturday last:—"My herbarium and my botanical library, my instruments, collection of seeds, &c., accrue to the Imperial Hof Museum in Vienna, under the condition that the preserved Orchids and drawings of Orchids shall not be exhibited before twenty-five years from the date of my death have elapsed. Until this time my collection shall be preserved in sealed cases. In the event of the Vienna Institute declining to observe these conditions, the collection falls under the same conditions to the Botanical Garden at Upsala. Should the last-mentioned Institute decline the legacy, then to the Grayean Herbarium in Harvard University, Cambridge, Mass. If declined by that Institute, then to the Jardin des Plantes, at Paris, but always under the same conditions—viz., of being sealed up for twenty-five years, in order that the inevitable destruction of the costly collection, resulting from the present craze for Orchids, may be avoided."

The Children's Industrial and Floricultural Society, which was founded in the East End in 1886, and one of the main objects of which is "to help brighten the homes and cheer the lives of young folks around by encouraging a love of flowers and floriculture, and thus bringing as much as possible of the country into a closely-built and thickly-populated part of the metropolis," announces that its fourth annual flower show will be held in the Beaumont Hall, when 200 prizes will be awarded in competitions open to all boys and girls under sixteen years of age, and those over that age who have previously exhibited, the only restriction being that plants for competition shall have been in the possession of the exhibitor and sealed by a member of the committee on or before Monday, May 13th. The society much needs help in the way of donations of cut flowers, fruit, &c., for sale in aid of the prize fund; seeds, bulbs, plants, &c., for distribution; and books, papers, fancy articles, &c., for prizes. Any of our readers who may be willing to help in the good work should communicate with the honorary secretary, Mr. F. W. Angus, 71, Grosvenor Road, E.

IPOMÆA HEDERACEA.

In general appearance many species of Ipomæa closely resemble those of Convolvulus, with which we are most familiar. Botanically, however, they are very distinct, as Ipomæa has a three-celled ovary and an undivided style, whereas the ovary of Convolvulus is two-celled, with a two-branched style. Although by no means common in cultivation, I. hederacea, of which we give an illustration, was originally introduced in 1597, no doubt owing to its being held in repute for medicinal purposes by the Arabs, who called it Nil, whence the origin of the synonym I. Nil, sometimes given to the plant. The leaves are heart-shaped, while the lower ones are more or less lobed. The flowers are produced one or two on a stalk in the axils of the leaves, and are light blue, while the variety I. h. limbata has a white edge to the corolla. It is a native of the warmer parts of the world, but can be grown here treated as a half-hardy annual, which grows to a height of 10 ft.

RIPENING v. STARVING PLANTS.

Lily of the Valley.

At the close of a very dry, hot season, such as 1887 for instance, remarks are often heard that good crops of fruit and flowers may be expected the following year, and the horticultural outlook in general is regarded as highly satisfactory. Such reasoning is of course based on the grounds that the tissues of the trees and plants have been thoroughly ripened by the weather conditions indicated. It is probable, however, that in some such seasons vegetation may be overdone by too much of the ripening—I had almost said the roasting—elements, without sufficient moisture to complete the work satisfactorily.

Quoting the year 1873 for instance, which was an exceptionally sunless, wet summer, and we find the splendid show of blossoms on most hardy subjects, besides fruit trees, and the abundant crops of fruits that were realised in the autumn of 1874, to be the subject of a leading article in a monthly journal published at the time. And we are again reminded by the good fruit prospects throughout the country that the previous wet season has not been unfavourable to fruit trees in a healthy bearing condition.

Referring to flowering plants, taking Lily of the Valley for example, it is significant that on soil of medium texture we never had a larger or finer crop of flowers than has been recently gathered. Such results, following a very wet season, points to the necessity of

Ipomæa hederacea.

giving good soakings of weak liquid manure occasionally during dry weather, more especially in the case of well-established plantations, where every inch of ground is occupied with roots. Much benefit to the plants will also accrue from rich top-dressings being applied in the autumn to be washed in by the winter rains. This extra attention will not fail to reward the grower when the flowering season returns, and where home-grown plants are used for forcing it is absolutely necessary on very light soils.

In making new plantations it is advisable to do so in different exposures, as when soils of extreme textures have to be dealt with together, with a very wet or dry autumn, certain plantations may yield better crops of flowers the following season, and a succession of bloom as long as possible is also ensured. We have four beds on various aspects, the first gathering of flowers being had from plantations facing south-west, while useful late supplies are obtained from a north-east aspect, the flowers there retaining their pure white colour longer than those on the opposite side of the wall.

Although not closely connected with the foregoing remarks, it may not be inopportune to remind some who may purpose forming fresh plantations to have the ground selected for the plants cleared of all noxious weeds in the first place if this is necessary, as when these get established in the beds it is often an arduous, if not an impossible task to remove them afterwards without working much injury among the plants. On one occasion we had to deal with a bed throughout which couch grass had become thoroughly interlaced. The course adopted was to clear out the plants with the grass, afterwards excavating the soil to a good depth and substituting fresh material. A liberal allowance of rotted manure should be mixed with the soil in the process of preparing the beds. The important item of mulching in dry weather such beds as were planted last autumn or spring should not be neglected. The mulching should be removed each time water is applied to the plants, and replaced as soon as the work is finished.—*Ayrshire.*

ENEMIES OF THE ROSE.

With the unfolding of the leaves in spring mostly every tree and bush is infested with enemies of various kinds, and none more so, perhaps, than the Rose. Outside the garden, little or no attention is paid to the ravages of insects, and less to the means of keeping them in check. By a great amount of perseverance the plants in small gardens can be cleared of various enemies; but on a large scale it becomes a serious matter, not merely of expense, but of time on the part of those who have to attend to the ordinary duties of the garden. When this is the case, insect and other pests are allowed to have undisputed sway to the utter destruction of the crops in season favourable to the rapid increase of the enemy. Diseases, as well as insect pests, find a paradise in gardens that are closely surrounded and sheltered by trees.

The leaf-rolling insects belonging to different genera are already busy at work everywhere amongst the Roses, and must be combated with great determination, otherwise the leaves will soon get greatly disfigured, while the enemy will have left them in a short time to assume the pupa state, protected from harm beneath the soil. One of the commonest grubs at the present time is that of a sawfly named Blennocampa pusilla. It lives on the under surface of the leaves, the margins of which it fastens down, forming a gallery or cylinder in which to carry on its work of destruction unmolested. Two leaves are often thus fastened together, and the experienced eye soon detects what is the matter. The larva is short, fleshy and green, and soon becomes full fed by devouring the substance of the leaves within easy reach of it. It passes through its stages of development very rapidly, and after forming cocoons in the soil, emerges as a perfect insect during May and June. The body is of a shining black of no great size, and the wings are brownish grey.

Owing to its habit of concealment, wholesale remedies such as may be applied to unprotected insects are of little avail. Hand picking is the surest remedy, and must be applied with unremitting energy during the larval state of the insect. It is a widely disseminated and very common species in the cottager's garden as well as in those of greater pretensions.

Another pest is the Rose slug, so named because the larvæ more resemble a small yellowish green slug, with a dark line down the back, and an orange head. It is the Eriocampa Rosæ of the entomologist, and like other species of the same genus has similar habits. The grub moves sluggishly over the upper surface of the leaves, gnawing away the epidermis, giving them a patchy appearance, and when present in large numbers, as it is in some localities, not only renders the foliage unsightly, but injures the general health of the plant. The egg is laid by the perfect insect upon the mid-rib of the leaves in May, and the larva becomes full grown during the month of May, or in the course of two or three weeks, after which it assumes the pupa state in the soil. While the leaves are wet, hellebore powder should be dusted over them; or the powder can be mixed in water, and the bushes either syringed with it or watered with a coarse-rosed watering pot. Sulphur may also be dusted over bushes affected with this enemy, as it feeds wholly unprotected.

Another sawfly, named Emphytus cinctus, feeds, in the larva stage, upon the edges of the leaves, and while feeding clasps the edge with the hinder part of its body. When at rest the grub coils itself up in a heap upon the under surface of the leaf, and it is here that the perfect insect deposits the egg. The specific name refers to a white line nearly surrounding the fifth segment of the abdomen of the shining black body of the female. When full fed the larva bores into the young shoots or takes up its quarters amongst dead leaves or other refuse upon the soil. It should be attacked in the larva stage, well syringing the under-surface of the foliage with some insecticide.

Hylotoma Rosæ is somewhat similar in habit to the last-named, and may be dealt with in the same way. The larva is of a bluish green, with yellow spots along the back, and black ones bearing bristles on the sides. There are two broods in the course of the season, namely, during May and June, and again towards the end of the season, say in August and September.

Many other insects termed leaf-rollers, and belonging to widely separated families prove destructive to Roses in certain localities. Some of the commonest are the Tortrices, a group of small moths individually very insignificant, but when plentiful—as they are this season—they are capable of doing considerable mischief by eating the leaves, the edges of which they roll together, binding them with silken threads. The grubs are slender, pale grey, with a darker hue along the middle of the back, and a darker head, and live in these cavities or cylinders which they form for themselves. They are lively and agile if molested, and often suddenly leave their chambers, letting themselves down by a thread, by which they re-ascend after the danger is past. Insecticides are of no avail, and hand picking, though a tedious operation, must be resorted to in order to diminish their numbers.—*Insecta.*

PLANTS AND FLOWERS FOR DECORATIVE PURPOSES.

The great increase in the quantity of plants and flowers grown for decorative purposes at the present time, as compared with thirty years ago, is quite remarkable, for in looking through some of the standard gardening books published about that time, I was unable to find anything respecting room or table decorations, and was very much surprised at the poor variety of suitable plants then in general cultivation. Since that time, however, things have changed, for there has been a steady increase in the use of floral decorations right up to the present time, when the decorator's art is in request at all sorts of gatherings, and amongst all classes of the community.

I have often been struck by the quantity of hard-wooded plants, especially Heaths, which are dispersed all over the country, the bulk of them coming from a very small area. Of the quantity and varieties of suitable subjects for room and table decorations there is scarcely any limit, but still fashion has something to answer for. Very often some particular flower or design is used pretty generally wherever you go, but I am of opinion that a good deal of the increase is due to a desire to outdo one's neighbours, which is all very well when there is no scarcity of materials to work with, as in the case of professional decorators or furnishers, or in large private establishments where plants are grown by the thousand for the purpose; but it is in smaller places, where a little of everything has to be grown—very often under difficulties, such as want of space, unsuitable houses, insufficient help, &c.—that it becomes necessary to cultivate only the most suitable things, that can be thoroughly depended upon.

It is my object to give a few hints that may be useful to beginners who are fixed in the same position as myself; but before I do so I would just point out the enormous quantity of flowers that are used for memorial wreaths and other emblems, for in one instance known to me there were between two and three hundred at one funeral. The florists seem to vie with each other as to who shall produce the most original design, and if the fashion alters as much in the next five years as it has done in the last, I know not what the result will be.

Coming to the more practical part of my subject, I will first notice a few plants that are most suitable for room and table decoration. Foliage plants, I think, will generally be found to be most useful, for in many cases they have to be placed in dark corners of the rooms, and remain there until replaced by others. For this purpose only the hardiest should be used, such as Aspidistra lurida variegata, Ficus elastica, Cyperus alternæfolius and variegata, Aralias Sieboldii and reticulata, greenhouse Dracænas congesta and rubra, Myrtles, and the following Palms:—Arecas sapida and Baueri, Kentias australis, Forsteriana, and Balmoreana, Latania borbonica, Phœnix reclinata, rupicola, and dactylifera, Seaforthias elegans and robusta. A few of the hardier Ferns, such as Asplenium bulbiferum, Nephrolepis exaltata, Adiantum pubescens, Pteris cretica, P. serrulata, P. tremula, Phlebodium aureum, and Platycerium alcicorne. There are certainly a few flowering plants that may be used for windows and the lightest positions, and also for decorations of a temporary character; together with a large quantity of stove plants, which are more tender and should not be kept out of their warmer quarters any longer than necessary, for the change in the atmospheric conditions, such as scarcity of light, want of moisture in the atmosphere to invigorate the foliage, and the prevalence of draughts make it a struggle to maintain life under such conditions; and, therefore, everything that is possible should be done beforehand, to prepare them for these uses, by gradually inuring them to the cooler atmosphere.

Plants recently re-potted should not be used until thoroughly established. It is my custom to leave a few plants at the general re-potting, to be used until the others are ready, that is, thoroughly established again. Of the blooming and tender class I would recommend as suitable, the following:—Callas, Liliums, Eucharis, Pancratium, Amaryllis, Azaleas, Cyclamen, Rhododendrons, &c., for single plants and for groups; together with Gloxinias, Lily of the Valley, Spiræas, Rhodanthe Manglesii, Aquilegias, and a great variety of Dutch bulbs in their season. Also the following foliage plants:—Cocos Weddelliana and plumosus, Areca lutescens, Thrinax elegans, Geonoma gracilis, Euterpe edulis, Crotons, Dracænas, Pandanus, Acalypha tricolor, Alocasias, Marantas, Caladiums, Selaginellas, Tradescantias, Panicums, and Ferns. Single plants, as a rule, are most effective, and there is variety enough, forsooth, of vases to hold them, but in large rooms groups of plants may be used effectively either on the floor, where flat zinc trays may be used to put them in, or in wire or wicker stands, made in different shapes for the purpose; but the crowding then necessary is detrimental to the plants.

For the reception of cut flowers for room decoration, I think the trumpet-shape is the best, especially in large vases, for they are much easier to dress, especially when not too wide at the top. These are best suited for drooping flowers, such as Fuchsias, or similar subjects that should be seen from below, and could not be used with any effect in flat dishes; yet for such things as Stephanotis, Allamandas, &c., flat dishes are indispensable, and are best filled with moss before putting in the flowers. When coloured vases or baskets of china or other materials are used, greater care must be taken in the selection of suitable sorts, as dark flowers should be put in light-coloured vases, and *vice versâ.* Another thing to be avoided is not to have too many strongly-scented flowers in one room, as they become oppressive, especially if the room is not well ventilated.

It is a very difficult matter to lay down any rule as to the arrangement of cut flowers; it seems to come naturally to some persons, while others, try as they may, cannot satisfy themselves or other people. In all cases stiffness should be avoided, and I find it a great help to have plenty of foliage, and to put it in the vases first, making a good support for the flowers, and helping to hold them in their proper places.

Now a few remarks on table decorations. Many of the plants that I mentioned for room decoration are equally useful for table. Much has been written for and against the practice of inserting plants through the table by means of a special leaf, but I would not recommend it except in instances where very large plants are used. In the case of large Tree Ferns in tubs, the effect is good provided the room and the table are correspondingly large; but the chief aim should be not to obstruct the view across the table, therefore the plants should not be too large.

A good effect may be got by a small group in the centre of the table, made on a small waiter or a circular piece of wood, by placing a nice plant in a 5-in. or 6-in. pot in the centre, and then surrounding it with smaller plants turned out of their pots and filled in with a little moss. The groups may be varied, at one time they may be flowering plants, while at another period foliage plants may be employed, the shape of the group being made oval or diamond as the case may be. Of course there are many more elaborate arrangements that we might mention, but as it is only the few who have the necessary materials at hand to carry them out, it is almost useless to mention them, as they tend only to make us dissatisfied with our smaller efforts.

Many of the epergnes made of silver and metal for the reception of flowers for the decoration of the dinner-table are unnecessarily clumsy, and it is almost impossible to dress them so as to look well; but a few things that are useful are Asparagus plumosus and A. tenuissimus, Ficus repens, Lygodium scandens, Orchid blooms where obtainable, with Thrysacanthus rutilans, Euphorbia jacquiniflora, Dielytra spectabilis, Deutzia gracilis, Clematis of sorts, and many others in their proper seasons. The best shape for a centre piece, in my opinion, is one having a flat dish at the bottom, out of which there rises a slender trumpet, without the three or four small side pieces very often seen. I cannot say a word in favour of the low troughs to form geometrical designs, as they afford no scope for artistic arrangement. Neither can I agree with the practice of laying foliage and flowers on the cloth, which I think is unnatural. The difficulty very often is not to find designs, but to find materials, as we are bound to cut our garment according to our cloth—at least, that is the case with *Country Gardener.*

PARAFFIN AS AN INSECTICIDE

Up to the present time so very little has been said against the use of paraffin as an insecticide that it is quite refreshing to read the adverse comments of Mr. J. Peebles on p. 628. He says he has only given a few of the objections against its use. It is a great pity he did not give us the remainder, for upon reading his remarks carefully through I do not think the onslaught so very terrific after all, and I am sure many of us must have more weighty reasons before we place it at such a low estimate as Mr. Peebles seems to have done. His first proposition merely resolves itself into a caution against its improper or careless application, and he quotes an instance of a catastrophe occurring to a certain Lapageria in this way. I should think in the case which he so graphically describes it must have been improperly or carelessly administered indeed. The Lapageria not being a very soft-wooded subject will bear a pretty strong application, I have used it upon this plant for scale frequently, and a pretty strong dose, too, but have seen no ill effects resulting from its use.

Most of us who have recommended it so highly from time to time in your journal have also conveyed the same caution—the proper proportions of paraffin and water which we find from practical experience to be the best, and the great care to be exercised in keeping the solution properly mixed. This last is a great difficulty, because water being of greater density than paraffin will not mix, but the oil will float on the top; and although soft soap [or milk] will greatly assist the operation of mixing, it is not perfect, but must be stirred with the syringe to be fit for use. I do not at all undervalue some of the various insecticides which are in commerce, but if something could be added to cause the oil to mix readily with water it would be a very acceptable addition to the list. [This is done now.—Ed.] I am very glad Mr. Peebles does not record any catastrophe happening to the Stephanotis and Gardenia plants which he knows to be regularly syringed with petroleum. In such cases as he describes, where mealy-bug is so rampant, I find it best to give the house a thorough good drenching with water first, and then a good syringing with the solution of paraffin and water. Gardenias will bear a proportion of half a pint to the gallon without injury. This, if properly done, will cleanse the plants, and if they are carefully watched afterwards and taken in time it will not be much trouble to keep the pest under, while I can assure Mr. Peebles little or no sponging will be required.

Soft-wooded plants, such as some varieties of Begonias with hairy leaves or stalks, which enable them to retain moisture for a long time, must certainly be carefully dealt with; but if these are gone over with clear water after the house is syringed with the solution, no harm will result. This will be better than any inconvenience and labour occasioned by removing or re-arranging the plants. There are really so few subjects likely to be injured by the paraffin that it is scarcely worth consideration.

I do not know what sort of paraffin Mr. Peebles has seen used, but as he mentioned petroleum, I suppose he means the mineral oil which is so extensively used in commerce, and which, I believe, is generally understood when speaking of paraffin. I can scarcely understand how the smell can remain for days in the house; it must be very bad oil to occasion that. Paraffin is considered to be rather volatile, the smell quickly passing away. We often use quantities of manure water in our houses, which has a much more offensive smell, though no one condemns it on that account; but for those whose olfactory nerves are so sensitive it would be better either to use some other insecticide, or to employ some strong scent to counteract its influence. —*Alfred Gaut.*

Having "dilated" in your columns on the properties of the above, perhaps you will kindly allow me space for a few words in reply to your correspondent, Mr. J. Peebles. I must certainly say that he seems unfortunate; as not long ago he had procured or was supplied with the wrong sort of Anthracite, and now he seems inclined to fall foul of your correspondents by saying that they have overrated the properties of paraffin. Some time ago it was recommended in your columns for syringing Stephanotis to keep it free from mealy-bug, and I remember Mr. Peebles wanted to know whether the writer had tried Bridgford's Antiseptic; now he recommends methylated spirit, Lemon and Fir Tree Oils, Nicotine Soap, &c. I smile at the numerous insecticides now advertised in the horticultural press, and think that, like patent medicines, the composition must be a paying affair. Perhaps before long your

correspondent will have discovered some other gem for the destruction of insect pests.

As you justly remark, the difficulty lies in procuring it of the same strength and quality, which is easily apparent to anyone who burns it in lamps; and also as you say, of getting men to use it the right way. Your correspondent takes exception to its use for syringing Gardenias. Now I happen to have had a benefit of those plants infested with bug, and had I attempted to keep them clean by sponging, I might have made fourteen days a week at the job, but as they were in pots, I carried them out of the house, laid them on their sides, and by turning them round, there were not many branches that escaped a driving dose of the mixture—a wine glass of paraffin in a three-gallon can of water.

Sponging after syringing was greatly minimised, and as to syringing planted-out Gardenias, it would be a simple matter to lay something on the bed to prevent the mixture getting to the roots, if it be really detrimental, though Mr. Rust, of Eridge Castle, declared it acted as a stimulant; and as to inconvenience and labour in the removing and re-arranging of plants referred to by your correspondent, anyone would infer that he either had a town of glass, or expected plants to remain fixtures, and treated them as such. As to the offensive smell, why that soon goes off, especially at this season when ventilation is abundant; and is the odour of paraffin more objectionable than the effluvia caused by continually damping down with manure water practised by many excellent cultivators? Those of your correspondents who advocated the use of paraffin in the garden did so from practical experience; I can speak for myself, and it is mere idiosyncrasy on the part of anyone to blame the advocates for misapplication by others.—*Pathfinder.*

A GAY CONSERVATORY.*

How to Maintain It.

Owing to the diversity of the structures themselves, some conservatories are much more difficult than others to be kept with a never-ending supply of bloom. In some, plants keep fresh and well for several weeks; in others the same subjects would not be presentable after a week or ten days. This is mainly due to the fact that other things than the requirements of plants have the first consideration in the building of a conservatory. In this essay my remarks will be directed to the average conservatory, such an one in which a minimum night temperature of 40° Fahr. may easily be obtained during the winter months.

To make a neat and tidy display, perfect cleanliness is indispensable. When the stages are clean, and the plants have no dying leaves, dust, or insects upon them, a much better effect is obtained than when these important matters are neglected.

The Rafters and pillars of the building may be clothed with vegetation in the form of climbing or trailing plants, and a selection from the following can always be relied upon to give a pleasing appearance:—Lapageria rosea, L. alba, Passiflora Impératrice Eugénie, Tacsonia mollissima, T. Van Volxemi, Cobæa scandens variegata, Clematis indivisa lobata, Trachelospermum jasminoides, Plumbago capensis, and Acacia lophantha.

According to the extent of the house, tree Ferns, Palms, Cordylines, &c., may be arranged; they tend to make the dressing less formal and monotonous. A selection can be made from the following, which will stand the required temperature:—Palms: Areca sapida, Chamærops excelsa, C. humilis, Kentia Fosteriana, Rhapis humilis, and Seaforthia elegans. Tree Ferns and Fine-foliaged Plants: Dicksonia antarctica, D. squarrosa, Alsophila australis, Cyathea Cunninghami, C. dealbata, C. medullaris, Grevillea robusta, Aralia Sieboldii, Cordyline australis, C. indivisa, Rhopala corcovadensis, and Orange, Citrus aurantiacum.

Flowering Plants.—In treating of this, the most important class of plants for conservatory decoration, I will give a few cultural details of the most popular and useful subjects individually, and of the less important ones in classes.

Pelargonium.—I place this first on the list because it is one of the most showy of flowering plants grown, and members of one or other of its classes can be had in bloom at every season of the year. They are best propagated by cuttings, which should be inserted in the autumn, singly, in small pots, and placed on a shelf near the glass in a cool house. Very little water should be given—only enough to prevent the soil getting dust-dry. When well rooted they should be potted into 48's, using a compost of good friable loam with a little leaf-soil and sharp sand added.

In the case of zonals for winter flowering they should be grown without check, all blooms being removed as soon as they make their appearance until late in the season. They may be stood out of doors in the sun on a border of clean coal ashes during the summer, as it helps to make the growths short-jointed and hard. The show, fancy, and Ivy-leaved varieties flower during the summer, and as soon as the flowering season is over they should be placed in an exposed position out of doors to ripen the wood, care being taken that the plants do not get too wet at the root. During heavy showers the pots should be laid on their sides. When well ripened the plants may be pruned and taken into a pit or frame (in which a little heat is at command) to be started into growth again. The good varieties of all the classes of Pelargoniums are so numerous that it is unnecessary to make a selection.

Chrysanthemums.—From the time the summer varieties commence flowering until the later are finished, a space of six months intervenes, so I think the Chrysanthemum is indispensable, and deserves its prominent place in public favour. Propagation is effected by cuttings, which should be taken in November or December, and put either singly in small pots, or three or four round the rim of a 48; these should be placed in a cold frame, where they will strike readily. When rooted, they should be potted off in a mixture of turfy loam, broken fine by hand, leaf-soil, and sand. They should not be allowed to become much pot-bound until they are in their flowering pots, for which 8-in. or 10-in. size are very suitable. For the final shift the soil employed should be rather richer than before, a little manure and bone meal being added; moreover, when these last pots are very full of roots, weak liquid manure is very beneficial, and should be given in some sort or other at every alternate watering.

For conservatory decoration the Chrysanthemum is most suitable in a bush form, so the leading shoots should be pinched out when young to induce others to break away; these, again, should be pinched back when long enough, so that eight or ten strong shoots may be taken up. These should each be neatly attached to a stake, and kept tied, so that they may not break down or become deformed. A good selection can be made from all the classes—singles, pompons, large-flowering incurved, reflexed, Japanese, and Anemone-flowered.

Begonias.—The Tuberous Begonia has most deservedly become very popular of late years, thanks to some of our leading nurserymen and horticulturists. Plants may be obtained from seed sown early in the spring, or from cuttings taken after the tubers have started into growth. A tolerably good display may be had the first season with seedlings if they do at all well; but plants obtained from tubers a year old are much larger, and make a better show. These should be started in February or March in a warm house, and when the growths are well up the plants should be attended to with regard to potting. They should then be kept in a cooler house, or the plants will be drawn, long, and weakly. The soil used in potting should consist of about three parts good loam, the rest decayed leaf-soil and sharp sand. In potting, the soil should be made firm, but not hard. After flowering, the plants should be gradually dried off, so that the tubers may become ripened for another year. These may be stored away in sand in a cold dry place, but they keep better if allowed to remain in the pots in which they grew until required to be started again. After the tubers are four or five years old the plants obtained from them deteriorate, consequently they had then better be destroyed to make room for younger ones which should have been brought on to succeed them.

Fuchsias.—These make a nice ornament in the conservatory during the summer when well grown. Cuttings should be taken in the autumn, and kept close and shaded until rooted, when they should be potted off and placed on a shelf in a warm house. They will not grow very fast during the winter, but with the lengthening of the days they will improve, and should be potted on when requisite. Fuchsias like a light rich soil, which should be firmly placed around the roots. If well-shaped plants are desired, attention must be given to the side shoots, those at the apex of the plant being pinched rather closely in, so as to strengthen those lower down. The same plants may be grown several years, and will look well. These should be pruned hard back in January, taken into heat to be started into growth, and treated afterwards the same as young plants.

Azaleas.—The best of these for the conservatory are A. indica and A. amœna. Plants of these are usually obtained from the Continent, whence they arrive in the autumn after the flower buds are set. They make a most gorgeous display from March to May. After flowering the plants should be examined, and those that require re-potting should have their wants attended to. The best material to pot them in is fibrous peat and silver sand. They should then be placed in a gentle heat for a few weeks, and kept well syringed to induce a good growth, which, when made, should be well ripened. The plants may be placed in the open air towards the end of summer, but they must be taken inside again before the cold weather comes. Care should always be taken in showery weather that they do not get too wet at the root. This may be avoided by laying the pots on their sides during such times.

(To be continued).

* First Prize Essay, by Mr. A. Reid, Possingworth Gardens, Sussex. Chiswick Gardeners' Mutual Improvement Association.

NOTES FROM SCOTLAND.

Hints for Amateurs.—Fruit-growing in Pots.—The system of growing fruits in pots does not seem so popular as it once was, and in northern gardens it is now rarely met with, at least, under the name of orchard-house culture, and probably it is well that it is almost a thing of the past, as it never became very profitable, and during these times of high pressure it would barely be considered a thing of ornament. The time required for pinching, watering and cleaning could not be bestowed upon the trees, and they consequently would suffer in appearance as well as usefulness. In the few places where they had received proper care the collection of orchard-house trees unquestionably commanded special attention, and always were admired. The kinds were well represented. Their distinctive features were noted, and they formed a guide, in a pomological sense, which is not possible in the ordinary system of culture under glass. Why the orchard house fell into disrepute was by improper application of water, drenching the surfaces while the best and most active roots were starving; "dropping of fruit," insipid quality, and insignificant size were the results of much labour unskilfully bestowed. Bad drainage and destruction of roots by allowing the soil to become sour and sodden were also causes of failure, and now that Tomatos, Cucumbers and Melons are cultivated extensively in pots (we grow quantities along the back of Pine stoves and in other structures), let the watering on a proper and skilful system be a matter of primary importance. When the roots get to the side of the pots, watering twice daily is necessary. If the pots with the soil and roots can be placed into others with rich material they will root through and do grandly.—*Stirling.*

Lawns and Grass Seed.—It is a fact beyond dispute that the formation of lawns by sowing a good selection of lawn grass seed gives by far the finest and cleanest sward, but it is too often the case that when a proprietor is looking forward to the pleasure of having a fine grassy carpet surrounding his dwelling disappointment is awaiting him, and a weedy, patchy space is the sole recompense after months of patient waiting and watching. There are many causes of failure, but unfortunately the seedsman too often gets more than his share of blame. It is beyond doubt, however, that many of the vendors of grass seeds are not capable of forming a selection. The causes of failure most generally met with are from the bad preparation of the soil, a poor inert surface to sow the seed on, ravages of birds, and sowing when drought sets in, continuing till the seeds are destroyed. When preparing ground already full of weeds trenching must be had recourse to, burying them two spades deep, but if the soil under the surface spit is poor and unhealthy double digging cannot be done; it is then necessary to remove the deep-rooted weeds from the surface soil, and burn them. Weed destroyers can be used where deep roots are established; we have used Lawn Sand with the best results. When the levelling and firming is finished a coating of rotted manure and bone-meal may be pointed into the surface of the space to be sown. Rather than risk the sowing of seeds in a dry season, to be scorched up (as in many cases they were two years ago), we would leave the sowing till September. Such a course often saves heart-burnings at home, and the accusing of seed vendors abroad. The best wearing and most satisfactory lawn in every respect was sown during September, and was the following season well coated with grass fit for any ordinary purposes. With bowling-greens we have had the most bitter experience, by receiving "lawn grass seed" instead of the "special mixtures" for bowling-greens.—*Stirling.*

FLORICULTURE.

Mr. Thurstan Interviewed.

To the readers of this column we feel that no apology is needed for the transfer to these pages from the columns of the Cardiff *Evening News*, of the following interesting remarks concerning one to whom editor and readers alike are grateful for much valuable information on the cultivation of his favourite flowers. We should perhaps add that our Cardiff contemporary also published a portrait of our friend, and a sketch of his Tulip-frame, for which we substitute an illustration from a former volume.

"Very few people in Cardiff are aware that they have in their midst one of the most prominent growers of Tulips in the kingdom—a gentleman, too, who does not confine himself exclusively to this branch of horticulture, but who has made himself famous as a raiser of Pinks, Auriculas, Polyanthuses, Roses, Gladioli, Delphiniums, Phloxes, &c. I refer to Mr. James Thurstan, agent for South Wales to the Tredegar Iron and Coal Company, and whose residence is Finsbury House, Richmond Road. Although an active business man, Mr. Thurstan has contrived to cultivate many choice specimens of rare and delicate flowers, and almost the whole of his leisure time is spent in the by no means large garden at the back of his house. For some years Tulips have been the special objects of his attention, and I propose briefly to describe his method of growing them, as he explained it to me. At the present time a glimpse at his garden is a treat for anyone who is at all interested in horticulture, as the Tulips are just now at their best. The choicest specimens, which are in a separate bed in the centre of the garden, are enclosed in a special frame to protect them from biting winds or the heat of the sun. This frame is of very simple construction, as will be seen from the sketch. It is covered with a canvas of strong grey twilled sheeting, which can be so regulated as to protect just as much or as many of the plants as may be necessary. The interview recorded below will give some idea as to the management of the flowers. Being curious to know what induced Mr. Thurstan to take such an interest in horticulture, I questioned him on the subject.

Mr. Thurstan replied: I have been at it all my life. As a youth we had a good garden in Birmingham, which is my native place, and I was always fond of flowers.

But what made you go in for Tulips so extensively?—Oh, because I was fascinated with the flowers. I liked their appearance, and I got a collection together. It takes almost a lifetime to obtain perfection and enable you to compete successfully at exhibitions.

How do you account for that?—Oh, to some extent, on account of the expense. You cannot get them very cheap. I have got bulbs in my garden that I could sell for £5 each, and, indeed, for any new variety which is now raised the market price is from 2 to 5 guineas a bulb.

How is that?—On account of the time it takes to raise them. After you have raised the seed it takes five years to grow the bulbs into flowering size. You have to take them up and re-plant them every year. Then, again, perhaps there are 99 out of 100 of such seedlings that are good for nothing.

Then you have to grow a new bulb practically for four years before you can ascertain what it is?—Yes; and even then it only comes out a self colour, and is described as a breeder, and you have to wait until it rectifies or breaks into its distinctive colours. These are not the common French bulbs which are grown in Holland.

How long is it before the flower breaks or rectifies?—It varies. Some never break at all, others only break in about four or five years after they have bloomed.

Are the self-coloured flowers valuable?—Oh, yes; they are considered valuable according to the purity of the colour, the shape of the flower and the substance of the petals.

Do you cross the varieties at all?—Yes; that is how we bring them to perfection. If I have a flower that contains four good points and a fifth point that is imperfect, I select another that has the fifth point unblemished, and I take a camel's-hair brush and fertilise them, so that I may possibly obtain one good seedling which will possess the five good points.

How is the fertilising performed?—By taking the pollen from the stamen of one flower and applying it to the pistil of another. You know at one time there used to be a commerce in Tulip bulbs, just as there are now in other commodities, and about the year 1634, according to some writers, many people made vast fortunes in buying and selling them. The trade was chiefly confined, or, rather, the centre of it was in Holland, and exchanges were established for the purpose of facilitating the sales. Many persons were by this means raised from indigence and poverty to affluence.

When did you first commence to exhibit your specimens?—I have been an exhibitor now for over thirty years. I exhibited Pinks forty-five years ago. That was my first attempt. Pinks and Tulips are my favourite flowers.

Are you going to exhibit this year?—At present, I think not. The Lancashire show is on June 7th, and we are a fortnight earlier in the season down here, and by that time my Tulips will be all over.

How many prizes do you think you have taken during your career?—Oh, I can't tell you. Hundreds. I have got prize cards enough almost to paper a room.

Have you ever cultivated Tulips for the purposes of sale?—No, never. As I have said, it takes such a time to mature them that you don't like to part with them after you have reared them.

How many varieties are there in cultivation now?—About 100 good varieties—what we call show Tulips.

How many different kinds have you got in your own garden?—I have got now, I should think, upwards of 100 varieties of seedlings, which are equal, so far as the breeder state is concerned, to any in cultivation; some of them very much superior. I have been experimenting this year. I have got some growing in six inches of sea sand, some in six inches of manure, and some in rubbish, simply riddlings from the garden, stones, and so on.

How do they compare?—Oh, there is very little difference in any of them, but the greatest difference is in those grown in rubbish. The Tulips evidently don't like it. Those in the sand are thriving, and they will grow very well in it. You know there is a great difference of opinion as to the best kind of soil to use, but I don't think there is very much in it.

How many bulbs have you got altogether?—I should think I have got in this little garden about 10,000 bulbs, but there is not one-third of them in bloom.

How do you account for that?—I can't account for it. It is a common occurrence for a portion of them not to bloom. Those that don't bloom are designated "widows" by the growers.

What shows have you exhibited at?—I have never exhibited Tulips anywhere except at the Royal National Tulip Society's Show, but at other places I have exhibited Roses, Pansies, Pinks, Polyanthuses, Auriculas, and several other flowers.

Do you find this climate suits the Tulips?—Yes, splendidly; but if I could only get the ground I could grow them much finer. The best specimens I ever saw in my life were grown on the tops of the Malvern Hills. They want plenty of pure air, and then they will come out all right.

Have you got any bulbs now which nobody else possesses?—Yes. I have got upwards of 100 varieties which nobody else possesses, and all of which have been raised from my own fertilisation.

It must have taken you a long time to raise them?—Yes, it has taken me over twenty years to raise them, but they have been very satisfactory, and the last time I showed them—the year before last—I took sixteen prizes."

Florists' Tulips at the Temple Show.

Despite the attractions of Orchids, Clematis, Roses, Pelargoniums, and many other objects of great interest at the Royal Horticultural Society's show last week, the display of Tulips caused by the competition for the prizes offered by the trustees of the Turner Memorial Fund was a great feature. Considering that some 200 blooms were staged in the three collections, the result must be deemed satisfactory. The Rev. F. D. Horner found himself unable to exhibit. Mr. Thurstan, of Cardiff, sent his flowers, although they had suffered severely from the hot weather of the previous week; but this came opportunely for Mr. Barlow, and enabled him to bring from his famous garden at Stakehill a number of blooms, mostly young, and some in very fine character. He had cut and set up his flowers with stems having two and three leaves upon them, which raised them up to a suitable line of sight, and set them off to the best advantage. Mr. Barlow was weakest in feathers, but there was no class in which he had not many good ones. Of feathered bizarres he had Commander, Demosthenes, Masterpiece, Atlas, Sir J. Paxton, a little inferior; and General Grant, bright in colour. Bizarres, flamed: Sir J. Paxton, in its best form; Stover's Lord Stanley, William Lea, sulphur, in fine character; and Dr. Hardy. Roses, feathered: Modesty and Heroine, the only real good ones in point of general refinement; Annie McGregor, and Charmer. Roses, flamed: Madame de St. Arnaud, always very bright in colour, but lacking shape; Aglaia, Mabel, Mr. Lomax, and Lady Sefton. Byblœmens, feathered: Mrs. Cooper, in fine form; Violet Aimable, and Hepworth's William Parkinson. Byblœmens, flamed: Bob Morley, new, a great improvement upon Brown's Salvator Rosa, and highly promising; Talisman, Walker's Duchess of Sutherland, Nimbns, very fine; and Adonis. Of breeders he had bizarres: Wm. Wilson, Sir J. Paxton, Lord Delamere, two or three very fine seedlings raised by the late J. Hepworth, and seedling A 27, being very bright in colour. Roses: Miss B. Coutts, Lady C. Gordon, Annie McGregor, Mr. Barlow, and seedling Hepworth No. 6. Byblœmens: Alice Grey, Talisman, Martin's 117, and Glory of Stakehill.

Messrs. Stuart & Mein, of Kelso, who were placed second, staged a very bright lot of rectified flowers, mainly flamed, but very few varieties worthy of being included in the front rank. Mr. James Thurstan was third; unfortunately some of his very best flowers were faded, especially in the case of the breeders, and this greatly told against them in the estimation of the judges. Still, as a representative collection of fine named varieties it was a very good one, and it included not a few good seedlings, both in their rectified and breeder forms, that had been raised by Mr. Thnrstan, and which represented many years of patient work. Of bizarres, feathered, he had Fred. Morton, a variety of his own raising, which he regards as a decided beat upon Masterpiece, and Sir Joseph Paxton. Bizarres, flamed: Sir Joseph Paxton and Dr. Hardy. Roses, feathered: Mrs. Thurstan (seedling), very promising; Triomphe Royale, and Heroine. Roses, flamed: Mrs. Lomax, Aglaia, Kate Connor, and Triomphe Royale. Byblœmens, feathered: Mrs. Richards (Thurstan), a fine and promising variety, with a dark purple almost black feather, the base and stamens very pnre. Byblœmens, flamed: Nimbus and Talisman. Breeders: some very promising bizarres. Roses: Mrs. Houlgrave, Tryphena and Mrs. Haynes. Byblœmens: John Dovington and seedlings.

As it is probable the Royal Horticultural Society will hold an exhibition annually in the Temple Gardens about the last week in May, it is to be hoped the exhibition of florists' Tulips will be continued. It can scarcely be expected that the trustees of the Turner Memorial Fund can continue to offer prizes year after year, but the Council of the R. H. S. may perhaps offer some inducement to growers—all of whom reside at a great distance from London—to bring their flowers. Let us hope the Council will enconrage the growers of this beautiful and fasciuating flower to bring the best of their floral treasures to London in 1890.—*R. D.*

THE GUELDER ROSE.

The Guelder Rose with its numerous flower-heads—like large symmetrical balls of snowy whiteness — is a delightful shrub when in full bloom. It is sometimes called the Snowball tree, and the designation is a correct and suitable one. I place it among the foremost of our deciduous flowering shrubs.

The common Guelder Rose of this country is a British plant, and is to be found abundantly in the hedgerows which margin our fields. This is Viburnum opulus, and the Guelder Rose is but a sterile variety of it. The common Guelder Rose is occasionally planted in our forecourt gardens as a flowering shrub; perhaps in those cases by mistake for the finer type. Its large cymes or feathered panicles of flowers, if they be closely examined, will be found to have small fertile blossoms in the centre, and large infertile ones round the sides. The flowers appear at the end of May and in June, and in autumn the tree or shrub is very conspicuous by means of its crimson leaves and clusters of crimson berries.

But the fine Guelder Rose—our Snowball tree—with its symmetrical white balls of flowers, is named from a district in the Low Countries called Gueldres-land, where it flourishes in great abundance. It is generally supposed to have originated as a sport, but when it was imported from Gueldres-land, where it is said to have first appeared, I cannot say. The flower-heads are so abundantly produced in large globular balls, so very striking from their mass of pure white, as to make its French name of Boule de Neige very appropriate. It is sterile, and never produces berries like its British relative.

The Guelder Rose is largely grown for bunching for Covent Garden Market, and it is a generous plant, for however roughly the flowering sprays may be torn from

its branches it soon puts forth other growths, which produce blossoms in the following spring. There is also a Chinese Guelder Rose, known as V. plicatum, which was introduced from the northern part of the empire in 1845. The flowers are white, larger and whiter if anything than our own, and quite as freely produced. It has large bold leaves, makes a very showy shrub, is apparently quite hardy, and a welcome addition to our shrubberies.—*R. D.*

BEES AND FERTILISATION.

"A. D.'s" heretical doubts and remarks on the above subject (see p. 609) will, I fancy, be a "sting" to the real bee enthusiasts, to allay the swelling of which will require a little of something more than hartshorn to be applied to the puncture. Bees not necessary to the fertilisation of fruits—why, the man must be demented to speak such heresy! I fancy some such like buzz will be heard in many an apiary, and a little louder, too, than the "croak" of any drone-laying queen, after "A. D.'s" remarks have been scanned.

"A. D." is evidently not a bee enthusiast, nor is he smitten with any phase of the bee craze, otherwise his doubts about the sensitiveness of bees to the proper fertilising of fruit blossom would not be quite so pointed. However, whatever stings "A. D." may be likely to receive in return for his temerity, I can console him with the fact that he is not alone in his doubts regarding the absolute necessity of bees to the fertilising of, at least, fruit flowers. I have long been of opinion that though bees may assist in the operation of fertilising our hardy fruits, yet their assistance is not absolutely necessary to secure that end; and that if it were possible for every bee in the kingdom to be suddenly withdrawn during the blossoming period of the trees, our fruit crops would not be diminished by one single bushel through their absence.

The fact is, the flowers of most of our hardy fruits are self-fertilisers—at least, they have that power, and of being wind-fertilised—and as such, do not require the assistance of any insect aid to that end. Should favourable weather prevail through the blooming period, with a warm and buoyant atmosphere, all other things being equal, an ample set of fruit will follow, and this without the aid of a single bee. On the other hand, should unfavourable weather prevail while the trees are in bloom, bees are impotent to assist in the procuring of a crop, for bees, like butterflies, are very much the creatures of the weather, and can only be out and doing when it is dry, warm, and sunshiny. At such times they can assist in the operations of fertilisation, but, as I have shown, it is then that their services can well be dispensed with, and that they are not absolutely necessary to the production of a crop.

There is no doubt the utility or supposed usefulness of the bee in its relation and connection with the fertilisation of the flowers of fruits has been overstated, as also have the profits to be derived from the keeping of bees—at least, from the sale of honey alone. The falling off in the number of stocks of bees, as stated by "A. D.," is not confined to the county of Middlesex, but is apparent in every county throughout the kingdom.

This falling off in the number of stocks, and also in the number of bee-keepers throughout the kingdom, is not so much the result of bad seasons, though these have been bad enough, 1888 especially so, as from the disappointment of bee-keepers to realise the profits they had hoped for from the sale of their honey.

No matter whether the season was a very good one or only partially so, it was difficult to find a remunerative market for the honey. To partly remedy this state of things, and to benefit those bee-keepers, especially cottagers, who were members of county associations, and which were in affiliation to the Central or British Bee-keepers' Association, a company was formed under the name of The British Honey Company, Limited, for the ostensible purpose of finding an outlet for its—I had almost said, money—shareholders' honey. After three years trading, the company managed to go handsomely to the bad for I don't know how much; whether from bad trade or what I do not know, for I have never heard.

This much, however, I do know, being a small shareholder of the said company. I received a circular last June stating that the company's best course would be to go into voluntary liquidation, and that if I had no objection to make, I should rank for dividend on the amount then settled as being paid upon the shares standing in my name. Whether the company has liquidated itself or passed it and all its belongings away into the liquid air I know not, for I have not had another word from the company from that day to this. My share capital was half paid up, and by a careful calculation it represented something like twenty-five per cent. commission to the company on the sales on my behalf; in effect I paid the company twenty-five per cent. to sell my little honey at about the lowest market prices. As to dividends, well, I suppose they melted away into that thin air already spoken of; I have not handled any. Someone behind the scenes may be laughing up his sleeve for anything I know, and saying I may thank my stars that I am let off so easily; perhaps I may. "A. D." will gather from the above that it is not all "honey" bee-keeping, and this may account in a great measure for the rapid falling off in the number of stocks, as well as the number of bee-keepers throughout the kingdom. This county (Herts) was amongst the largest of the county associations, and of which I was once a member, but the number of its members has rapidly declined, and for the last two years it has had some difficulty in keeping on its feet. The fact is, bee-keeping for profit in this country will never be anything but an uncertain and poor business. The time of the honey-flow is too short for the bees to garner large harvests; the seasons too are uncertain and fitful, and some seasons, like 1888 to wit, perfectly disastrous, when, instead of the poor bees bringing in honey, they had to be fed the whole season through to keep them alive. Bees, like the beer, have been "boomed," and those who have pocketed the largest spoils, as far as I can see, have been the manufacturers and vendors of bee appliances, and small blame to them, for they only set about to supply a legitimate, if mistaken and crazy, demand of the times.

As to the fruit not setting well without the aid of bees, I feel, like "A. D.," easy on that score. I remember a time here when there was not a stock of bees within three miles of us for at least five years, and our crops of fruit were as plentiful then as they have been these last ten or twelve years, with some forty or more stocks closely surrounding us. Most of these forty stocks have now disappeared, from one source or another, and my own ten, out of which I have lost four this winter and spring, are, I think, the only representatives of the neighbourhood now. I keep them, not with the hope of deriving profit by them, but simply for the pleasure of studying them, and also in remembrance of one of the kindliest of men, and a very dear and respected friend. To him I am indebted for my first stock and bar-frame hive, which he gave me solely as an inducement to enter into the pastime which he himself loved so well.

He was one of our greatest bee enthusiasts and experts, and thoroughly believed his pets to be indispensably necessary to the fertilising of fruits. In giving a lecture on them once he was so far carried away as to make the mistake of saying that only for the assistance of the bees we should have no Strawberries to eat. It happened to be in March, and I quietly corrected his error by showing him a crop of Strawberries in pots under glass that had neither been assisted to set their fruit by the bee nor the camel's-hair brush. He was the author, too, of *A Book About Bees*, intended for schools.

He was also a great lover of horticulture, and especially excelled in growing and showing his favourite flower the Rose. Alas, that he should be no more! I miss very much the pleasant chats we used to have on bees and Roses. He was our much-respected and now deeply-lamented rector.—*J. Kipling, Knebworth.*

Mr. Thurstan at Home.

NEW OR RARE PLANTS.

A Vermilion Primula japonica.

When at Reading a few days ago, I saw at Messrs. Sutton & Son's nursery, in the London Road, a batch of Primula japonica in bloom. Among them were five or six plants with flowers of a rich vermilion colour, much brighter than those of the ordinary P. japonica. On making inquiry, I was informed that these bright-coloured varieties were produced from a cross made between P. japonica and P. obconica, both being employed as pollen and seed parents. The flowers of P. obconica so operated on proved sterile, but those of P. japonica produced some seeds, and from these the plants I saw were obtained. I could not discover any change in the habit of growth, character of the foliage, flower-stem, the production of whorls, or in the size and shape of the blossoms; but there was the striking hue of colour, and it was the opinion that this was owing to the blood of P. obconica. It is thought more definite changes may be developed in a generation or two.—*R. D.*

THE AMATEURS' GARDEN.

CLEMATIS JACKMANNI.

Those who grow this favourite variety, and did not cut down the stems in winter, will have an opportunity of observing its behaviour when so treated. Last year's stems push into growth and flower early, but the blooms will be smaller than if the plant had been cut down. It is somewhat tender in its nature, or, in other words, is inclined to die down to the ground in winter, especially in cold and northern districts. Excellent results are, however, obtained when the stems die or are cut to the ground in autumn, and mulched over with stable manure. The roots are fed as well as protected, and in spring they throw up strong stems that come into bloom towards the end of summer or in autumn, according to the earliness or lateness of the locality. At present these strong shoots will be running up with amazing rapidity, and should receive attention in the matter of training every week, otherwise they get so interlaced and twisted together that it is impossible to separate them. This applies equally to plants grown on walls, on trellis-work, or on specially-constructed framework.

CHRYSANTHEMUMS.

If not already done, these should now be put into their flowering pots, and stood on clean coal ashes or on some hard surface, such as concrete or clean gravel walk, to prevent worms from getting into the pots. Another method is to stand the pots on boards in a sunny place alongside of a walk. On the whole an ash bottom is best, as the pots are therefore kept cooler, and there is less evaporation. Watering is always a serious item, and one that must not get neglected, especially in warm weather. If the plants are allowed to flag (and this they are very liable to do in warm breezy weather), the chances are that they lose their bottom leaves, and never look so well afterwards. Plants intended for exhibition, and are grown to a single stem, should be disbudded, that is, have all the lateral buds removed except the three next to the first flower-bud that makes its appearance. These three buds will then take the lead, and constitute what are termed "terminals," which will afford as many blooms of large size, if the side ones attending them are removed in time.

DAHLIAS.

There will be little danger from late frosts after this date, and all plants that have been well hardened off may be planted out. Before commencing the operation it is well to mark off the ground and drive stakes sufficiently strong to support them even when at their best. This prevents any damage to the roots that might happen if the stakes are driven in afterwards. Then take out holes in front of each, and unless the ground has previously been well manured, a quantity of well-rotted material should be put in the bottom of each hole, and covered over with soil before inserting the plants. Make the soil firm, and tie the stems to the stakes immediately if they are of any appreciable length. Give a good watering to settle the soil. A small basin should be left around each plant to receive any future waterings that may be given.

AURICULAS.

Re-potting is done at various seasons by different growers, but a safe time is to do it just when flowering is over and growth is being made. A mixture of good fibrous and holding loam, with a quantity of well-decayed farmyard manure, and some silver-sand to keep the soil open will constitute an excellent compost. Divide those plants having more than one crown, putting the small ones in pots according to their size. Overpotting should be avoided. In southern districts the plants will make finer growth if placed in north-aspect frames, where they may be shaded from the mid-day sun during warm dry weather. The frames may be kept moderately close and shaded for a few days after potting till the roots become established in the new soil, when they should receive all the air possible, taking the sashes entirely off at night.

CUCUMBERS.

During the early stages of growth the frames should be kept moderately close, according to the amount of sunshine, and well covered up with mats at night, in order to encourage a rapid growth of the stems. Regulate the shoots as they grow, so as to fill the whole frame as soon as possible, after which they will commence bearing. Attention must be given to regulate the growth and prevent crowding. When in bearing they will be greatly assisted by applications of liquid manure, seeing that there is difficulty in introducing fresh soil after the shoots have covered it.

THE MEDLARS.

ONLY two species of Mespilus are in cultivation, and these are more frequently met with in old-fashioned gardens than otherwise. The common or German Medlar (M. germanica) is the only one grown for the sake of its fruit, while M. Smithii is merely grown as an ornamental tree.

According to the classification of Bentham and Hooker the species of Mespilus are now included in the genus Pyrus, although the bony inner part of the fruit might have been reckoned a sufficient distinction to keep them separate. The open apex of the pome exposing the carpels, popularly termed seeds, is another curious feature of this genus, by which it is readily recognised even by the country people, and has familiar names given it. The trees are now in full bloom in many parts of the country, and are very ornamental on account of the showy character of their large white blossoms, which are most abundant on M. Smithii.

The German Medlar may readily be recognised by its large, lanceolate, deep green, somewhat waxy leaves, and by the large leafy lobes of the calyx, which are much more conspicuous even than those of the common Quince—Pyrus (Cydonia) vulgaris—also now flowering. Some thirty to fifty years ago the Medlar was much more largely grown than it is at present for the sake of its fruit, which is very agreeable to the palate of some people. The fruits are of no value till they become bletted—that is, till in a state of incipient decay. They annually make their appearance in Covent Garden Market during the months of November and December, or even later, and fetch a fair price. As Du Hamel states, the Medlar is only a fruit of the fancy, and not having a tempting appearance, it would seldom be purchased except by connoisseurs, who alone know its value.

Many years ago, when deciduous trees of all kinds were more enthusiastically cultivated than they are at present, a number of improved and named kinds were grown, such as Blake's large-fruited Medlar, the stoneless Medlar, the Dutch and Nottingham Medlars. The Dutch variety was the largest, but in quality was inferior to the Nottingham, one which alone was considered worthy of cultivation for the sake of its fruit in this country. It was of medium size, while the stoneless variety was small and of no merit, reminding one of Alnwick Seedling Grapes that have not been or very imperfectly fertilised. It is more than probable that the bulk, if not all the fruit, appearing in the market has been grown on the Continent.

Whether the German Medlar is a true native would be difficult to determine, but it perpetuates itself like a true wildling in Sussex, and also occurs in several other southern counties—such as Kent and Surrey—in old woods and bushy places. It was cultivated as early as 1596, and its wild appearance may simply be due to its having escaped from cultivation, and finding the climate of the southern counties congenial to its well-being, perpetuated itself in a truly natural way. Continental Europe and western Asia is the true home of the species.

Smith's Medlar (M. Smithii) is of more recent introduction, and apparently was not cultivated in Britain prior to 1800; but the native country not having been recorded, its origin was for a long time unknown, although it is now ascertained as being a native of the Caucasus, whence many other members of the same family come. The fruit is about the size of that of a large-fruiting Cratægus, to which it bears a striking resemblance. When ripe it is of a reddish brown. The flowers are produced in great profusion, and are now at their best in the southern counties. The tree grows from 15 ft. to 25 ft. high, with a broad, spreading head. The leaves and stipules on the sterile branches of the current year's growth are more deeply divided than those on the fertile branches, and may, therefore, be described as dimorphic. For this reason it has been named M. lobata by some authors, while M. grandiflora is also synonymous.—*F.*

THE LINDLEY MEDAL.

"F.R.H.S.," having alluded in a recent issue to the award of this medal on two or three occasions by the Council of the Royal Horticultural Society, by whom it was established for award only at the Society's bi-monthly meetings, "in honour of one who had done so much for the society," it may not be inopportune to put on record a complete list of the few recipients of this distinguished reward of merit, and it may be all the more desirable to do so as the prospect seems very remote of the list being extended. We give the list in the order of priority of award.

1.—Messrs. James Veitch & Sons, for a group of Orchids—19th December, 1865.

2.—Mr. William Bull, for a collection of plants—23rd January, 1866.

3.—The Duke of Devonshire, for a specimen plant of Cœlogyne cristata—3rd March, 1868.

4.—Messrs. James Veitch & Sons, for a collection of Cattleya Skinneri—3rd March, 1868.

5.—Mr. Good, gardener to Lady Ashburton, for a specimen plant of Lilium auratum—17th August, 1869.

6.—Mr. May, gardener to Lady Ashburton, for a specimen of Phalænopsis Schilleriana—15th March, 1871.

7.—Mr. Needle, gardener to the Comte de Paris, for a collection of Orchis and Ophrys—19th April, 1871.

8.—Mr. W. Denning, gardener to Lord Londesborough, for a specimen of Vanda teres—17th May, 1871.

9.—Mr. T. Baines, gardener to H. L. Nichols, Esq., for a specimen of Nepenthes Rafflesiana, with forty-five pitchers—21st August, 1872.

10.—Lord Londesborough, for a specimen of Utricularia montana—21st May, 1873.

11.—Mr. Francis Dancer, for a collection of Apples and Pears—1st October, 1874.

12.—Mr. C. Turner, for a group of Roses in pots—28th May, 1878.

GARDENING MISCELLANY.

Severe Thunderstorm in the North.

THERE was rather a singular commentary on your leading note of June 1st anent the late unusual heat in this district yesterday (2nd ult.). The heat referred to was most exceptional for the month of May, the maximum here from the 19th to the 26th ranging from 78° to 82°, one day, the 21st, having a range from maximum to minimum of 40°. Thunder was heard to the south-west from early morning, continuing without intermission until it reached the climax a little before noon, when a dense black cloud was observed overhead, which almost necessitated the lighting of candles and lamps indoors. After one terrific peal there followed almost instantly a perfect deluge of rain and hail, which reminded us of one of those sudden outbursts of nature which sometimes occur in tropical regions, and which few in this district at least will have had the lot to witness. The hailstones were indeed something to remember; one of them picked up was found to be close upon 6 ins. in circumference, and the weights we found to be equally remarkable, four weighed together turned the scale easily at ½ lb., and twelve picked up at random where they fell were over 18 ozs. in weight. The holes made in the soil, which I measured after they had melted, were from 1½ ins. to 2 ins. in depth. The greater number were beautifully ringed and marbled, distinctly showing from four to six layers of different transparency, doubtless showing the effects of the several varying degrees of temperature in the air through which they had passed. The duration of the storm was somewhat less than twenty minutes, and the amount of rainfall during that time was 0·62. The hail seems to have been merely local, although rain fell over a very considerable area, still a good deal of damage must have been done, as the Apple blossom was severely thinned, as well as leaves and shoots cut off, the latter in some instances ½ in. in diameter, and clean cut as with a knife. Glass also suffered severely, and roads and walks were very much cut up, which will entail a vast amount of extra labour at a busy time.—*R. Stevens, Paston, Northumberland.*

Transplanting Carnations.

EXHIBITION growers will at this time be thinking of thinning out the buds and unnecessary shoots, so as to concentrate all the energy of the plants in two or three blooms wanted for show purposes. There are, however, a large number who like to plant their Carnations fully in the sun in the flower garden, in specially prepared beds, and who show a preference for quantity rather than quality. I like both myself, and not growing for exhibition, always expect to see from fifty to one hundred blooms from established seedlings. At Kilkenny Castle Gardens I have seen 500 blooms on one stool, where Carnations a few years since were a specialty of the Marchioness, and specially grown by Mr. Carleton for the purpose. Such plants, like Maréchal Niel Roses, exhaust themselves in thus producing a maximum of blooms, and should not be used a second year. I, however, like much every year to raise a few pans of seedlings, and this season have been singularly successful with what has been sent out

by Carters' and other firms, as the "perpetual-flowering strain." As a rule about eighty per cent. come double, and to distinguish them in the seed pans, the strongest are frequently single, and I transplant them at this time into prepared beds. The smaller ones I put around large pots and remove to the greenhouse—all yellow grounds, Carnations and Picotees, are so treated —and there they will remain until fully established. By-and-bye they will be put outside to harden and mature before taking inside for the winter, but in those pots they will remain until I find what they will be like—single or double, fringed or even edged, white, crimson, red, purple, bizarres, flakes, &c., always an interesting speculation. There is another sort of transplanting that two of my Carnation-loving acquaintances always engage in about this time. They send to Mr. Cannell and Mr. Dodwell for certain named varieties of the best kinds, and plant them out where beds of Hyacinths and Tulips have been. The plants arrive rooted, strong and vigorous, and give a few blooms the first year, increasing much the second.—*W. J. Murphy, Clonmel.*

Syringing Vines.

Regarding the correspondence which has recently appeared in your pages on the above subject, it may be well for beginners in Grape-growing to know that the practice of syringing, when continued after the berries are well set, is inimical to securing a good bloom on the bunches, which is, of course, indispensable when they are intended for exhibition. Some of the leading cultivators do not approve of the syringe being used after the Vines have burst their buds, but abundant moisture is provided during the period it is required, by damping all surfaces once or twice daily. I have kept the vineries moist during the whole of the setting period, and all the bunches set well—Muscats included. When the foliage requires cleansing from insect pests, the means taken should be sponging with warm water with a judicious mixture of soft soap in it, which, although requiring more time and patience, is preferable to spoiling the bunches by syringing them with the force necessary to dislodge the enemy. At a large county show a few years ago, the premier Grape exhibiter of the district, with whom I was having a look round and examining a stand of black Grapes apparently well washed, jocularly remarked that the grower must have syringed them just before starting for the show.—*D. M.*

Utricularia Endresii.

Few of the species of this large genus are in cultivation, notwithstanding the beauty of the flowers and their quaintness, as well as that of the whole plant. A number of them are grown merely out of curiosity on account of the insect-bladders with which they are furnished, and for which they are popularly known as Bladder-worts. U. montana and the species under notice are handsome garden plants on account of their large flowers and the certainty with which they can be made to bloom. The large inflated lower lip of the corolla is furnished with an elevated process closing the mouth of the flower much in the same way as that of an Antirrhinum, and as is generally the case there, the palate is yellow. The tubers in both the above-mentioned species are generally subterranean, and therefore hidden from the eye; while the linear, flat and entire, or lance-shaped leaves are entirely different from those of our native species. The flowers of U. Endresii are pale lilac, and borne three or five on a scape.

New Cucumbers.

As a Cucumber grower, I am inclined to reiterate the question of "S. H. C.," which appeared in your last, though probably it is the craze for something new that causes the great multiplication of so-called new varieties, many of which are inferior to the older ones. I have tried several, but have found none to equal in all points that sterling variety, Telegraph, which I have had the pleasure of knowing for twenty years. Many varieties are so similar that it is difficult to tell "t'other from which," the same as it was with tricolor Pelargoniums some years ago, when they were all the rage. The question was lately asked in one of your contemporaries, "Who ever heard of a hybrid between a bull and a cow?" and so it is with Cucumbers: a variety may be improved by high cultivation and judicious selection, but it is difficult to determine what constitutes a new variety; a few more spines or a darker shade seems to create such, the same as a few more screws or a different crank forms somebody's patent in machinery. I have no interest beyond that which I take in anything good in again recommending Sutton's Improved Telegraph to your numerous readers. It possesses a first-rate flavour, is of good appearance, and an abundant bearer, showing several fruits at a joint. Some young vigorous plants that I have, showed fruit at the cotyledons or seed leaves.—*Geo. Pots, Junr. Northiam.*

Thinning and Transplanting Potatos.

When uncut Potatos are used for seed many surplus stems, as a rule, make their appearance now, and these should be removed in time, otherwise there will be much sacrifice of the plant's vigour and a large percentage of small tubers. This practice of thinning is not unknown among noted growers, and the result is exceptionally fine samples. Their plan, it is needless to say, might be more extensively adopted with much benefit to the crops. It may not be known by all growers that the rooted stems of Potatos about 2 ins. or 3 ins. long are capable of being successfully transplanted. Last season I had a specially-prepared plot on which plantations of Creole or The Cobbler and Village Blacksmith were, and when I was engaged in thinning out the superfluous stems a farmer, who was present at the time, got some of these and had them immediately planted. On inquiring at the end of the season he informed me that they had produced a good crop of tubers, but unfortunately had become badly diseased before being lifted. Dull moist weather should if possible be chosen for the work of transplanting, and I ought to add, for the guidance of the inexperienced, that from three to four stems at the most is sufficient to leave on each plant.—*Ayrshire.*

The Lily of the Valley Tree.

Seeing the interesting note on the specimens of this beautiful tree at Syon House, it occurred to me that you would be interested to know that I have a tree here which is growing out in the open, and is 15 ft. high. The tree is one of a row of Camellias and Rhododendrons, all about the same height, and when in full bloom it is a perfect picture.—*R. G. Hayman, The Uplands, Guernsey.* [We are obliged to our correspondent for his note, which enables us to record an interesting fact.—Ed.]

Hardy Azaleas.

A box containing many varieties of these old-fashioned hardy subjects has been sent us by Mr. James Friend, Rook's Nest, Godstone, Surrey, where the American grounds every year are a sight worth seeing. This style of gardening has been comparatively neglected in recent years; but a great amount of pleasurable enjoyment can be derived from it, by leading the owners and others into the open air. The kinds sent are mostly of the deciduous American kinds, with a piece of Rhododendron (Azalea) indicum album taken from a large bush now finely in flower in the open air. The other Azaleas are mostly R. (A.) flavum or the old Pontic Azalea, R. (A.) nudiflorum and R. (A.) viscosum, and hybrids of them, but especially of the former. The rich golden yellow of R. (A.) flavum was fine, and the variety R. (A.) f. glaucum was chiefly notable for the glaucous hue of its foliage. R. (A.) nudiflorum bears a remarkable resemblance to the common Honeysuckle when in flower, and we therefore find that one botanist named it Azalea periclymenoides. The scarlet variety of this species—namely, coccinea—had richly-coloured flowers, and is a native of Georgia. Very interesting also from a botanical point of view was R. (A.) n. partitum, the flowers of which were more or less parted to the very base, quite anomalous not only for the order, but for the division of plants to which it belongs. The flowers were also pale red, and pretty. A double white variety likewise belonging here would be useful for cut-flower purposes. The clammy and glandular flowers of some kinds showed the influence of either R. flavum or R. viscosum.

What can it be?

A translation from *La Lux*, a Mexican paper, informs us that the Deputy of Oaxaca, M. Perfect Carrera, has taken to the city of Mexico a plant that grows in Mexico, which the natives call the Herb of Prophecy. It is one that hypnotises—that is, it possesses the quality of producing sleep. It is taken in various doses, and it is said, in a few moments a sleep is produced similar in all respects to, and it may be said identical with the hypnotic state, for the patient answers with closed eyes questions that are put to him, and is completely insensible. The pathologic state produced on whomsoever partakes of the herbs, brings with it a kind of prophetic gift, and double sight. Furthermore, the person in this hypnotic state loses his will, and is completely under the control of another, to such a degree that the sleeping person would leap from a balcony, shoot, or stab himself with a dagger at any moment, if ordered to do so. On returning to his senses, the person affected remembers nothing that he has done. But we are left quite in the dark as to the botanical name of this wonderful plant, and its native habitat. Perhaps it is well, else 100 enterprising collectors would instantly be sent out by as many energetic nurserymen to secure it, despite the deadly uses to which it can be put. But I close with the question with which I commenced—What can it be?—*E. W.* [Probably Datura Stramonium—probably only a seasonable Gooseberry.—Ed.]

The Wild Stock.

As we have said on a previous occasion, it is very questionable whether the Stock was aboriginally a native of this country. That it is truly wild on the chalk cliffs of several parts along the south coast there can be no doubt; but they have, from the positions in which they are now found, evidently escaped from cultivation in gardens not very far off, and finding a suitable home on the cliffs beneath, have thoroughly established themselves in places inaccessible to the ordinary plant collectors. They are now in full bloom on the Sussex coast, and although growing in the pure chalk, seem as happy as in the best cultivated soil. There are several varieties which adds further evidence to their garden origin. One variety is pure white and deliciously fragrant, while another is of a deep rich purple, and a third is striped, such as we see occurring even amongst double garden forms in some seasons. The purple and striped kinds are not so strongly scented as the white, but they grow together on cliffs widely separated from those on which the white variety grows. The flowers measure close upon 1½ ins. in diameter.

Rhododendron campanulatum.

Like many other of the Himalayan Rhododendrons, this Sikkim species is liable to a considerable amount of variation. The typical form has large pale lilac flowers, with a few purple spots at the base of the upper segments. Regarding the foliage, the most noticeable feature is the rusty orange under-surface of the mature leaves. When the latter first expand, the under-side is grey and powdery, but as they get old they change in the manner indicated. Other forms are characterised by a conspicuous development of the purple blotches on the upper segments of the flower. The whole of the corolla may also be of a deep rose, with a blood-coloured blotch instead of spots. In the early stage, at least, the foliage of R. c. æruginosum, which was formerly reckoned a species, is of a verdigris colour, while the corolla is smaller than that of the typical R. campanulatum, and deep rose or lilac, with the usual spotting. Although stated to be half-hardy, there are large plants of two different forms at The Rook's Nest, Godstone, Surrey.

The Mountain Laurel or Calico Bush.

The natural habitat of this plant is in stony and poor soil in the vicinity of water; and under these conditions it thrives better than anywhere else. In this country, however, it does not seem to disdain a fertile soil, if sufficiently moist. An exposed position—that is, to the sun—seems to favour the ripening of the wood, the development of flower-buds, and ensures a good display of bloom. The delicate pink flowers with deeper-coloured markings are produced in terminal umbels or trusses during the month of June and July. If potted up and placed in heat, however, the plant can be forced into bloom much earlier. The colour is, indeed, much better when flowered in the natural way out of doors. Large plants are very uncommon in gardens, but we noticed a bush about 8 ft. high, and several feet in breadth in the American grounds at The Rook's Nest, Godstone. Botanically it is Kalmia latifolia, and associates well with other American subjects, such as Rhododendrons and Azaleas.

Enameling Pots.

Referring to your reply to "Omega," at p. 633, we should say that flower-pots being very porous, they should be previously painted with ordinary paint or priming; the enamel will then lay on with a gloss.—*Aspinall, Aspinall & Co., New Cross, S.E.*

THE GLOBE FLOWERS.

About half a score species of Trollius, more or less distinctly definable, are known to science. Of these the greater proportion have been introduced at one time or other, although but few of them seem to retain their places for any length of time under cultivation. These are T. europæus and T. asiaticus, together with their respective varieties. Being inhabitants generally of boggy places, they thrive most luxuriantly when grown in moderately moist soil. The two just mentioned are, however, by no means fastidious, and will thrive satisfactorily in any good garden soil. Propagation is easily effected by division of the rootstock, or by seeds. The former method is that most generally practised in this country, with the exception of seeds of new kinds which may be sent home.

T. europæus.—Our native species, if not the most common in gardens, is so well known that description is hardly necessary. It is, however, one of the prettiest, with large, globular, pale yellow flowers, the petals of which are shorter than the stamens, and almost concealed by them. The branching stems bear a number of flowers, and are well furnished with glossy green leaves, divided to the base into five wedge-shaped and cut segments. It is pretty widely distributed over northern Europe, and occurs at a good many places in this country, chiefly in woods and upland boggy or wet places, where it sometimes proves the most attractive plant of the locality, from the size of its pale yellow blossoms. There are numerous varieties of this in cultivation, of which T. e. aconitifolius has very finely divided leaves with narrow segments. It has also another name in T. e. napelifolius.

T. asiaticus.—No other species, perhaps, enjoys such a wide distribution in gardens as this one. It is also the strongest grower, attaining a stature of 18 ins. or 2 ft. in moderately good and moist garden soil. The flowers vary in colour, but are generally darker than those of T. europæus, and the small flattened petals are longer, and overtop the stamens, being sometimes three-quarters as long as the sepals. The species is a native of Siberia and other parts of Asia, from whence it was originally introduced in 1817. The variety T. a. Fortunei is a very fine one, with deep orange sepals, and was brought from China more recently.

T. laxus.—The flowers of this species are large, and borne singly on the apex of the branches of the stem, which grows from 6 ins. to 9 ins. in length, is one to three-flowered, and generally stout. They vary in colour from a bright yellow to a greenish yellow, almost white. The foliage is very similar to that of T. europæus; but the five to six rounded sepals constitute the distinguishing feature of the species. It is a native of North America, from whence it was introduced in 1805. T. americanus is a synonym.

T. chinensis.—The tall leafy stems of this species are many-flowered, with large yellow blooms. The narrowly linear petals are longer than the sepals, and about twice the length of the stamens. It is evidently allied to T. asiaticus, but distinguished by the great length of the stamens. It is a native of the coast of Mandchuria, but does not seem to have been introduced.

T. patulus.—From a horticultural point of view this species would be less ornamental than any of the above, but might be grown for the sake of variety. The stems are one to two-flowered, and from 3 ins. to 12 ins. in length, with rather finely divided leaves. The whole plant may be compared to that of T. europæus, but is more slender, with smaller golden yellow flowers and five to eight sepals. It was introduced from Siberia in 1800, but is at present rare in gardens.

T. Ledebouri.—The stems of this plant bear several, though generally few, large pale yellow flowers, and is similar to T. europæus, as a variety of which it is sometimes classed; but the petals equal the sepals in length, in that respect resembling T. asiaticus.

T. caucasicus.—The uppermost leaf in this species is close to the flower, which is solitary, large, and deep yellow, while in other respects it closely resembles T. asiaticus. The stems grow from 12 ins. to 18 ins. in length, and the plant is a native of the Caucasus, and was introduced in 1857.

T. altaicus.—In this we have another form closely allied to T. europæus, but the flowers are solitary, large, and light or bright yellow. Specimens were collected at the foot of Mount Aktschauly and Tarbagatai, in the Altai range, and the plant was introduced in 1857.

T. dahuricus.—Specimens under this name have stems from 12 ins. to 15 ins. in length, bearing a few small leaves with wedge-shaped and very shallowly divided segments. The flowers are solitary, small, and yellow. As a species it does not seem to have more strongly distinguishing characters than several of the foregoing.

T. acaulis.—The stems of this Alpine range from 3 ins. to 6 ins., or even 12 ins. when in fruit, bearing a solitary large pale yellow flower. The radical leaves are generally but little developed, and are sometimes reduced to large sheaths, while the stem leaves are small and finely divided. It is a native of the Western Himalayas, and has been picked up in numerous localities at great elevations, such as Kishtwar, 12,000 ft., and Kumaon, 12,500 ft.

T. pumilus.—This species has more right to the name of T. acaulis than the last, inasmuch as the one-flowered scapes are leafless, although they grow from 3 ins. to 15 ins. high. The tallest stems may bear one or two small leaves upon them. The radical leaves are numerous and small, with an orbicular blade and wedge-shaped shallowly cut segments, borne on petioles from 2 ins. to 4 ins. in length. It is a pretty rock plant, but does not seem to be in cultivation; and occurs at an elevation of 13,000 ft. in Kumaon, and 14,000 ft. in the Sikkim Himalayas.

T. lilacina.—Like the two last mentioned, this is an exceedingly pretty dwarf Alpine plant, which it is highly desirable should find its way into cultivation. The stems grow from 3 ins. to 6 ins. in height, bearing a few small leaves and a large solitary pale lilac flower with numerous sepals. The small deep yellow petals are shorter than the stamens. The radical leaves are often reduced to large sheaths, but when developed are fairly divided, though of no great size. It is a native of Turkestan, at elevations varying from 6,000 ft. to 12,500 ft., and would, therefore, seem to be hardy, although it has not been introduced to this country.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

Dwarf-growing Lælias, such as L. Dayana, L. præstans, and L. marginata, occupy but a small amount of space in the cool Orchid house, but prove very attractive features when in flower, blooming as they do when Orchid flowers are getting comparatively scarce; therefore they are well worth growing. All the above kinds do admirably, either on bare blocks of wood with the bark left on, fastened securely, with or without the addition of a little living sphagnum, or in small shallow baskets, well drained, and containing only a small quantity of compost, consisting of sphagnum and good fibrous peat. If grown on blocks of Oak or Apple wood, they soon cover them with roots, and, of course, need constant attention in the matter of watering, requiring a good soaking every day at this time of the year. Mexican Lælias, if grown by themselves in a very light position, will benefit by receiving a thorough good syringing overhead every bright afternoon, and if a chink of air be left on the house all night, they will be dry again by morning.

Cattleya gigas and C. Sanderiana will require more water now that they are pushing roots freely, and if they are standing in sunny positions, they will take a great quantity if well rooted. Avoid administering it in driblets, but give a good soaking, and then let them go until they require more.

The Temperatures for the Month of June should be:—East Indian house, 75° to 80° by day, 70° at night. Cattleya or intermediate house, 70° to 75° by day, 65° at night. Odontoglossum or cool house, 65° to 70° by day, 60° at night. If the cool house can be kept down to this, so much the better; but we were unable to keep ours below 85° during some days of the past week. The other structures may, of course, go 10° higher than the figures given by sun-heat.—*W. P.*

The Gardeners' Calendar.

THE STOVE.

Alocasias and Anthuriums.—The young leaves of these fine-foliaged plants will require seeing to occasionally in the case of large specimens with crowded leaves. In some instances it will be necessary to free them from any superincumbent pressure, otherwise they may get crumpled and broken, thereby disfiguring for the rest of the season what promised to be fine. The petiole should stand as nearly erect as possible in those with leaves from 3 ft. to 5 ft. in length, as in the case of Anthurium Veitchii and A. Warocqueanum. Another matter that must not be neglected now is syringing. In dry warm weather red-spider is very liable to make its appearance, and if allowed to become established the young leaves get permanently crippled. Syringing several times a day during bright weather will keep this as well as others in subjection, but to make doubly sure the leaves may occasionally be sponged with Fir Tree Oil or a solution of Gishurst Compound.

Miconia (Cyanophyllum) magnifica, &c.—Plants of this class must be well exposed to light, although not actually exposed to the direct rays of the sun. Leaves of their texture are not exactly leathery as are those of Anthurium, soon suffering if too much shaded, and the more so if allowed to become crowded by other subjects. If space can be afforded—and such noble plants repay it, if well grown—the specimens should be elevated on pots if grown amongst a miscellaneous assortment of plants. Crowding is to be avoided under any circumstances, otherwise good results cannot be obtained.

Propagation.—The judicious cultivator should always be on the outlook for a supply of plants for future work, and from this point of view, should take off all small well-coloured shoots of Pandanus Veitchii that make their appearance on the stems of old plants. Badly-coloured specimens should be avoided if not actually required, as they seldom make attractive plants. Crotons may also be propagated by using well-coloured shoots. Dracænas can be propagated at any time by cutting down old leggy stems, and laying them in the fibre of the propagating bed, afterwards taking off the young shoots and rooting them. The whole tops with their leaves may be taken off and rooted, or in the case of hard-stemmed kinds, a piece of sphagnum may be tied round them after ringing.

Balsams.—The first batch of seedlings may be put into their flowering pots. Attend to the tying out of the shoots, so that all will be fully exposed to light, thereby inducing a free and regular branching, which will readily take place without any stopping of the shoots whatever if the conditions are favourable. In lean-to houses the plants must frequently be turned round to the most illuminated side of the house; whereas in span-roofed houses this is not required.

THE GREENHOUSE.

Heaths and Epacris.—As the later batches of Heaths go out of flower remove the faded blossoms, and give full exposure to light so as to encourage the healthy development of young wood. Epacris making growth should be encouraged to do so by syringing and a moderately high temperature. The earlier batches of the latter may be hardened off in a cool house previous to their being transferred to the open air for the summer months to harden their wood and encourage the formation of flower-buds.

THE FRUIT HOUSES.

Peaches.—As soon as the earliest crops have been gathered the trees should be forcibly syringed to destroy red-spider, which may have become plentiful, owing to the dry condition of the atmosphere which has been maintained since the fruits began to colour and soften. Cut away all wood not required for bearing next year, so as to encourage the ripening of the useful wood. It is a mistake frequently perpetrated to allow crowding, as it tends to prevent a good crop being secured than otherwise.

Strawberries.—These are very liable to attacks of red-spider, which become apparent while the fruits are ripening. This can be prevented to a great extent by careful attention previous to the colouring of the fruits. Well syringe the underside of the foliage at frequent intervals previous to ripening if the presence of the pest is suspected.

THE KITCHEN GARDEN.

Wall Trees.—Heavy showers of rain have been frequent during the past few weeks, but the trees on aspects sheltered from the force of these storms will nevertheless have escaped a thorough washing. The garden engine should therefore be frequently called into use, applying the water with some force to Peaches, Apricots, Plums, Cherries, and other subjects, both to clear the trees of insect pests, decayed flowers and the small imperfect leaves that become yellow and fall early. Already caterpillars and aphides are abundant, and should be rigorously kept down by syringing, hand picking, or insecticides. On dry borders especially the surface should be kept in a condition to take in the water applied to the walls.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*May 30th and 31st.*

THE second City exhibition promoted by this society, and held in the Inner Temple Gardens, proved a more satisfactory venture than the first one, as the weather, though boisterous and threatening on the first day, remained fine throughout, and there was a larger attendance of visitors. The remarkable feature of the show was undoubtedly the display of Orchids, which far exceeded anything of the kind seen before. Finer specimen plants, and more of them, are often seen at Manchester, for instance; but the total quantity of blooms exhibited eclipsed everything hitherto attempted in the way of an Orchid exhibition. By comparison with the Orchids, every other section of plants seemed to be scantily represented; still, the pot Roses of Messrs. Paul & Son, the Clematises of Messrs. R. Smith & Co., the Begonias of Messrs. John Laing & Sons and Messrs. Cannell & Sons, the herbaceous Calceolarias staged by several growers, the cut flowers, and notably the fine stands of florists' Tulips staged by Mr. S. Barlow, Mr. Thurstan, and Messrs. Stuart & Mein, made up a display on the whole which the visitors greatly appreciated.

THE ORCHIDS.

As a collection of well-grown specimens, combined with the display of rare and beautiful species, the noble group contributed by Baron Schroder (Mr. Ballantyne, gardener), again stood out prominently as the best in the show, and more than deserved the award of the Veitch Memorial Medal. In the centre of the group was a huge piece of Cymbidium Lowii, superbly flowered, with large and grand masses of Cattleya Skinneri on either side. The white variety of the latter was also shown, together with C. Warneri, C. Mossiæ Wagneri, Lælia purpurata, L. p. Russelliana, Cypripedium bellatulum, Phalænopsis John Seden, and numerous other Cattleyas, Dendrobiums, Odontoglossums, Miltonias, Vandas, and Aërides. Sir Trevor Lawrence, Bart, M.P., Burford Lodge, Dorking, was also awarded a Veitch Memorial Medal for an extensive collection, including five flowering specimens of Vanda teres, also Cypripedium caudatum, Masdevallia Denisoniana, Aganisia cyanea, Disa racemosa, Dendrobium Dalhousieanum, D. Dearei, Thuniæ Bensoniæ, Bulbophyllum barbigerum, a diminutive little plant with four or five small brownish black flowers, the lip of which, possessing some remarkable power of movement, proved an object of singular attraction to the visitors; Maxillaria Sanderiana, and many others. A Silver Cup was awarded to Messrs. F. Sander & Co., St. Albans, for a large collection occupying one half of the central stage in the largest tent. The different genera were frequently massed in groups of allied kinds or varieties, including Odontoglossum crispum and its forms, Cattleya Mossiæ, Miltonia vexillaria, Cypripediums and others. A similar award was made to Mr. G. T. White, Winchmore Hill, for a group in which Cattleya Mossiæ and C. Mendelii were prominent, as well as Miltonia vexillaria, Lælia purpurata, Brassia caudata and others, backed up with Cycads. Mr. B. S. Williams, Upper Holloway, took a Silver Cup for a group mixed with Palms, Ferns and Caladiums. Cattleyas, Cymbidium Lowii, Anguloa Clowesii, Vanda tricolor and others were prominent. Mr. J. Cypher, Cheltenham, also exhibited a fine group and received a similar award. Amongst his plants were many forms of Lælia purpurata, Cattleyas, Odontoglossums, Dendrobium thyrsiflorum with seven racemes, D. Bensoniæ, D. Jamesianum and others. Messrs. Hugh Low & Co. also staged a group, amongst which were Cypripedium bellatulum, C. h. excellens with rich purple confluent blotches on the standard, C. Lawrenceanum, C. Sanderianum, Phalænopsis amabilis, P. grandiflora aurea, P. Schilleriana and others.

F. G. Tautz, Esq. (gardener, Mr. J. C. Cowley), exhibited a fine group, including Cattleya Acklandiæ, Sobralia macrantha, Cattleyas, Lælias, Miltonia flavescens and others, for which he received a Silver Cup. A like award was also made to F. Wigan, Esq. (gardener, Mr. D. Grant), Clare Lawn, East Sheen, for a group containing fine pieces of Cattleyas, Cypripediums, Phalænopsis grandiflora and others.

A Silver-gilt Flora Medal was awarded to H. M. Pollett, Esq. (gardener, Mr. W. Parks), Fernside, Bickley, for a beautiful group, including fine pieces of Cattleya, Vanda suavis, Miltonia vexillaria, Lælia elegans Turneri, and a number of fine Odontoglots. A Silver Flora Medal was granted to A. H. Smee, Esq. (gardener, Mr. G. W. Cummins), for a group, including Dendrobium macrophyllum, Brassia verrucosa, Cœlogyne Parishi, Cattleyas, &c. To the Duke of Marlborough, Blenheim, Woodstock (gardener, Mr. Whillans), a Silver-gilt Flora Medal was awarded for nine large specimens, amongst which were Cypripedium caudatum, Dendrobium Jamesianum, Lælia purpurata, and Cattleya Lawrenceana. A Silver Banksian Medal was awarded to C. F. Partington, Esq. (gardener, Mr. B. Searing), Heaton House, Cheshunt, for Masdevallias and Odontoglossums.

SPECIMEN PLANTS.

A Silver Cup was awarded to Messrs. Richard Smith & Co., Worcester, for a magnificent group of twenty-six well-flowered Clematis of different varieties, and trained in balloon shape. Sensation, Marie Desfosse, Mrs. Geo. Jackman and Fairy Queen were showy kinds. Messrs. Paul & Son, Cheshunt, also received a Silver Cup for a large group of trained Roses, amongst which were two huge specimens of Charles Lawson. Mr. C. Turner, Slough, was awarded a Silver Cup for a group of trained show and decorative Pelargoniums and Azaleas. A like award was made to Mr. Anthony Waterer, Knap Hill, Woking, for hardy Azaleas in pots. A Silver Flora Medal was awarded to Messrs. J. Laing & Sons, Forest Hill, for a splendidly-grown lot of Caladiums, including the best exhibition kinds, and a similar medal was given them for a large group of tuberous Begonias. They also showed a group of plants arranged for effect. A Silver-gilt Flora Medal was awarded to Messrs. J. Veitch & Sons, Chelsea, for a group of Japan Maples, Eulalia japonica variegata, Rhododendron and Azalea blooms. A fine group of Caladiums and Palms was shown in the large tent by W. Melles, Esq., Sewardstone Lodge, Chingford. Small bush Rhododendrons were shown by Messrs. H. Lane & Son, Berkhamstead. A fine bank of Anthurium Scherzerianum and some Coleus came from Messrs John Peed & Sons, Roupell Park, Norwood Road; and a Silver Flora Medal was awarded to Messrs. H. Cannell & Sons, Swanley, Kent, for a fine group of Begonias and Calceolarias. Amongst the former were Rose Bud like a Rose, an unnamed seedling similar to a yellow-ground Picotee with an orange edge, and Mrs. Chas. Whitehead, all double. A Silver Cup was awarded to Messrs. W. & J. Birkenhead, Sale, Manchester, for an extensive collection of stove and greenhouse Ferns, including filmy Ferns, such as Trichomanes radicans varieties, Todea superba and T. pellucida. They had also a grand lot of British and a smaller lot of hardy American Ferns.

HARDY PLANTS AND CUT FLOWERS.

A Silver-glit Flora Medal was awarded to Messrs. William Paul & Son, Waltham Cross, for a large collection of cut Rhododendron and Azalea flowers, together with Tea and Hybrid Perpetual Roses. A similar award was made to Messrs. Kelway & Son, Langport, Somerset, for cut flowers of Pæonia Moutan, P. officinalis, single and double Pyrethrums, Delphiniums, Oriental Poppies, and other herbaceous plants. Messrs. Barr & Son, Covent Garden, had also a Silver-gilt Flora Medal for a large collection of cut flowers of herbaceous plants, including Pæonies, Irises, Oriental and Iceland Poppies, &c. A Silver Flora Medal was accorded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for a large collection of herbaceous plants in pots, and a similarly extensive one of cut flowers, including Irises, Aquilegias, Lupins, Pæonies, Oriental Poppies, &c. Messrs. Paul & Son exhibited a fine group of herbaceous plants and a collection of Alpines, amongst which were Ramondia pyrenaica, Androsace foliosa, Erigeron aurantiacum, &c. They also had a large assortment of cut flowers. Messrs. Collins Bros. & Gabriel, 39, Waterloo Road, London, showed a collection of herbaceous plants in pots. A Silver Flora Medal was granted to Messrs. H. Cannell & Sons for regal and decorative Pelargoniums, Pansies, and Bedding Violas. A large collection of Pansies was shown by Messrs. Ryder & Son, Sale, Manchester. Messrs. J. Carter & Co., High Holborn, London, exhibited a group of a very fine strain of Calceolarias. They had the first prize in the open class for another lot of Calceolarias, which were dwarf and well flowered. Mr. Long, gardener to H. Barker, Esq., Holme, Streatham, was second. A Silver Flora Medal was accorded to Mrs. Hodgkins, Burton Road, Withington, Manchester, for beautiful groups of skeletonised leaves, flowers, fruits, and Ferns. Messrs. J. Cheal & Sons, Crawley, Sussex, showed cut flowers arranged in their patent flower supports. Mr. Rupert Miller, Shoreham, Sussex, showed many trusses of Pelargonium Pearl, a white sport from Madame Thibaut. Messrs. H. Low & Co., Bush Hill, Enfield, had a group of Pelargonium Bush Hill Beauty, a coloured sport from Madame Thibaut. Messrs. J. H. Virgo, Welton-in-Gordano, Clevedon, showed Myosotis dissitiflora splendens.

SHOW TULIPS.

The Trustees of the Turner Memorial Fund offered a series of prizes for the old-fashioned show Tulips, which brought three collections—the largest number of flowers staged in London for some years, and which proved a never-failing source of interest. Mr. S. Barlow, J.P., Stakehill, Castleton, near Manchester, easily won the first prize with a superb lot of blooms, in which each section recognised by florists was well represented by correctly-marked and legibly-named flowers. In Mr. Barlow's stand were also found the three premier blooms—viz., Sir J. Paxton, flamed bizarre; Mrs. Cooper (Boardman), feathered byblœmen; and Glory of Stakehill (Ashmole), breeder. The second prize was awarded to Messrs. Stuart & Mein, Kelso, and the third to Mr. James Thurstan, Cardiff.

VIOLAS.

For Messrs. Dobbie & Co.'s prizes there was only one competitor, Mr. T. Parker, Kynaston Lodge, Harrow Weald, who had a lovely lot of blooms; but failing to put them in water, they soon lost their freshness and beauty.

MARKET GROWERS' CLASSES.

The market growers, who came out so strong last year, were conspicuous by their absence this time, only three of the leading men putting in an appearance. A Silver Cup was awarded to Mr. W. Iceton, Granard Gardens, Roehampton, for a bold group of Palms, including Kentias, Cocos plumosa, C. flexuosa with variegated foliage, and some new ones, such as Areca Sanderiana, Kentia McArthuri, and all were surrounded by a line of Ophiopogon jaburan variegatus. Mr. H. B. May, Dyson's Lane, Upper Edmonton, was the only exhibitor of Ferns in this division of the schedule, and his collection included all the most popular market Ferns, well grown and beautifully arranged. He also had the only group arranged for effect, which consisted of Crotons, Aralias, Aspidistras, Vitis heterophylla variegata, Yucca filamentosa variegata and others, in excellent condition. Mr. G. Braid, Winchmore Hill, was the only competitor in the class for fifty decorative Pelargoniums in flower. They were in 48-sized pots and well grown.

A Silver-gilt Flora Medal was awarded to Messrs. Perkins & Sons, Coventry, for crosses, wreaths, sprays, bouquets, and other devices, which were very fine. Mr. G. Newman, Bromley, Kent, also showed wreaths and bouquets. Mr. G. Monro, Covent Garden, was awarded a Silver-gilt Flora Medal for four baskets of Melons, some Cucumbers, Tomatos, Peas, black and white Grapes and Potatos. Mr. P. H. Garcia, Central Avenue, Covent Garden, exhibited crosses, wreaths, bouquets and other devices. Cucumbers were shown by Mr. J. R. Featherby, Gillingham, Kent.

FRUIT.

A Silver Flora Medal was awarded to J. Hollingsworth, Esq., Woodseat, Uttoxeter (gardener, Mr. J. F. Campbell), for four bunches of Black Hamburgh Grapes of great merit for the season. A collection of Apples was exhibited by A. H. Smee, Esq., showing the keeping qualities of certain kinds. A collection, including Wellington, Ribston Pippin, Alfriston, Beauty of Kent, Annie Elizabeth, &c., was shown by Messrs. J. Cheal & Sons. A larger collection was staged by Messrs. Geo. Bunyard & Co., Maidstone, including the same sorts, as well as Golden Noble, Bismarck, Cox's Pomona, &c. Lockie's Perfection Cucumber was shown by Mr. C. Turner. The Duke of Marlborough exhibited six large Melons; and Thames Ditton Hero Melon was shown by W. F. Hume Dick, Esq. (gardener, Mr. W. Palmer), Thames Ditton.

THE COMING ROSE SHOWS.

June 24.—Ryde.
,, 26.—Richmond (Surrey).
,, 27.—Farningham, Winchester.
,, 29.—Reigate.
July 2.—Boston, Sutton.
,, 2, 3.—National Rose Conference at Chiswick.
,, 3.—Bagshot, Croydon, Farnham, Maidstone.
,, 4.—Bath, Canterbury, Hitchin, Norwich.
,, 6.—Crystal Palace (National Rose Society).
,, 9.—Brockham, Diss, Hereford.
,, 10.—Dursley, Ealing, Ipswich, Tunbridge Wells.
,, 10. 11.—Brighton.
,, 11.—Gloucester.
,, 13.—Eltham, New Brighton.
,, 16.—Birkenhead, Carlton-in-Lindrick.
,, 17.—Bedford.
,, 18.—Sheffield (National Rose Society), Helensburgh.
,, 19.—Ulverston.
,, 20.—Manchester.
,, 23.—Christleton, Tibshelf.
,, 26, 27.—Wilmslow.

QUESTIONS AND ANSWERS.

It is particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

Chrysanthemums.—*Omega:* It is impossible to say that every Chrysanthemum cut down now will bloom next winter, but the probability is, of course, that they will. Cut them down to about 6 inches from the top of the pot, and consult the article in our columns for May 11th, p. 577, for information as to the right time for cutting back the different varieties.

Clematis.—*S. H. W., Blandford:* The specimens sent are the *summer* blooms of Clematis Jackmanni alba, and, as usual, when allowed to flower from the old wood, they are abortions. This treatment should be reversed; the plant should be cut down every winter and only allowed to bloom on the young shoots of the current season's growth, when, so far as Mr. Noble's experience goes, the flowers always come correct, *i.e.*, a white counterpart of C. Jackmanni. See p. 771, vol. iv.

Mounting Pansies.—*Pansy:* Perhaps the prettiest way is to mount them in the form of a spray or posy. To do this you must select your flowers, and lay them out so as to partially overlap one another, and gum them into position with a mixture of gum arabic and gum tragacanth in equal proportions, put on the reverse side of the flowers. Dried Ferns would make a pretty background and fringe.

Names of Plants.—*Juno:* Stanhopea oculata; 2, Stanhopea Wardii. *Box without letter or name:* 1, Saxifraga hypnoides; 2, Diplacus glutinosus puniceus; 3, Gazania splendens; Maréchal Niel Rose affected with mildew; give applications of flour of sulphur. *R. C. F.:* Pernettya mucronata. *A. Chalmers:* Oncidium cornutum. *Four Young Gardeners:* 1, Ranunculus acris flore pleno; 2, Saxifraga cuscutæformis; 3, Orobus niger; 4, Myrrhis odorata; 5, Baptisia tinctoria; 6, Polygonum bistorta; 7, Melampyrum pratense; 8, Lysimachia nemorum; 9, Scilla nutans carnea; 10, Geranium phæum; 11, Fumaria officinalis; 12, Geranium Robertianum. *W. J. D.:* 1, Buddlea globosa; 2, Asphodelus luteus, which must have been thrown out of some garden.

Seedling Columbines.—*Aquilegia:* The seedlings of which you send us blooms, although raised from Aquilegia cœrulea, have been fertilised with pollen from A. chrysantha, or they must have been of a hybrid nature when you received them. Aquilegias hybridise with one another freely, and the two above-mentioned species being intimately allied, it is difficult, or impossible, to keep them separate if grown in proximity to one another. The eight different varieties you send us are all good in their way, and certainly deserving of cultivation; but we cannot say that they are either different or superior to those of the same species already in cultivation. Some years ago Mr. J. Douglas, Great Gearies, Ilford, was instrumental in raising some beautiful hybrids from these two species, and of bringing them before the public. They are now, however, pretty widely disseminated in gardens.

Tomato Diseased.—*Omega:* Without seeing the fruit we cannot say what particular fungus is the cause of the black spot on your fruits, or whether it is a fungus at all, but the best thing you can do is to cut off the affected fruits, and keep the soil about the roots and the atmosphere drier. Most amateurs fail to get the best results from Tomatos through a too liberal use of the water pot.

Communications Received.—M. V.—O. & M.—H. McM.—R. C. F. (many thanks).—S. & S.—Gamma, Edinburgh.—T. D. H.—E. W. & S.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending June 1st was 29·61 ins.; the lowest reading was 29·45 ins. at the beginning of the week, and the highest 29·80 ins. on Saturday morning. The mean temperature of the air was 55·7°, and 1·1° below the average in the corresponding weeks of the twenty years ending 1868. The mean was below the average on each of the first six days of the week, whereas it showed an excess on Saturday. The general direction of the wind was south-south-west, and the horizontal movement of the air averaged 11·1 miles per hour, which was 0·8 miles above the average in the corresponding weeks of sixteen years. Rain fell on five days of the week, to the aggregate amount of 1·33 in. The duration of registered bright sunshine in the week was 47·2 hours, against 38·2 hours at Glynde Place, Lewes.

COVENT GARDEN MARKET.

June 5th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Grapes .....per lb.	2 0	5 0	Strawberries.. per lb.	2 0	4 0
Pine-apples, Eng., lb.	1 0	1 6			

Canadian and Nova Scotia Apples, per barrel, 7*s.* to 17*s.*

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus ....per 100	2 6	5 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	3 0		Lettuces ..per dozen	1	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages.... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	5 0	Radishes ..per dozen	1 6	
Celery....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers ....each	0 4	0 10	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos ....per lb.	2 0	3 0
			Turnips ....per bun.	0 6	

Potatos.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Anemone, 12 bunches.	1 0	4 0	Mignonette, 12 bun.	4 0	6 0
Arum Lilies, 12 blms..	2 0	4 0	Pansies ..12 bunches	1 0	2 0
Azaleas ....12 sprays	0 6	1 0	Pelargoniums, 12 spys.	0 6	1 0
Bouvardias, per bun.	0 6	1 0	— scarlet ..12 sprays	0 4	0 6
Camellias, white, doz.	2 0	4 0	Polyanthus, 12 bnchs.	1 6	4 0
Carnations, 12 blooms	1 0	2 0	Primula, double, bun.	0 9	1 0
Eucharis ..per dozen	3 0	6 0	Ranunculus, French, 12 bnchs.	1 0	3 0
Forget-me-nots.....	1 6	4 0	Roses, Tea, per dozen	0 6	1 0
Gardenias, 12 blooms.	2 0	4 0	— Red .....per doz.	2 0	5 0
Heliotropes, 12 sprays	0 6	1 0	— Red, French, dozen	1 6	2 0
Ixia.....12 bnchs.	2 0	4 0	— Saffrano ..per doz.	1 0	2 0
Lapageria, 12 blooms	2 0	4 0	Stephanotis, 12 sprays	2 0	4 0
Lilium longiflorum, 12 blooms	2 0	4 0	Tuberoses, per dozen.	1 0	2 0
Lily of the Valley, 12 bunches	3 0	6 0	Wallflowers, 12 bnchs,	4 0	6 0
Lily of the Valley, 12 sprays	0 6	1 0	White Lilac, French, per bun.	3 0	5 0
Maidenhair Fern, 12 bns.	6 0	9 0	White Narciss, 12 bunches	3 0	6 0
Marguerites, 12 bun.	3 0	6 0			

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	5 0	12 0	Foliage Plants..each	2 0	10 0
Arum Lilies..per doz.	6 0	12 0	Genista ....per dozen	9 0	12 0
Azalea.....per doz.	18 0	30 0	Heliotrope ..per doz.	4 0	8 0
Bedding plants, in var., per doz.	1 0	3 0	Lobelia .... per doz.	4 0	6 0
— — in boxes ..each	1 0	3 0	Marguerites per doz.	6 0	12 0
Calceolaria ..per doz.	6 0	9 0	Mignonette, doz. pots	5 0	10 0
Cineraria ..per dozen	6 0	10 0	Musk ..... per doz.	2 0	4 0
Cyperus, ..per dozen	4 0	12 0	Nasturtiums .... doz.	3 0	5 0
Dracæna term., doz.	30 0	60 0	Palms in variety, each	2 6	21 0
— viridis, per dozen	12 0	24 0	Pelargoniums, scarlet,	4 0	9 0
Erica, various ..doz.	9 0	24 0	Pelargoniums, per doz.	8 0	18 0
Evergreens, in var. .,	6 0	24 0	Pinks, &c. .. per doz.	6 0	9 0
Ferns, in var., per doz.	4 0	18 0	Roses, H.P., per doz.	12 0	24 0
Ficus elastica ..each	1 6	7 0	Roses, Fairy, per doz.	9 0	12 0
Fuchsia.....per doz.	6 0	12 0	Spiræa .....per doz.	9 0	12 0
			Stocks ..... per doz.	2 6	4 0

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To celebrate the 50th year of this Institution the Committee will place on the Pension List the whole of the Unsuccessful Candidates at the late Election, Seventeen in number, upon the express understanding that the sum of

£3,000

be realised, in order to provide for the great Extra Annual Expense thus entailed, without trenching on the Reserved Funds.

JUBILEE FESTIVAL

AT

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JUNE 13, 1889,

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J. NEWTON, Esq. ditto (annual)...	1	1	0
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Anonymous	10	0	0
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Mr. TUNNINGTON, Calderstone Gardens, Liverpool...	2	0	0
Mr. TAYLOR, The Willows, Cheltenham	0	2	6
Mr. J. S. TREVOR, Bryngwyn Gardens, Oswestry ...	5	1	0
H. JOACHIM, Esq., Airlie Gardens, S.W.	1	1	0
Mr. BURRELL, Darly Gardens, Sunbury	0	10	0
The Right Hon. Lord DE ROTHSCHILD	50	0	0
Mr. PALMER, Drinkstone Gardens, Bury St. Edmunds	1	1	0
Mr. MOORE, Coedriglan Gardens, Cardiff	0	6	0
E. BANKS, Esq., Sholden, Deal	1	0	0
Mr. LODGE, Brougham Hall Gardens, Penrith ...	10	10	0
Mr. KING, Taplow House Gardens, Taplow	0	10	0
Mr. RHYMES, Gardener, East Molesey	0	2	6
Mr. REID, Gardener, Fair Mile Park, Cobham	0	2	6
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Next Week's Engagements.

WEDNESDAY, June 19th.—Great Floral Fête at York (and two following days). Royal Botanic Society, Second Summer Show.

FRIDAY, June 21st.—Sale of imported Orchids at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JUNE 15, 1889.

CURRENT TOPICS.

BEE KEEPING.—Judging by some recent communications published in our columns, it would seem as if there was much scepticism amongst gardeners, not only as to the monetary value of bees as producers of honey, but also as to their value as aids to fertilisation. There can be no doubt but that the bees got into the hands of people who very largely were bitten with a sort of craze, and being deeply conscious in their way that bees would, if properly handled, become a sort of saviour of the declining land interest, thought it would appreciably help to create in the insects additional interest if it were put forth prominently that they materially assisted in the fertilisation of flowers of all descriptions.

Whilst there can be no doubt but that insects may play an important part in the work of floral fertilisation, we are assured that that part has been greatly over-estimated, as, indeed, were all that is said as to the work done by bees and other insects true, it would but show that in the matter of reproduction nature was in the most deplorably faulty condition—a proposition which we certainly decline to admit. The remarkable paucity of bees this year affords an admirable opportunity for testing the force of the assertions made in favour of the bees, and we believe that, like some eminent persons in "The Mikado" they never will be missed in relation to floral fertilisation, but their honey products may be.

Here again we have seen a big bubble pricked, for honey after all is so cheap that it hardly pays, probably does not pay, to produce it. As a home luxury it is a delightful one, and to keep bees for its production for that end may be pleasurable and even profitable. No doubt some of the bee experts have done very well because of the bee craze, but nine-tenths of those bitten with it are now poorer than they were when they started as apiarians.

FLOWER SHOW ARRANGEMENTS.—If the weather which greeted the Temple Show was not all that could have been desired, and certainly it was far from that, it was a long way better than was experienced last year, and as a consequence the attendance was large, although we could but remark the comparative boycott of the show by the "upper ten." Why that should be it is hard to say; perhaps the executive are not in good odour in that quarter, perhaps the right influence is not exercised to secure the patronage of the wealthier classes, but the fact remains, and it may be as well bluntly expressed that as between the society and the higher patrons of horticulture there seems to be little or no present sympathy. The matter is rather a serious one for exhibitors generally, who, now that there are no prizes or other inducements held out to them worthy a moment's consideration, for cups nearly always are shams, should look for some reward in the attendance of that very class who, having wealth, will expend it horticulturally.

With respect to the general arrangements of the staging, there is much room for improvement if the society had, in the first place, broader tents at its disposal; and in the second, the exhibitors themselves were willing to break away from established traditions in arrangement. Everywhere there prevailed the ordinary straight stage and the straight line of frontage to the collections. As a consequence the narrow tents, and especially the one containing cut flowers, were so crowded that many visitors preferred not to face the ordeal of getting locked into a dense crowd without the chance of escape unless somehow the end of the tent was reached. Now we should like to see straight tables entirely abolished, and all the plants arranged at the sides in semi-circular or serpentine stages, on which really artistic groups could be formed, and about which the densest crowd could circulate freely, and everybody would have a chance of seeing. Here is an opening for a bold genius in flower show arrangements.

APPLES ARE SWELLING FAST.—Such is the statement which comes to us from various directions, and it renders the Apple crop outlook very much better than it was a week or two ago. That Apples are swelling fast may be taken as an indication that if the crop generally be thin, yet the bulk will be greatly increased by the average size of the fruit left to us. But more than that, the finer the fruits the more saleable are they, for a good sample is always worth at least 1*s.* per bushel more than an indifferent one. Then a good sample invariably means good keeping, because only sound clean fruits swell early and become large. The very fact that the young fruits have made so good a start in swelling has done much to take the rough edge from off that comparative disappointment which followed upon the very thin aspect of the set after such a fine show of bloom.

There is also about this thin set a feature which is worthy of note. It is that the fruits have not set in clusters here and there, but that one or two of a cluster of bloom have set, thus not only distributing the fruits evenly over the trees, but showing that the bad set this year is due to lack of strength in the fruit buds, as but one bloom or so out of the many possessed the needful strength and fertility. The fine foliage on the trees, the thoroughly moistened condition of the roots, and some recent warm weather, have doubtless all jointly helped to promote this desired early swelling of the fruits. We shall, however, need ample sunshine throughout the summer to continue what has been so well begun. It is gratifying to learn that the recent electrical storms have largely helped to free the trees from insect pests.

MARKET PEAS.—The London market was well supplied with fresh Peas last week from the outlying districts. Peas are only good when fresh, and they are only fresh when obtained from the market fields, and eaten as speedily as possible. Still, to the majority of Londoners nearly twenty-four hours must elapse ere they can enjoy the freshest of the Peas sent into market, as the gathering proceeds during one day, and the Peas are dispersed and sold for consumption in the metropolis the next morning.

Under such conditions it is obvious that town dwellers never have that perfect enjoyment from freshly picked Peas which those who have gardens can.

The earliest of home-grown market Peas come into London chiefly from the Chertsey district, where the soil is drier and warmer than it is in Middlesex. The first consignment obtained 20*s.* per bushel, but of course the slats were very thin, and an entire bushel afforded after all but a moderate dish. The following week the Peas dropped down to 10*s.*, and then to 5*s.* or 4*s.* 6*d.* per bushel, and now are perhaps even so low as 3*s.* 6*d.*, there being, in spite of the comparative thinness of the earlier sowing, a large crop, as the warm days of last week forced on the plants rapidly, and bloom set profusely. In another week or so no doubt thousands of bushels will sell at about 2*s.* 6*d.* each. On the whole that is enough to pay for such quality as is found in early market Peas.

It is not until the wrinkled Marrows come in that decent quality is obtainable. White round Peas so soon become dry and hard after gathering. Of course the grower has to pay as much for the gathering even if the selling price be ever so low, and not unusually the women-pickers, who gather from six to nine bushels per day, get more real profit out of the Pea season than the growers do.

Rhododendrons.—The recent hot weather pushed out the flowers of Rhododendrons somewhat rapidly this year, and because the bloom was rather sparse, it was of a more fleeting nature than usual. But whilst it endured there was a superb richness of colour about the flowers that was very marked, and showed how strikingly the moisture of the past year has influenced the roots of these beautiful shrubs for good. Last year the lack of the necessary moisture did very appreciably check bud development, as the wood then failed to ripen. This year's growth is early, and it is robust, hence, should all go well, we ought, in due course, next season to see a very grand display of flowers. It must be admitted that of all out-door or common hardy shrubs, the Rhododendron is the most brilliant. We have many that are wondrously beautiful, but none that gives grander flowers, newer colours, or greater variety.

A garden in which Rhododendrons thrive well, and are profusely planted, becomes, in the proper season, literally a fairy-land, if it be not even too brightly coloured. Still, the foliage is dense and somewhat sombre, which furnishes a capital foil to the brilliancy of the bloom, whilst in the whites, pinks, and other soft hues, there is toning of colour which amply compensates for the wealth of scarlet or crimson. We could wish that the choicer forms of the Rhododendron would thrive freely in ordinary soil, but to them peat is an indispensable adjunct, hence the cultivation of choice varieties must be limited to those who can furnish the needful soil preparation. All the same, common forms thrive almost anywhere, and their dense clothing of evergreen foliage alone makes them valuable winter shrubs.

Gardening Engagement.—Mr. A. Methven, gardener to T. Lange, Esq., Heathfield, Gateshead-on-Tyne, as gardener to the Baronesse Adolphe de Rothschild, at Geneva, Switzerland, in succession to Mr. Bethel.

Presentation to Mr. Methven.—On leaving Heathfield—the original home of Dendrobium nobile Cooksoni—to enter upon his duties at Geneva, as above noted, Mr. A. Methven was presented with a valuable gold watch, bearing the following inscription:—"From the Messrs. Lange, to A. Methven, as a souvenir of fifteen years faithful service at Heathfield."

The St. Albans and District Horticultural and Cottage Garden Society's third annual exhibition will take place on Wednesday, August 24th, when Mr. Sander's famous Orchid establishment will be thrown open to visitors holding half-crown tickets.

The Chiswick Vegetable Conference.—At a meeting on Tuesday of the executive committee appointed for carrying out the conference to be held at Chiswick in September next, it was determined that the products exhibited should be exclusively such as are generally recognised as garden vegetables. The schedule of classes as issued by the Council was thoroughly revised, and several new classes added. It was also agreed to group the various classes, so that all the Brassicas, the bulbous, tuberous, and fusiform-rooted subjects, salading and so on will be exhibited in separate sections, to facilitate the work of comparison.

The Gale in East Kent.—A very violent gale broke over Kent early on Monday morning, doing much damage to trees and crops. Rain fell in torrents during the night, and the sea in the Channel was very rough. In East Kent immense destruction has been caused in the Hop and fruit plantations, huge branches of Apple, Cherry, and Pear trees having been torn off. Enormous damage has been wrought to the Hop plants, and the rain has flooded the low-lying ground. At Folkestone a number of trees were blown down, and the flagstone pavement around them was torn up for a considerable distance.

Gardeners' Orphan Fund.—At a committee meeting held on 7th inst., Mr. G. Deal in the chair, the secretary reported the following receipts:—From Mr. Whillans, gardener to His Grace the Duke of Marlborough, £73, from the opening of the gardens at Blenheim Palace on May 22nd and 23rd; £14 16*s.* 10*d.* from Mr. D. T. Fish, from the opening of the gardens at Hardwicke House, Bury St. Edmunds, on May 30th; £9 5*s.* collected by Mr. Crawford, Coddington Hall Gardens, Newark; and £200 4*s.* 6*d.* as the nett result of the Covent Garden Fête. The receipts, including £7 9*s.* 9*d.* from money boxes, amounted to £314 11*s.* 3*d.*, and the expenditure to £114 6*s.* 9*d.* The chief items of expenditure being nearly £40 for advertising, £25 for canvas erections and furniture, £15 for music, and £17 for printing, smaller amounts being disbursed amongst porters, police, and other necessary assistants on the occasion. A letter was submitted from Mr. Bourne, stating that His Grace the Duke of Bedford proposed to make a donation of £500 to the charity. Votes of thanks were accorded to the Duke of Bedford, the Duke of Marlborough, Mr. Fish, and Mr. Crawford, for their generous aid, and to the Baroness Burdett-Coutts, Mr. Assbee, the market stand-holders, Mr. Dickson, and others for their interest and labours in connection with the Covent Garden Fête.

Carter's Provident Sick Fund.—The fourth annual meeting of this society was held on Friday last in the warehouse of Messrs. James Carter & Co., High Holborn. The chair was occupied by the president and managing partner of the firm, Mr. E. J. Beale, who opened the proceedings with a few well-chosen remarks, emphasising the advantages derived from co-operation, exemplified in the success which had attended the formation of this society. He had in the first instance suggested its formation, feeling sure that the benefit derived from similar societies in other large industrial establishments would be appreciated by his employés. He looked upon these societies as a step in the right direction, but only a step, and hoped some day our legislators would follow the lead of Prussia, and bring in a scheme of a national character which would benefit not a few, but all the men and women in the country. He was informed that the annual premium in Prussia was only about 2*s.* 11*d.* per head per annum for the whole population, and the benefits included a comfortable sustenance when old age or infirmity compelled retirement from active work. The statement of affairs was then presented, showing a substantial balance in hand, £100 of which was set aside as a reserve fund. A donation of £10 was then voted to the Hospital Saturday Fund, as in previous years. A bonus was announced to be distributed at Christmas. The executive officers were re-elected with remarkable unanimity, and a hearty vote of thanks to the chairman brought to a very pleasant close the fourth annual meeting of this flourishing institution.

OVERHEAD HEATING.

Most of us are satisfied with the fact that the sun's heat gets here in some way, and the question of how is not of general interest, but as a correspondent raises the question it may be well to state the case correctly. The sun's heat is generated in the body of the sun itself, and is radiated in all directions into space. As far as we can see most of that radiated heat is lost. The earth receives a small portion of it, which is absorbed to some extent by objects exposed to its influence; these objects become warm and radiate back into space any heat in excess of the temperature of the surrounding air. If an object is held near a hot stove the same process takes place. No one would care to assert that the heat did not come from the stove, or that it was generated in the exposed object. The statement made at the convention was "The heat does not come from overhead, but is generated wherever the sun's rays strike inside the greenhouse."

We build greenhouses and heat them in order to make the most of the short winter days, when Dame Nature is certainly very "stingy" in her supply of heat, and we are obliged to help her out. It seems but natural that this auxiliary heat should come from the same direction as the main supply. What we want is a short but perfect summer day. At night all is different, and any imitation of a summer night is and always will be impossible so long as our houses are surrounded by what is practically a thin sheet of ice whenever the temperature drops below freezing. We must adjust our conditions to the daytime, and the night must accept them.

If the overhead system had nothing behind it but a theory or an opinion, it would not be worth so much consideration, but practical experience seems to show that it possesses great advantages over other methods. Those advantages have already been described in these columns.

During the past winter the overhead system has been tried on a large scale at South Sudbury, Mass., by Mr. F. C. Fisher. He built two houses about 40 ft. by 300 ft. each, very flat, and the glass all sloping to the south; one house is planted with Carnations, the other with Lettuce. The plants are all in the ground, no benches and no excavated paths. Steam heat is used, and the pipes are, of course, all overhead. The whole arrangement is a new departure in greenhouse work, and has attracted much attention. The crops were first class; the Lettuce took a premium from the Massachusetts Horticultural Society, and the Carnations were unusually healthy and vigorous, though rather small, owing to late planting.

It would be going too far to attribute this success to overhead heating, and it might be difficult to show that it had anything to do with it; but the experiment certainly demonstrates that unusually good results are possible under that system. An interesting experiment in heating greenhouses has been conducted during the past winter at the Hatch experiment station of the Massachusetts Agricultural College, under the direction of Prof. S. T. Maynard, of the division of horticulture.

"Two houses were constructed during the summer of 1888, 75 ft. by 18 ft., as nearly alike as possible in every particular. Two boilers of the same pattern and make were put in, one fitted for steam and one for hot water; the steam for heating the east house, and hot water for the west and most exposed one * * * * The two boilers and fittings were put in so as to cost the same sum, and were warranted to heat the rooms satisfactorily in the coldest weather." The temperature of the two houses was taken five times a day, and the coal was carefully weighed. The experiment was continued during January and February. The record is tabulated in bulletin No. 4. The result shows a saving of nearly 20 per cent. of coal to the credit of the hot-water boiler, with an average temperature 1·7° higher than given by the steam boiler. "The temperature was more even where heated by hot water, and consequently there was less danger from sudden cold weather. This was strikingly shown on the night of February 22nd. The average outside temperature for the day was 34°. At 9 p.m. it was above 32°, and proper precautions not having been taken for so sudden a change as followed, at 6 o'clock on the morning of the 23rd the temperature of the room heated by steam was 29°, while in that heated by hot water it was 35°."

"Conclusion: While this test is conclusive for the two boilers employed in these two houses as constructed and for this unusual winter, in a larger house and in a winter where the temperature runs lower and with greater extremes, different results might possibly be obtained; but this can only be settled by carefully-made and accurately-recorded tests, which we hope another year to make. We would suggest that if those who have kept accurate records of the temperature of their greenhouses, together with the amount of coal consumed, will send us the figures, giving size of house and kind of heating apparatus, we shall be glad to put them on record in our bulletins for the benefit of those who are thinking of building new houses or refitting old ones."

While future experiments may modify the above results, it is not probable that they will reverse it.

In regard to the piping of these houses, Prof. Maynard writes that the flow-pipes are overhead, well towards the ridge, two of the six return pipes are in the angle formed by the glass and the top of the benches, and the other four returns are below the benches at

side of the paths. He says:—"We feel sure that we obtain better results than when they are all located on the sides. The water is under pressure in 2-in pipes." —*L. Wight, in American Florist.*

PARAFFIN AS AN INSECTICIDE.

I DO not think that Mr. Peebles is fairly dealing with the merits of paraffin as an insecticide. I believe that at the present moment, taking the leading horticulturists in the aggregate, their opinions of the superiority of this oil as an insecticide over any other preparation yet come before their notice would be in favour of its use. Like the use of sulphate of ammonia as a plant stimulant, paraffin requires to be used with great care and discretion, and even then, if used, as I believe it sometimes is, mixed with water only, nothing can be expected to attend its use but disappointment. It will, or at any rate should, be clear to any person who attempts to destroy insects with paraffin in this fashion, that the oil floats on the surface, despite all efforts to keep it stirred. It therefore is not difficult to predict the consequences, the oil would almost in its pure state fall from the syringe on the leaves of the plants. In an undiluted state this oil is to vegetation a deadly poison, leaving wherever it falls devastation and death in its train. Even when mixed with soft soap, so as to form an emulsion with water, it is not unattended with danger. Still, I firmly believe it to be the chief of the insecticides, and perfectly harmless when properly blended with other ingredients. It is in this way that paraffin stands out as the unrivalled insect killer.

Of course it is not desirable in any way to have anything at all to do with an insecticide incurring danger in its application, but paraffin is quite tractable and inodorous, under certain circumstances. Most of the hydro-carbides, just now before horticultural notice, contain more or less of this oil in their composition, and yet its presence in any shape is not discernible. I have for my own use, after a series of experiments in this direction, succeeded in compounding paraffin into a mixture that no man could ever detect its presence by its smell or any other characteristic belonging to it. It is soluble in either cold or hot water, and like Fir Tree Oil and other hydro-carbides retains the oily character. Much could be done in this direction by every horticulturist, and he would certainly find it to be, from an economic standpoint, worthy of any trouble it would cause him. I know I can prepare my own fifty per cent. cheaper than I can purchase any of the officinal preparations, and, besides, it necessarily claims this merit that I know what I am using, and what I expect it to do.

As far as insecticides in general are concerned, I must confess they have come far short of what they were said to accomplish. I found them, as a rule, either do no harm at all, or destroy plants and insects together. It is clear to me that we have not yet achieved that mystery of preparing an effectual insect destroyer, while at the same time perfectly innocuous to plants. I have great faith in paraffin compounds, and perhaps some expert may prepare from it the "elixir," which as yet has only a place in an ideal insecticide. — *Gamma, Edinburgh.*

A FEW USEFUL BASKET FERNS.

THOUGH the Maidenhair Ferns stand unrivalled for basket work, we have many others which, if not possessing equal gracefulness, are at least exceptionally well suited for that purpose; besides, it is not always desirable that a string of hanging baskets should entirely consist of the same kind of plants. Of course, this is a matter of taste and opinion. Some can only see beauty in one long array of the same shade of colour, while others again fail to see in this anything but a sort of untutored taste. I cast in my lot with the latter class, as I consider that sameness or uniformity should not be encouraged in any horticultural arrangement where the object is an attempt to copy nature and present beauty to our view. In a word, where this style is carried to any extent the artist will discern our weak points, and tell us that such are the most primitive ideas connected with the art.

The Davallias almost entirely are specially adapted for this form of culture; indeed, it has always appeared to me that not only the Davallias, but most Ferns seem to thrive under this mode of treatment better than under any other. Why this should be so perhaps is not so very clear as at first sight may appear. At all events, such is apparently the case. Davallia pentaphylla, with its dark green, five-fingered, evergreen fronds, is almost matchless as a basket Fern. It is not very common among Fern collections—a fact not easily accounted for, while hundreds of less deserving kinds often stand out conspicuous. Davallia Cheræphyllum (Leucostegia of some), with its finely cut, long, graceful, Chervil-green fronds, is another splendid Fern for the basket. This also is not found in every collection, though by no means rare. This Fern has one drawback—its early habit of shedding its fronds, and, therefore, on this account, it is perhaps not so useful as the former one.

Onychium japonicum, so well known to everyone, needs here no more than a mere allusion to its invaluable character as an all-the-year-round Fern. Like most Japanese plants, it thrives splendidly in the greenhouse, but does much better in the moist warm fernery. Another very fine Fern for the basket is Davallia Tyermanni. This, like the latter, is evergreen, and from the rather unique appearance, so to speak, of its fronds, is certainly a great acquisition. A very attractive Fern is Davallia Novæ-Zealandica. It is evergreen, but generally the fronds change from a deep green in their young state to a rusty brown colour. Notwithstanding this defect, its finely-divided frondage is exquisite, and together with its compact habit, will more than counterbalance it. When grown in baskets, the fronds generally grow much larger, in many cases nearly double the size they attain in pots or pans. Davallia dissectum, D. elegans, and D. bullata are all well suited for basket culture, the chief drawback being their deciduous character.

Where giant specimens are considered as features of attraction, such kinds as Davallia Mooreana and Goniophlebium subauriculatum are capital Ferns for hanging baskets. It is, perhaps, worthy of remark how little root sustenance D. Mooreana requires in the shape of soil. Of course, this is the case with most of the group, but I remember seeing at one time the largest specimen of D. Mooreana that had been exhibited at the Edinburgh flower shows, and it was in a 6-in. pot. The rhizomes were, of course, grown around the pot for years, forming a large ball like a tub. If I remember rightly, the plant measured over 6 ft. across. —*Gamma, Edinburgh.*

THE POPPY ANEMONE.

THE POPPY ANEMONE.

MOST of the varieties known as the florists' Anemones, as well as the Irish or St. Brigid's Anemone, have been wholly derived from A. coronaria, which was originally introduced from south Europe to this country in 1596. Their dwarf habit and easy management have favoured their being widely disseminated in the gardens of all classes. In the cooler and moister climate of the north, the single varieties flourish and increase amazingly. If the tuberous rhizomes are newly imported and in a dried-up condition, the chances are that a number of them will die before getting established; but when lifted from one garden and merely transferred to another in spring, no trouble whatever is occasioned with them. The gaily and extremely variably-coloured flowers are generally marked with a darker zone near the base, similar to the blotches seen in the common field Poppy, hence the application of the popular name—the Poppy Anemone. Old plants are now rather past their best in the south, but a few flowers may be obtained for some time, provided the weather is moist. The autumn rains, especially in the case of seedlings, start them into full growth again, and we have a second display of flowers in the same year. We illustrate a bunch of flowers greatly reduced in size.

CONCERNING LILACS.

As I am not a member of the legal profession, nor legitimately entitled to prefix Dr. to my name, I cannot come within the category of those whom "R. D." designates as "learned readers of THE GARDENING WORLD" (p. 631); but as he seeks to ascertain the derivation of the word "Lilac," I am sure he will welcome any information, from whatever quarter it may come. If he will turn to p. 1209, in Loudon's *Arboretum et Fruticetum Britannicum*, under the head of Syringa vulgaris he will find it thus written:—"Sirinx, the native name in Barbary. The tubes of the finest Turkish pipes are manufactured from the wood of this shrub, and also from that of Philadelphus coronarius, to which the name was originally given; hence the old English name of Pipe tree, which was applied both to the Philadelphus and the Syringa. Lilac is from Lilac or Lilag, the Persian word for a flower." Syringa, or Sirinx, can thus easily be traced back to its Latin origin, Syrinx—a pipe, a tube, a syringe.

There seems to be a great difference of opinion and uncertainty amongst eminent botanical authorities as to the native habitat of the Lilac, and the date of its introduction to this country. De Candolle says that the common Lilac is said to have come from Persia in the sixteenth century; but according to Heuffel, it is indigenous in Hungary, the borders of Moldavia, &c. The following extract is from the *Treasury of Botany*, edited by Dr. Lindley and Mr. T. Moore:—"The common Lilac, S. vulgaris, is generally supposed to be a native of Persia, from whence it is said to have been introduced into Europe; but it does not appear to be certainly known in a wild state, and some botanists have therefore supposed it to be merely a luxuriant cultivated variety of the Persian Lilac, S. persica. It is said to occur wild in Transylvania, Wallachia, and Bulgaria. S. persica is also supposed to have originally come from Persia, but nothing is known with certainty as to its native country."

Loudon gives a very interesting account, and I cannot do better than quote him fully. He says:—"The common Lilac was till lately thought to be exclusively a native of Persia, but within the last few years it has been found by Dr. Baumgarten in Transylvania (*Flora Transyl*, vol. i., p. 16). The blue and white varieties were cultivated by Gerard and Parkinson in 1597 under the name of Blue Pipe, and apparently confounded with Philadelphous, which was also called the Pipe Tree. The first time the Lilac was made known to European botanists was by a plant brought from Constantinople to Vienna by the ambassador Busbequins towards the end of the sixteenth century. From the plant being showy, of the easiest culture, and extremely hardy, it soon spread rapidly through the gardens of Europe." *Johnson's Dictionary* fixes the date of introduction of S. vulgaris at 1597, while "R. D." finds mention of the six Lilacs in Cardinal Wolsey's garden in the Palace of Norwich, and Loudon also mentions this circumstance. Now, as Cardinal Wolsey died in 1530 the Lilacs would have been planted before that event took place, which would bring us at least to the early part of the sixteenth century. So that the whole of the earlier history of the Lilac seems full of doubts and probabilities. The Lilac (S. vulgaris) appears to possess medicinal properties, for according to Lindley (*Vegetable Kingdom*, p. 617) the peasants of Breme employ no other remedy for the intermittent fevers which prevail in that marshy and insalubrious district.

I have come across another curious thing in connection with the common Lilac I should like to mention. De Candolle says, "It is well known that it will graft

upon the Ash," and that he has succeeded in making the Persian Lilac live ten years on Phillyrea latifolia. Has anything of this kind come under the observation of any of your readers?—*Alfred Gaut.* [The Lilac is also grafted on the Privet; but neither on the latter nor on the Ash does it live long. All the above subjects are members of the Olive family, and it does not seem so strange that a union can be effected between them, when we consider that the Pear may be grafted on the Hawthorn (Cratægus oxycantha), on the Medlar (Mespilus germanica), the Quince (Cydonia vulgaris), and the Mountain Ash (Pyrus aucuparia). With the exception of the Hawthorn, however, it may be stated that all the others are now regarded as species of Pyrus by the *Genera Plantarum.* The compound leaves of P. aucuparia, however, must indicate a considerable difference in histological structure, while the bony structure of the interior of the fruit of the Medlar shows another striking difference in affinity.—Ed.]

METHOD OF ROLLING LEAVES BY INSECTS.

It has no doubt often occurred to gardeners and others that leaf-rolliug insects, such as those mentioned on p. 641, must exercise a considerable amount of muscular power in order to draw in the edges of leaves so as to form the chamber in which they reside during the larval and sometimes the pupa stage of their life. The fact is they exhibit no muscular power whatever beyond the stretching of the threads which hold the leaves together. The operation may easily be observed by anyone in his own room by getting specimens of leaves containing half or full-grown larvæ of Blennocampa pusilla, one of the Rose-leaf sawflies. Carefully separate the leaves with a sharp knife without iujuring the larva, and lay the leaf on a table where the movements of the insects can casily be observed, and if the experimenter has a pocket lens what happens can the more readily be detected.

In a few minutes after the disturbance caused by the unfastening of the leaves has ceased, the insect will commence to examine by what means the injury done to its habitation can best be repaired. It first raises the fore part of its body, and commences feeling about for the edge of the leaf, and then finds a firm or stable portion to which the other end of its threads may be fastened. Having done this, it places its body in a middle position between the two, and then commences to move the fore part of its body from side to side with great rapidity or celerity, fixing its threads with the mouth. No time is wasted in fixing, as the threads seem to become glued to the leaves with unerring certainty.

As it moves backwards to bring itself into fresh positions, the lines are not all drawn straight at right angles to its own longitudinal axis, but many of them are fixed to positions backwards or forwards, and slightly diagonal to the others, apparently with the intention of giving additional strength. Soon after the first lot of threads are thus fixed, they commence to contract and throw themselves into small undulating folds, by which the edge of the leaf is pulled nearer to the other place of attachment. Fresh threads are thus fastened to the ground already gone over, and they, in their turn, contract, making the first ones loose. The insect then hauls in the loose cordage, so to speak, in bundles, and re-fixes them to the old place of attachment.

This goes on until the edge of the leaf is close down, hiding the insect, which then looks round its dwelling to see if there are any loopholes. These in their turn are made secure in the same way as the rest, with the exception of one opening or door, close to which may be found the head of the larva when at rest. Some of the more lively species, if suddenly alarmed, make a rush for this opening and let themselves down by a thread. After the danger is past they elevate themselves by means of the thread, catching hold of it with the mouth and the true legs alternately, like a man mounting a rope by the use of his hands only.

The caterpillars of the Tortrices, a group of small moths, also fasten down the edges of leaves by the same mechanism, and being very lively make use of the thread to lower themselves with great agility. The Pine Beauty moth feeds on the leaves of Pines, which in its early stages it greatly resembles, particularly the leaves of Pinus Peuce and P. Strobus. The caterpillar, however, does nct construct a dwelling, but lies full length, closely adpressed to the leaf when at rest. When alarmed it drops down by means of a thread, but soon after commences to raise itself in the same manner as above described. The body is long and slender, with a pair of claspers on the last segments, and by means of these it makes bold attempts to climb up the thread in the same way as it loops itself when walking rapidly on a leaf. It can also raise itself on these claspers and the forelegs which are close to them, and stands straight and motionless like a leaf, to which it bears considerable resemblance, being of the same colour.—*Insecta.*

AMERICAN NOTES.

The Culture of Vegetables.

A description of the various kinds of fruits and vegetables cultivated in the United States, and the methods of culture employed, would fill a large volume. A country so large, with a climate so varied, admits of the cultivation of all but the ultra-tropical. Having early vegetables and fruits, such as Peaches, Melons, and Tomatos, from the Southern States, and late ones from the north (Figs are grown in the northern States, where the temperature goes below zero), very few kinds can be said to be out of season.

My notes refer to kitchen gardening as understood in England, and practised in the temperate sections here, a little below and above latitude 40 deg., under altered climatic conditions, and includes varieties which will not mature in England for lack of sunshine, and others which are not a success here on account of having too much of it. As a general rule, the Brassica family succeed here only on low moist lands, and in the hilly districts where there is an increased rainfall and correspondingly less sunshine. In the trade very few make a business of forcing anything except Lettuce, which is especially fragile, and cannot easily be shipped to a distance. All such as we force could be bought for less thau they cost to produce, but here gentlemen prefer vegetables raised in their own gardens.

Within a few miles of the city of Boston zero weather is no uncommon occurrence, the thermometer occasionally going down to 10° below, rarely 20°, but often 4°-6°. If zero weather occurs in England it is nearly always quite calm. Here it is rarely so, and that only on the 10° or 20° nights; with the temperature at 6° the wind will often blow at twenty-five miles an hour. Contention with these high winds makes the forcing of early vegetables difficult.

Lettuce about ready to head in November may be carried through for winter use in a cold frame; but for my part, plenty of fresh stable manure always being to hand, I would prefer to put in a sash or two once a month all through, as although we often have much snow and cold, yet with increased sun power we can be almost certain of getting them to develop into good Lettuce, as long as the bottom heat lasts.

The forcing pits commonly in use are dug 2 ft. below the surface, and are lined with planks. On this are placed sets of frames, which are mostly divided for four sashes, according to the convenience or requirements of the grower. These frames are made of 2-in. planks, with 1 ft. slope, and lined with leaves or other light material which experience has shown to be better than stable mauure. About February 14th we prepare for early Cauliflowers, planting them about March 1st. Henderson's Snowball and Extra Early Erfurt are the standard. Lettuce (white and black-seeded Tennisball), Radishes, Carrots, Spinach, Kidney Beans, Cucumbers, Melons, and Tomatos follow in quick succession.

Work in the open garden is not carried on as at home. You can prepare ground at almost any time during the winter. We are sure to be frozen in, and cannot stir the ground much before April 1st—sometimes not then. The crops follow in about the same succession as with you. It is not often, however, that early Turnips, Cabbage, and Cauliflowers are a success. Late Cabbage of the Drumhead variety does better. Sweet Corn—a wrinkled-seeded Maize—in the green state, cooked as a vegetable, is a favourite dish with everybody, and one which most people readily take to. I cannot help thinking that our early varieties, which usually ripen by July 1st, should do well with you. Might failure be due to the pollen not maturing? Corn becomes impregnated freely in September, and I have gathered good table Corn in November in New Jersey.

I am not surprised you cannot grow Pole Limas; they do not always succeed with us. Melons we grow outdoors, but hardier varieties than those you cultivate. Tomatos do finely also; Celery only on moist land, except when abundantly watered. It is seldom earthed up, but it is stored in sand in cold pits, and is blanched during the winter.—*T. D. Hatfield, Wellesley, Mass.*

FLOWERING SHRUBS.

Rosa sericea.—Amongst Briar-looking Roses, few are more handsome than this Himalayan species now in perfection. It is also known as R. tetrapetala, from the fact that unlike the majority of wild Roses, it has only four petals instead of five. These are pure white, of good size, and arranged in the form of a Maltese cross. The flowers give place to a profusion of fruits of a lively scarlet-yellow colour, hardly less ornamental than the flowers themselves. The leaves are very fine, and consist of from seven to eleven leaflets of small size, resembling those of the Scotch Rose or the Austrian Briar. The stems are slender and grow to a height of 6 ft. or 8 ft., so that the plant is admirably adapted for covering walls of moderate height.

Hydrangea scandens.—Usually this is found under the name of Schizophragma hydrangeoides. It was introduced from Japan in 1879—that is, ten years ago—and is considered half hardy, but it will thrive satisfactorily even in the London district or farther north if planted against a wall. Being naturally of climbing habit, a wall or dry bank, or even some rocks, are necessary to its well-being; and if the stones are of a soft or porous nature, so much the better, as the stems throw out roots similar to those of the Ivy, with which they cling to an object for support. Large buds are produced in autumn similar to what we see in H. hortensis, and from these broad flat cymes of flowers are produced in June. They are pure white, and similar to those of the wild types of Hydrangea, or those of Viburnum opulus—that is, the outer ones are enlarged and sterile, whereas all the rest are small and perfect. At a certain stage of their development they are appreciably and agreeably fragrant.

Asimina triloba.—The most of the species belonging to the Custard Apple family (Anonaceæ), to which this belongs, are too tender for the open air in this country, and require either a stove or greenhouse temperature. Although too tender for cold and northern districts, it not only grows strongly when planted against a wall in the south, but flowers with tolerable freedom. Fruit is seldom produced in this country, but in its native home of North America it attains a length of 3 ins., and being esculent, is eaten by the negroes. The flowers are of large size, deep brownish purple, and yellow. Different individuals vary considerably, some being pale purple, and exhibiting a large amount of yellow. They are produced a little in advance of the foliage, but in June, while still perfect, the leaves attain considerable size. The leaves ultimately grow to a large size and overlap one another, and for the purpose of covering walls may be considered more ornamental than the curious flowers themselves.

Kerria japonica.—The single-flowered form, although occasionally seen in gardens, is anything but common, whereas the double variety, which was the first known, and introduced as early as 1700, has long been in general cultivation. More recently an improved form of this has been disseminated under the name of Kerria japonica flore pleno major, with much larger golden yellow flowers of great ornamental value. K. j. variegata has its leaves margined with white, aud when well grown is very distinct as a variety.

HOW TO MAINTAIN A GAY CONSERVATORY.

(Concluded from p. 643.)

Primula.—For flowering from December onwards through the spring months Primula sinensis is indispeusable. They may be propagated by division or from seed, the latter being preferable, but in the case of the double varieties the former is necessary. Seed should be sown carefully in April or May, and placed in a gentle heat. As soon as the seedlings are large enough they should be pricked off into pans or small pots and kept close and shaded in a warm house until established, when they should be gradually hardened off. When ready they should be potted off singly into small pots, using a light sandy compost. Watering should always be carefully attended to, as a great many plants are auuually destroyed through want of sufficient care in this respect. Primulas should become well pot-bound before being shifted iuto larger pots; the most useful size to flower them in is the 48.

Besides Primula sinensis there are other Primulas that are admirably adapted for the conservatory—namely, P. cortusoides amœna, P. japonica, P. verticillata, and several others. Crowns of these should be potted after flowering, and be kept growing in the opeu air until winter, when they should be placed in a cold frame.

Cyclamen.—Seed of Cyclamen persicum should be

sown either in the autumn or in January, and when the seedlings are large enough they should be put in small pots, and potted on as required. A shelf in an intermediate house is a good place on which to grow them.

Coleus.—Though not remarkable for its flowering properties, the Coleus makes an excellent decorative plant, on account of its beautiful foliage. When the old plants are past their best in the autumn, cuttings should be taken for stock, and when rooted should be placed on a shelf in a warm house. For making specimen plants cuttings should be taken from these in March or April, and grown on in a rich light soil. They should be grown in a warm house, not far from the glass, and be allowed all the sun possible to well colour the foliage. They can be employed in the conservatory from June till August, inclusive.

Tree Carnations.—Cuttings should be inserted in September or October, and struck in a cold frame, or in February and struck in heat. When rooted they should be potted off aud kept iu a cool place. When necessary re-pot into a size larger, using a compost of loam, leaf-soil, sand, and a little well-decayed manure. They may be placed outside on an ash border in the sun during the summer, but must not be left out after the end of September. To keep up a succession of bloom, Carnations should have the lightest and warmest end of the conservatory during the winter.

Calla æthiopica.—This beautiful Aroid makes a most noble effect when mixed with other flowering plants. After flowering they should be planted out in trenches, so that copious supplies of water may easily be given. In the autumn they should be carefully lifted and potted, and if placed in a gentle heat will soon grow and throw up flowers plentifully. The Calla is propagated by division.

Petunia.—These may be grown from seed sown early iu the spring, but if the named varieties are wished to be perpetuated it must be done by cuttings, which should be taken in March, and struck in heat. When ready they should be potted off in light rich soil. They grow best in the intermediate house close to the glass, and when in bloom last a long time in beauty in the conservatory.

Mignonette.—Though not perhaps so showy as a great many other things, Mignonette is very useful mixed with other plants, if for nothing else than its perfume. It is of very easy cultivation. Seed may be sown at any time in the spring for summer flowering, but to bloom in the winter it should be sown in September thinly in 48-sized pots, and placed in a cold frame close to the glass. As soon as the seedlings are a fair size three of the best in each pot should be selected, all the others being pulled out. They should be kept in a frame until they come into flower, when they should be neatly staked and taken to the conservatory as required.

Salvias.—Cuttings of these should be taken in March or April, and struck in a gentle heat. When struck they should be potted off singly into small pots, and gradually hardened off that they may be planted outside. They should be lifted and potted before there is any likelihood of frost. The best species for winter work are Salvia splendens, and its varieties S. Heeri and S. gesneræflora.

Mimulus.—These are mostly propagated from seed or by division, and should be grown in a cold frame till in bloom. The showy M. cardinalis and M. tigrinus are very useful for pot work, as is also Harrison's Musk.

Hard-wooded Plants.—As a rule these are bought in from the nurserymen, which is by far the best way of securing a stock. They require very careful cultivation if good results are desired. In the first place they should always be watered with rain-water, and care should be taken that at each watering sufficient is given to thoroughly wet all the soil in the pot, otherwise the plants will become very shabby and die. When growing they require a moist cool house, with plenty of air, but not cutting draughts. After the growths are made the plants may be stood outside to ripen the young wood. During the winter they should be kept in the coolest end of a greenhouse till they are in flower, when they may be taken to the conservatory. Amongst the most beautiful of this class are Erica, Epacris, Boronia, Camellia, Correa, Diosma, Pimelea, Mitraria, Eriostemon, Adenandra, Chorozema, Abelia, Leschenaultia, Metrosideros, Linum trigynum, Indigofera, and Swainsonia.

The following hard-wooded plants require a treatment something similar to the preceding, but flower at different seasons:—Acacia, Brugmansia, Coronilla, Cytisus, Daphne, Erythrina, Hydrangea, and Nerium Oleander. Rhododendrons of the javanicum and jasminiflorum type, Libonias, Sericographis, Pleromas, and Justicias are also very useful, but they require a warmer temperature to grow them well, and must not be stood outside.

Bulbous Plants.—In this class I will mention first those that are known as Dutch flower roots, which include Hyacinths, Tulips, Narcissus, &c. These are imported annually from Holland, and the best bulbs selected for conservatory and greenhouse decoration. These should be potted at various times for succession, the first batch being potted as soon as received and plunged in a bed of coal ashes, coco-nut fibre refuse, or decayed leaf-soil. The crowns of the bulbs in the case of Hyacinths should be covered with inverted pots before they are covered with ashes. From the plunge bed they should be taken into a warm house, a few at a time to bring them into bloom, when they may be employed for decorative purposes in the conservatory. Besides the foregoing a great many other bulbous plants may be usefully employed, of which the following are amongst the best:—

Vallota purpurea.—This is very nearly allied to the Amaryllis, but unlike that it is evergreen, therefore it should never be totally dried off during the winter. It commences to make fresh growth in the spring, and flowers towards the end of the summer. They should not be potted too often, but when necessary a compost of turfy loam, leaf-soil, and sand will be very suitable.

Amaryllis formosissima.—This is a deciduous bulb, flowering in the summer; it requires a warm house to grow in, but when in flower stands well in the conservatory.

Nerine Fothergilli.—The secret of growing this plant to perfection is in giving a good long season of rest in a place where the sun can shine with all its force on the bulbs. During this ripening process the plants should be turned at least once or twice a week, so that the bulbs may be ripened all round. When so treated almost every bulb will throw up a strong spike of its gorgeous flowers.

Liliums.—These make a magnificent display during the summer. The bulbs should be potted in the spring, and given a start in a cool house or frame, after which they may be placed outside. The most serviceable species are L. auratum, L. lancifolium or speciosum, and L. Harrisi.

Lachenalias, Triteleias, Ixias, Sparaxis, Freesias, Gladiolus The Bride, and numerous other things are very serviceable. They should be potted up in autumn, and kept on a shelf in a cool house until flowering.

Spring Forcing Plants.—A large number of plants that are perfectly hardy in this country are annually forced to produce a supply of bloom from Christmas onwards through the spring. In October and November the plants should be lifted and put into pots of various sizes, according to the quantity of roots forming the ball. After potting they can be plunged over the rim in a bed of ashes outside until they are required to be forced. The following are very useful for this purpose:—Azalea mollis, Spiræa japonica and S. Thunbergi, Dielytra spectabilis, Deutzia gracilis and D. crenata, Viburnum plicatum, Lilacs, Staphylea colchica, double Prunus sinensis, Rhododendrons, Christmas Roses, Lily of the Valley, Schizostylis coccinea, &c.

Annuals.—There are several annuals that may be made useful for the conservatory, including Balsams, Cockscombs, Celosia pyramidalis, Gomphrenas, Salpiglossis, Schizanthus, Browallia elatior, Dianthus, Asters, Stocks, &c. Seeds of these should be sown in the spring, and the plants grown without check, or they will come into bloom prematurely. Celosias and Gomphrenas require more heat to grow them than the others.

Orchids.—The Orchids that will grow and thrive in a conservatory are very few iudeed. Nevertheless there are several that when in bloom will last in that state a very long time. The most serviceable are the following:—Cypripedium insigne, Dendrobium nobile, Odontoglossums in variety, and several species of Masdevallia.

Ferns.—These form an indispensable class of plants to any garden structure where decorative effect is desired. They should be arranged according to the taste of those concerned. They are propagated from spores or by division. The best time to re-pot the plants is in spring, before the young fronds push up. A compost of fibrous loam, peat, and sharp sand is the most suitable. All fronds that have any insect deposit on them should then be removed and at once burnt, so as to give the young ones a clean start. The genera best adapted for conservatory work are:—Adiantum, Asplenium, Davallia, Microlepia, Woodwardia, Polypodium, Nephrodium, and Lastrea. Goniophlebium subauriculatum is very suitable for a hanging basket, and Platycerium alcicorne looks well suspended from the roof.

Those who wish to have their conservatories always gay will never be without bloom if they grow the plants mentioned in this essay; but a certain amount of forethought and care will be always necessary to have them exactly at the time they are wanted.—*Al. Reid.*

Notes from Scotland.

North of Scotland Horticultural Association.—The last meetiug for the season of this society was held in the Christian Institute, Aberdeen, on the 7th inst.; there was a good attendauce, and Mr. Gregor occupied the chair. Mr. Harper, head gardener, Duthie Public Park, Aberdeen, read a very interesting paper on "Flower and Carpet Bedding," illustrating his remarks by carefully-drawn designs on the blackboard; he also enumerated the plants most suitable for growing in the different beds. The next paper, "Gardening as a Recreation," was contributed by Mr. G. W. Minty, Canal Road, Aberdeen. At the outset the essayist referred to the need there was for recreation, and the hobby of gardening, he held, gave this both physically and mentally; with the exception of cricket, digging was the best athletic exercise, every muscle, vein, artery, and nerve being exercised in the process. He strongly recommended that every amateur who had a fairly large garden, and had the capacity and opportunity, should be his own digger, especially during the period when nature was at rest.

The soil being well dug, but left rough early in the season, the frosts, snows and rain pulverised it, and the manure had time to enrich aud thoroughly impregnate the soil. Then after the early turning over, the soil was of the mechanical firmness essential for the root growth and retention of latent moisture. The sowing, planting out, weeding, thinning, watering, and hoeing were all interesting operations, and required discrimination and care in their performance. Hoeing was of special importance, for all the subjects developed wonderfully under deep soil, stirring beside and around them. Referring to flowers, he said the love for them began in childhood and continued throughout life. Flower gardening gave scope for the art of design, and the operations were delicate, the plants requiriug much care and watchfulness. They must have regard to the nature of the seed, to see that they were not too deeply buried in the soil, and that the soil was not too cold, with sufficiency of heat, moisture and access of air. Transplanting to open quarters was very necessary, and should take place in showery weather, or if not practicable the evenings should be chosen, and superficial waterings and temporary shading afforded. The after operations were manifold and interesting, and had to be carried out unremittingly and at the proper time.

Great attention had to be paid to bedding, and this had done more to foster a love of flowers and gardeniug in general amongst the great mass of the people than anything else. To many of the dwellers in the large cities nothing was more possible than window gardening; but it was still in its infancy, although latterly the horticultural element had received much more attention, mainly from the establishment of societies which offered prizes for the best specimens of plants grown in windows of cottages. The movement was not so much for the improvement of streets and roads as the improvement of the inhabitants, for a love of gardening indoors was invariably found associated with neatness, cleanliness, and good order in the house generally. Aberdeen was considerably behind southern cities in window gardening, and something, he said, should be done with the view of fostering it. He suggested that competitions should be held towards this purpose, for flower shows, he thought, had done much to spread the desire for gardening. In concluding, he said it was not to be denied but that horticulture was a powerful factor in augmenting the food supplies, promoting the comfort, elevating the character, and improving the sanitary state of the nation. Hearty votes of thanks were accorded to Mr. Harper and Mr. Minty for their valuable papers. Specimens of a Masdevallia in flower from Mr. Scott, Deemount, and an Odontoglossum from Mr. Proctor, Devanha House, were shown, and the exhibitors awarded Cultural Certificates.

FLORICULTURE.

Death of David Jackson.

A FEW weeks ago our columns contained a characteristic story relating to this fine old Lancashire florist, from the pen of Mr. S. Barlow, an old and intimate friend. To day it is our sad duty to announce his death on the 6th inst., at the ripe old age of eighty-four years. David Jackson was a hand-loom silk weaver, and lived at Middleton, near Manchester, all his life. He was a famous grower of Tulips and gold-laced Polyanthuses, and had been a noted exhibitor in the district for nearly fifty years. Perhaps his finest seedling Polyanthus was the Rev. F. D. Horner, which he obtained from Cox's Lord Lincoln; and among the many seedling Tulips which he raised, there are three which will keep his name green for many years to come. These are Mrs. Jackson, the blackest feathered byblœmen; David Jackson, a feathered and flamed byblœmen; and Music, a feathered byblœmen also. These were all obtained from one pod of seed of Ashmole's Emma. He also raised a batch of seedlings from Aglaia, a flamed rose, and among them were about a dozen yellow selfs, the appearance of which in such company has always been regarded as a very curious fact. Mr. Jackson, who was buried at Middleton last Saturday afternoon, ceased to grow and exhibit some five years ago, when Mr. Barlow secured the last of his stock of bulbs.

Florists' Laced Pinks.

WE are pleased to be able to announce that the Council of the Manchester Botanical and Horticultural Society have arranged to give a series of prizes for Pinks, to be competed for on the occasion of their annual Rose show, to be held in the gardens at Old Trafford on July 20th. The date is a little late for the season, nevertheless we hope to see a good start made in the attempt to revive public interest in these once popular and very pleasing flowers.

Tea Rose, Souvenir de S. A. Prince.

THE general appearance of this new Rose reminds one of Niphetos, being of the same pure colour, but the bloom is larger than averaged-sized specimens of the latter grown out of doors as this was. The petals are broad and rounded, and the outer ones droop away from the others somewhat loosely after a time; they all appear to remain of a pure white from first to last. The foliage is of a rich dark colour, and the seedling Briar alone is used as a stock. It was exhibited at the Drill Hall on Tuesday last by Mr. G. Prince, Oxford, when a First Class Certificate was awarded it.

Fuchsia, Dorothy Fry.

THREE plants of this new seedling Fuchsia were exhibited by Mr. George Fry at the last meeting of the Floral Committee of the Royal Horticultural Society, when an Award of Merit was granted. The short tube and recurved sepals are red, and present nothing very striking; but the corolla constitutes by far the larger bulk of the flower, consisting of several supernumerary petals, besides the ordinary ones, so that the flower is really semi-double. They (the petals) are white, 4 ins. in length, and are wrapped very compactly round the crimson stamens, giving the whole flower a handsome and striking effect.

Pyrethrum Pericles.

IN general terms this may be described as a new double yellow Pyrethrum. The ray florets, however, are long, drooping, and white or blush. The central or disk florets are much shorter, erect, or nearly so, forming a dense light yellow cushion, and are jagged at their edges. Cut flowers were exhibited by Messrs. Kelway & Son, Langport, Somerset, at the Drill Hall on Tuesday last, when an Award of Merit was granted it.

Begonia, Mrs. J. Chamberlain.

As exhibited before the Floral Committee of the Royal Horticultural Society on Tuesday last, the plant stood about 12 ins. or 14 ins. high and was well clothed with bloom. Every flower was of large size, single, and heavily suffused with a beautiful pink on a white ground from the margin inwards, the central portion being white. They were very regular in outline, as large as they ought to be; and more persistent than any other single variety. The leaves were of great breadth, deep green, and rather finely pubescent. The plant was shown by Messrs. John Laing & Sons, Forest Hill, and an Award of Merit was granted.

Pæony, Princess Christian.

THE general contour of this variety recalls that of a Hollyhock, owing to the great length and breadth of the outer petals, which are pure white, and form a guard to the rest of the flower. The outer ones are, of course, the true petals, while the inner ones are also white, but narrow, shallowly jagged at the apex, and consist of the metamorphosed stamens. The whole bloom is moderate in size, but pleasing. An Award of Merit was given it by the Floral Committee of the Royal Horticultural Society on Tuesday last, when it was exhibited by Messrs. Kelway & Son, of Langport.

Pæony, Princess Irene.

THIS new herbaceous Pæony was also shown by Messrs. Kelway & Son on Tuesday last at the Drill Hall, when it received an Award of Merit. A large stand of cut blooms of it was exhibited. The outer guard-like petals are very broad, rosy pink, and surround the inner ones, which are narrow, irregularly jagged and white, ultimately turning to a soft blush colour.

New Delphiniums.

REGALIA.—The flowering part of the stem of this variety is of moderate length, but the lower bracts are leafy, giving the raceme an unwonted appearance. The flowers individually are of large size, and the outer sepals are blue, the inner ones purple, while the petals are small, numerous and white.

FAUST.—The flowers in this case are of great size and closely arranged on a long raceme. The sepals are a peculiar shade of purple, the outer ones alone being tipped with blue.

ORBIT.—Blue and purple are the predominant colours of the sepals, which form the most conspicuous part of the flower. This variety differs from others in the rich dark blue of the sepals being but slightly shaded with purple, while the numerous miniature petals filling up the centre of the flowers are white. Each individual bloom is of great size.

ARDITE.—The inflorescence of this seedling is of great length, and densely covered with flowers of handsome size. About half of the sepals is blue and the rest purple. The petals are mixed in this case, some being brown, others white, and all covered with dusky hairs. Brown was the original hue of the petals. All the four varieties here described were exhibited by Messrs. Kelway & Son, Langport, at the Drill Hall on Tuesday last, when they severally received an Award of Merit.

The Tulip Show at Manchester.

THE Royal National Tulip Society, which held its annual exhibition in conjunction with the great Whitsuntide exhibition at Manchester (details of which will be found in another column), was unfortunate in the date being so late that the bloom was nearly past, and consequently there were very few good flowers left. A good number of blooms were staged, but exceedingly few perfect ones, the majority being uneven in size, many quartered, and all more or less showing the effects of the weather. The following is the prize list:—

RECTIFIED TULIPS.—Five stands of twelve dissimilar Tulips, two feathered and two flamed in each class: First, Mr. W. Kitchen, Stockport; second, Mr. S. Barlow, Stakehill. Eight stands of six dissimilar Tulips, one feathered and one flamed in each class: First, Mr. W. Kitchen; second, Mr. Jas. Knowles; third, Mr. S. Barlow; fourth, Mr. T. H. Wood. Four stands of six dissimilar Tulips, one feathered and one flamed in each class: First, Mr. H. Housley; second, Mr. R. Woolfenden. Six stands of three feathered Tulips, one in each class: First, Mr. W. Kitchen; second, Mr. R. Woolfenden; third, Mr. S. Barlow. Six stands of three flamed Tulips, one of each class: First, Mr. H. Housley; second, Mr. J. Knowles; third, Mr. W. Prescott; fourth, Mr. W. Kitchen; fifth, Mr. S. Barlow; sixth, Mr. J. W. Bentley. Three stands of two Tulips, one feathered and one flamed, of any class, open only to maiden growers: First, Mr. C. W. Needham; second, Mr. J. W. Bentley. Six stands of two Tulips, feathered and flamed: First, Mr. S. Barlow; second, Mr. W. Kitchen; third, Mr. D. Woolley; fourth, Mr. Wright Prescott; fifth, Mr. J. H. Wood; sixth, Mr. J. Knowles.

Single bloom in each of the six classes—feathered bizarres, roses and byblœmens, flamed bizarres, roses and byblœmens. Ten prizes were given in each class.

BREEDER TULIPS.—Six stands of six dissimilar Tulips, two of each class: First, Mr. S. Barlow; second, Mr. W. Kitchen. Eight stands of three Tulips, one of each class: First, Mr. S. Barlow; second, Mr. W. Kitchen; third, Mr. J. W. Bentley. Single blooms in each of the three classes—bizarres, roses, and byblœmens; eight prizes in each class: Mr. Barlow gained the first prize in each of the classes.

Mr. W. Kitchen secured the prize for the best flamed Tulip, the best feathered Tulip, and the best breeder Tulip of any class.

RHODODENDRON, HER MAJESTY.

IT has always been recognised by those who undertake the hybridisation of Rhododendrons, that the various species, often apparently widely separated in affinity, intercross with one another with great facility. Dean Herbert argued that the so-called North American Azaleas were merely deciduous Rhododendrons with five stamens, and no good botanist now disputes the fact. They intercrossed readily with the evergreen R. ponticum and R. Catawbiense, and these latter again with the Himalayan species, particularly R. arboreum. The latter is the male parent of the hybrid under notice, of which we give an illustration. The seed parent was R. Fosterianum. Her Majesty is remarkably distinct from anything we have seen amongst hybrids, owing to the remarkably expanded character of the corolla, which is literally almost flat, with scarcely any tube. A small plant was exhibited some time ago by Messrs. J. Veitch & Sons, Chelsea, at one of the meetings of the Royal Horticultural Society, when it received a First Class Certificate. Three huge flowers were produced at the apex of the stem, which did not exceed 8 ins. in height. They were pure white internally, and more or less supported with pink or pale purple externally. The obovate, leathery leaves are unusually small in proportion to the size of the plant.

OLD-FASHIONED AROMATIC OR SCENTED HERBS.

IN many a rural parish in the northern counties at least of Britain several aromatic herbs were held in high estimation by the simple cottagers, solely for the sake of their fragrance. The flowers of most of them were altogether insignificant or of no decorative value whatever, as will be seen by the undermentioned, and they may fairly be compared with the herbs which they grew for medicinal purposes, chiefly tonics, including Wormwood (Artemisia Absinthinum), Feverfew (Matricaria Parthenium), Chamomile (Anthemis nobilis), Peppermint (Mentha Piperita), and Spearmint (M. viridis). These they dried until required for making an infusion which was used as a beverage or as a substitute for tea in the case of Mint.

ARTEMISIA ABROTANUM.—The leafy shoots alone of this aromatic Composite were cut for mixing with flowering plants, as it seldom blooms in the north. It is universally known as Southernwood (or Sudernwood in the north), but there are numerous other local names, of which Old Man seems to be the most common about London and the vicinity, where it is largely grown for Covent Garden Market. In the rural districts above mentioned, it used to be largely mixed with cut flowers for the decoration of dwelling-rooms and for hand bouquets; and many a parishioner might be seen carrying a sprig or two in his or her hand on the way to church on Sunday mornings, to sniff at during the long sermon. Indeed, so liberally was Southernwood and some other subjects carried to church and left there, that the interior of the building savoured very much of the herbs, especially in badly ventilated churches. The younger members of the family were as much given to the practice as the old. Being of easy cultivation and propagation, it was most widely disseminated in the gardens of rich and poor given to the cultivation of flowers. Every shoot inserted in the ground when not too soft or immature would grow, and not infrequently it was left in water in dwelling rooms till roots were developed.

BALSAMITA VULGARIS.—Costmary or Alecost of the English was equally, if not more widely disseminated in cottage gardens than Southernwood, and was grown for the same purpose—namely, its balsamic odour, which is particularly strong. It is also a Composite, with small, yellow, rayless flower-heads. The oblong, or roundly oblong, long-stalked, radical leaves, together with young leafy shoots, were cut or merely broken off and mixed with more showy flowering plants, or simply carried in the hand without other accompaniment. The name Alecost is derived from the fact that the English used the leaves for putting into ale and negus. Costmary is derived from the old Latin name, *Costus amarus*.

MELISSA OFFICINALIS.—Balm is the widely-accepted popular name of this plant, a decoction of which was formerly given to sick persons to drink. The leaves were also occasionally used for culinary purposes. Amongst the country peasantry it was very popular, and being easily grown and propagated, was widely disseminated. There is a form of it beautifully variegated with yellow, and used for edging purposes. The

green form, or a variety of it, which seldom flowered in the north, was the most commonly met with in cottage gardens, where it was grown solely for its highly odorous leaves, and used for precisely the same purposes as Southernwood and Costmary. It is a member of the Labiata order, to which the Mint belongs, and which contains so many aromatic plants. Melissa is derived from *Melissa*, a bee, the honey gatherer from *meli*, honey; but the commonest form could hardly be a favourite of bees, because it seldom or never flowers in the north.

Mentha rotundifolia.—The roundly oval and woolly leaves of this species readily distinguish it from all other kinds of Mint. All parts of the plant, but particularly the leaves, are possessed of a powerful but agreeable odour peculiar to this species. The rural populace in northern districts seems to have no other name for it than Balm, and they use it for the same purposes as the true kind.

Thymus vulgaris.—The Garden Thyme is highly popular for its agreeable odour, and was used for several distinct purposes, but largely for mixing with cut flowers to be used in dwelling rooms or to be carried in the hand. It is readily recognised by its linear or lance-shaped leaves, strongly revolute at the margins, which gives them a narrow appearance, and by its small, pale purple flowers.—*F.*

GARDEN INSECTS.

(Continued from p. 629.)

Thrips.

These injurious pests range from 1-36 in. to 1-12 in. in length. The abdomen is long, narrow, and smooth, with the tip bristly, and the male Thrip has no wings. The female has two pairs of long narrow wings fringed with hairs, curving outwards; the feet are short, stumpy, and without claws. They come under the Mandibulata class and the Thrysanoptera order. The antennæ have six or seven joints, and a two-jointed foot.

Plant Bugs.

These belong to the Haustellata class. Both male and female are covered with a white cottony substance, and the male may be seen on the wing at times; it then much resembles the Aleyrodes. Bugs are very destructive, and multiply with great rapidity. They were known in 1787 by Sir Joseph Banks. When killed they give out a red fluid. They are known by the antennæ being longer than the head, and placed between the eyes; their feet or tarsi are three-jointed, the first joint being sometimes very minute. They insert their sharp beak-like sucker into the shoot or leaf, and draw away the juices. In addition to drawing the sap, it bores the attacked parts with an immense number of holes, which injure the tissues and disturb the regular flow of sap.

Beetles.

These insects belong to the Mandibulata class and the Coleoptera order, which word means sheath-winged. Beetles form one of the most extensive orders of insects, and number upwards of 3,000 known British species, and 40,000 foreign and British. The garden Beetle and the Devil's Coach-horse are useful subjects in a garden, as they assist in destroying other insects, and even snails. In observing the arboreal Beetles, we shall find their feet are constructed for clinging to objects which afford them a footing. The terminal joint of the foot on which are the claws, is stronger and longer than in any of the others. These characteristics are reversed in ground Beetles. We find underneath the shining scales of the beetle's back is a pair of filmy wings, which are really wonders of nature. We will briefly look at two well-known and destructive Beetles.

The Asparagus Beetle

Is called technically Crioceris asparagi, and is beautifully coloured yellow, red, light blue, and glossy black. They are about ¼ in. long, and the larva about ⅛ in. The eggs are dark-coloured, somewhat spindle-shaped, and are attached by one end to the short or unopened flower-buds, and may be observed by the naked eye.

Rhododendron, Her Majesty: flowers white.

The larvæ when touched exude a large drop of blackish fluid from the mouth. The tail or hinder part is curved and holds the body fast by a fleshy foot, which renders it a difficult matter to pick them off. They are full-fed in a fortnight, and then descend into the ground, where they change and afterwards emerge as perfect beetles in the course of a fortnight or three weeks. The different stages of the insect may be found during the summer months—say, from June to September.

Another beetle is the Bean Beetle (Buchus granarius) which deposits its eggs in the seeds of Beans and Peas, thereby causing a great amount of injury. It does this when the seeds are soft in the pods. The length of this beetle is about ⅛ in., and when in its larva state and in the seed it will gnaw a round hole to the inside of the husk of the seed, so that when it has passed to the pupa and perfect insect in the Pea or Bean it can easily makes its escape by pushing out the piece which it gnawed and formed in its larva state.

Ants (Formicidæ).

These insects belong to the Mandibulata class, and the Hymenoptera or membrane-winged order. There are a great number of species which differ more or less in habit. They multiply with great rapidity, and possess in the earlier stages wings; they also quickly pass from the larva to the pupa and to the perfect state. They are perhaps most injurious from their habit of collecting Aphides and scale insects, and also in farming them for the sake of the honey-food they obtain by a process of tapping these insects. They are not content with this, but they keep the eggs of the Aphis till they are hatched. Our English Ants do not, like foreign ones, store up solid food for the winter, the simple reason being that they do not require it; they sleep instead. We are told that Apes rank nearest to man in form, but the Ant in intelligence.

Wasps.

These are very troublesome insects, not only to plants but even to man. They destroy Peaches, Apricots, Nectarines, Grapes, and most other luscious fruit, and are most abundant about August. Every colony of wasps arises from a single female, and out of the 200 or 300 wasps which may be found in one nest at the beginning of winter, not half-a-dozen will survive till spring. Those that survive will, after they have amused themselves in spring, separate and search for a suitable place in which to build their nests; after making their nests they form their combs, not for the purpose for which bees make them, but entirely for the rearing of young. Several broods issue from one nest in the course of a summer, and it has been calculated that one female has given rise to 30,000 wasps. They belong to the Mandibulata class, and the Hymenoptera or membrane-winged order.

Centipedes and Millipedes.

Centipedes and Millipedes are nearly alike in structure and do not belong to the insect family. They are usually cylindrical in shape, or at times depressed and flattened. The legs are short and low, but do not number so many as indicated by the name. The three rings immediately below the head each bear one pair of legs; but each of the rings behind these seems at first sight to bear two pairs of legs; this is due to the rings of the abdomen being tightly joined together two and two. They live in part on decaying vegetable matter and also on tender shoots of plants, Orchids especially, as well as fleshy roots and ripe fruit. The size will be rather over an inch in length, but is variable according to the kind.—*S. Heaton.*

The Amateurs' Garden.

Sweet Williams.

The earliest of these are already in bloom, and the last of them will not have disappeared for many weeks to come. Being of so easy culture, they are essentially plants for the uninitiated—that is, for those who have little experience or knowledge of gardening. A bed of a good strain of plants when in bloom is an ornament to any garden, whether large or small. Those commencing the cultivation of Sweet Williams (Diantbus barbatus) can improve their collection immensely by attending to a few simple matters. As they commence flowering pleasure may be found in closely examining the bed every day, minutely scrutinising the different varieties, and marking those of superior merit, so that improvements may be effected by seed saving and selection. By repeating this every year, and rigidly discarding every one of inferior quality, a strain of varieties can be obtained of infinite value for decorative purposes. Dark self-coloured kinds of pleasing hue may be retained, as well as those exhibiting beautiful and regular mottling; but above all should preference be given to those possessing a dark zone of colour round the eye. This last should be as even in outline as possible, not running out into the ground colour with stripes and rays. The colours here should be pure and unmixed.

Japan Primulas for Cottage Gardens.

Many amateurs may be deterred from cultivating Primula japonica and its varieties from a mistaken notion that they are difficult to grow, or are not sufficiently hardy to endure our winter without protection. They are wholly deciduous in winter, but that need give no cause for alarm, as they will start into growth again without fail in spring, and that too with greater vigour than when first planted. After flowering is over, a vigorous growth of the foliage should be encouraged by copious waterings. If seed saving be attempted, it should be sown immediately after harvesting, as it takes a long time to germinate, and may never do so at all if once allowed to become dry. By growing some plants on a moist and somewhat shady border, and allowing the seeds to drop, any quantity of seedlings will germinate around the old plants next spring. The old and crimson-purple typical form is showy enough in itself; but none of the varieties exceed in chaste beauty the milk-white form with a golden-yellow eye, and by contrasting the two together a most pleasing effect is obtained. Between the two extremes there is every shade of colour, including pale purple, rose, lilac, pink, blush, and mottled or striped kinds.

Rockeries for Small Gardens.

Lovers of hardy plants, and who have but a small amount of space to devote to their cultivation, would be able to grow a large number of select kinds even on a small rockery. By the mere act of building up mounds or rockeries, the actual area of surface which can be planted is greatly increased. Much pleasure would also be derived from the tending of many plants that naturally grow under diverse conditions in a state of nature. At the present time rockeries everywhere are gay with masses of Saxifrages of many different kinds, also dwarf Phloxes, such as P. amœna, P. subulata, with its numerous beautiful varieties, including pure white, and white with a violet zone round the eye; Linaria hepaticæfolia, L. pallida, and Veronicas in great variety. A short time ago Tiarella cordifolia was a mass of white with pink stamens, and many of the choicer bulbs, such as Crocuses, Scillas, Narcissi, and Chionodoxa or Glory of the Snow, were prominent features in the cold days of spring. A long succession will be kept up till late in autumn by a great number of subjects, whose beauty and variety prove great incentives to their cultivation.

Window Plants in Flower.

No difficulty will now be experienced in keeping up a display of flowering plants both inside and outside the windows of dwelling-houses. That old-fashioned plant Mother of Thousands (Saxifraga sarmentosa) is now gay, and to obtain the best effect it should be suspended from the top of the window in pots, pans, or baskets. This allows the runners, with their young plants like little rosettes, to hang down in the most graceful fashion without let or hindrance. Pelargoniums, Fuchsias and Calceolarias of various kinds are also flowering plentifully. Petunias from cuttings, both single and double, have commenced to bloom, and will continue for some months. Variety can be obtained by growing the night-scented Tobacco (Nicotiana affinis). The old Musk (Mimulus moschatus) is still a favourite with a great many, and will be grown in spite of the much larger flowers of Harrison's Musk (M. Harrisoni). The foliage of both is scented. Much the same class of things are flowering outside of windows, but to them may be added Lobelias, Ageratums, Ivy-leaved Pelargoniums, and Creeping Jenny (Lysimachia nummularia). The stems of the latter hang down gracefully at considerable length, and grow so freely even in the heart of large towns that the plant is very popular and often grown in baskets.

FRUIT CULTURE ON FARMS.*

A great deal is said and written about fruit culture, as if it could be carried out successfully in any soil or in any position, and just as if one had only to dig a hole in the ground, plant a tree, and gather the fruit as a matter of course. In order to grow fruit successfully for profit, several conditions have to be observed—climate, position, aspect, soil, the character of the trees, and the terms upon which the land to be planted is held. In a district where little fruit is grown, an idea of the adaptability of the land could be obtained from the few trees which were grown. If the Apple trees showed a kindly and clean growth, with an absence of lichen and canker, and if elm trees flourished, the soil was so far favourable. Exposure to prevailing winds was to be avoided, and a slope to the south or west was to be preferred; but in order to secure a permanent orchard, care must be taken to get deeply cultivated or deep rich soil, or a few years of fertility will only be the precursor of decay and disappointment. As to soil, a light or medium loam of good depth and well drained, either naturally or artificially, was generally accepted as the most favourable for the production of an abundance of good fruit. Chalk or gravel would seem to be a better sub-soil than clay, as the latter, especially if wet, favoured the development of canker in the trees. The working of the soil should be more costly than in ordinary farm operations, and the cultivation of the trees, by pruning and keeping free from insects, was also an item of cost in labour which must not be lost sight of. In estimates of profits lately put forward, it appeared to him that those facts in connection with the cultivation of trees and soil had not been sufficiently allowed for. The position and aspect of an orchard was of the first importance. One of the leading fruit-tree nurserymen, who resided on the eastern borders of Hertfordshire, stated with much truth, "I do not believe in planting Apples, Pears, Cherries, and Plums in the bottoms of valleys. The soil in the bottoms of valleys is often rich and deep, and therefore fertile, and that is why it is a great deal of planting has been done in such spots. But what is the use of planting in this promising soil, and realising an abundant free growth and trees covered with bloom, if all this wealth of flower and flush of hue is destroyed by frosts in early spring?" For the last few years there had been a wonderful show of blossom on the fruit trees in the valley of the Lea, but little fruit had followed, owing to the destruction of the embryo crop by the severity of the spring frosts in that low situation, and it must be patent to everyone accustomed to out-door occupation that the tendency of late years had been to cold and inclement springs. Trees that were planted in valleys and low-lying positions suffered much more than those in open ones. It was much better to plant on slopes and uplands, because the spring frosts were less destructive than they were in the valleys. All fruit cultivators were agreed that a south aspect was best, as trees in that position ripened their wood well, and produced fruit of the highest colour and quality. The site should be above the line of fog, and not too near or on a level with water.

As regards the details of planting, he would recommend that Apple trees should be put in about 24 ft. apart (or seventy-five to the acre), with a greater distance between spreading varieties, and he gave advice as to the best kinds of small fruit trees to be planted between the large trees if thought desirable, and also with reference to the gathering and storing of Apples. It had often struck him that the manner in which the charges on land were levied was not equitable, and was calculated to discourage rather than encourage the planting of fruit trees for profit. A man planted fruit trees, not looking for any profit for four years. During that period he received nothing or next to nothing of produce, although rent charges on land and expenses of cultivation were going on and had to be met. Then, when his crop brought him a larger return than ordinary farm produce would bring, the charges on the land were raised. It seemed only fair if the charges on land were calculated according to the value of the annual crop, the planter of fruit trees should pay nothing for the first four years. Some thirty or forty years ago the landlords of this country exhibited a most unfortunate passion for what was called consolidating farms, and they thought that was the secret of good economical cultivation and high rents, not as against the farmer, but high rents together with good circumstances for the farmer. With regard to the land, the landlords had had a great lesson, by which they would no doubt profit. They had gone through a very severe crisis in the last ten years, and it had been observed all through the country that the small farms had done better than the large ones, or as another way of putting it, the large farms had done worse than the small. It was to the small rather than the large farms that he looked for the development of fruit culture. One thing was quite certain; agriculturists might look during the next few years for considerable modifications in the land laws in this country, and those modifications would be certain to operate to the benefit of the occupier.

*Extract from a paper read by Mr. R. Dean before the St. Albans Farmers Club.

GARDENING MISCELLANY.

Insects and the Crops in Perthshire.

THE insect pests which perplex the gardener are always more or less numerous; indeed, are never absent from a garden, however small it may be. But this year seems to be one of the worst I remember, as they are present in so great numbers, that plants outside are very much disfigured by their ravages. Aphides especially are in enormous quantities, and have made some of the hedges quite unsightly by their work. This is particularly so with Beech hedges, the leaves being perfectly covered with vermin as well as the young shoots. Black and red Currants, Gooseberries and Plums are also suffering much from the attack of the fly, the leaves being curled up on the points of the young growths. They are in thousands, and as no way of destroying them is so effectual as cutting off the curled points of the shoots, we propose, if possible, to devote a little of our time to this before we syringe with some insecticide. The fruit of black and red Currants appears light; Gooseberries are looking well, also Strawberries, except Elton Pine, which is not so good as usual. Laxton's Noble seems as if it was determined to be before King of the Earlies. Grove End, which is still a favourite for preserving, is looking as well as could be; Vicomtesse Héricart de Thury, and Duke of Edinburgh, which is a fine carrying berry, are looking splendidly. Plums are fair, also Cherries and Apples. Some of the latter have their leaves much destroyed by caterpillars. Our wall-trees are all young except a few, and as we have been getting our walls all picked and pointed, some of them have been struck by the masons' picks, the consequence is that most of the wounds on the Cherries and Plums are gumming badly, and in some cases the trees have lost valuable branches. Apples canker at a rapid rate after being in the least bruised, and some of the standard trained trees have lost their best branches; others have their stems bruised, and are now nearly dead right round the whole stem just at the bruise. Pears are very bad with the Pear mite; it appears on the leaf in blisters, the whole leaf being one mass of blisters, and the insect is between the two skins, consequently there is no way of destroying this unsightly lot of leaves; for so they are. I also fail to see the insect, although it is pronounced as the work of such. The blisters are on the leaves when unfolding, so we must try painting the trees with some strong stuff.—*Perthshire.*

Verbascum olympicum.

A SPECIMEN of this noble species was exhibited at the Drill Hall, on Tuesday last, by W. H. Loder, Esq., High Beeches, Crawley, when the Floral Committee of the Royal Horticultural Society awarded it a First Class Certificate. From the midst of a rosette of lance-shaped, woolly leaves, about a yard in diameter, rose the inflorescence to the height of 5½ ft. The main stem was branched in a pyramidal manner nearly throughout its length, and both the main stem, as well as the lateral branches, were thickly furnished all over with dense clusters of flowers of a bright yellow with orange spots at the very base. The orange filaments were densely clad with white hairs, showing off the deep orange anthers to great advantage. Masses of flowers were lying amongst the leaves, knocked off during the carriage of the plant, yet the loss of them was not in any way felt. The candelabra-like inflorescence itself was about 4 ft. in length.

Gerbera Jamesoni.

YELLOW is such a common colour amongst Composites that we readily welcome anything different from the prevailing hue. The flower scapes rise to a height of 15 ins. or 18 ins., bearing a solitary head of considerable size. The long linear rays are scarlet, or something closely approaching it, while the disk florets are orange-scarlet with yellow styles and anthers. The radical leaves are runcinate, or irregularly divided in the same way as those of the Dandelion, but are of a dark green, resembling those of Cryptostemma calandulaceum, or some of the species of Arctotis, with which there is evidently considerable affinity. Whether it would live in the open air even in the south of England is very questionable; but it would prove a showy and interesting plant for a cool greenhouse where plenty of ventilation is given. It is now flowering in the hardy plant house at Kew.

Rodgersia podophylla.

THE fine foliage of this Japanese plant renders it worthy of a place in any garden where sub-tropical effects are desired. The flowers are produced in large cymose panicles, and although individually small are graceful and effective in the mass. In colour they resemble those of the male plants of Spiræa aruncus or S. a. astilboides, being of a creamy yellow. The plant is now flowering, but the handsome foliage will always be the most valuable feature of the plant. The leaves are peltately digitate, with the large segments lying in one plane of orbicular outline all round the apex of the erect petiole. In the early stages of growth they have a bright bronzy red hue which shows itself more or less all through the growing season. They die down in autumn. The best results are obtained by treating it as a bog plant, or by cultivating it on the banks of a stream or pond where the leaves can dip into the water, and so obtain a requisite supply of moisture. If small specimens are planted, several years are necessary for them to become established, and attain their full dimensions, after which a sub-tropical appearance is the result.

The Cheddar Pink.

THE popular name given to this Dianthus refers to the habitat it occupies on the limestone cliffs at Cheddar, in Somersetshire. Amongst alpines in flower at present, few have a more charming appearance, either native or exotic, than this native wilding. The flower-stems grow from 3 ins. to 6 ins. in height, but are usually intermediate in stature, and bear, as a rule, one flower only, although vigorous specimens may produce two or three. The individual blooms are about the size of a shilling, of a beautiful warm rose, and toothed at the edges of the petals. The whole plant is very compact, with a close carpet of deep glaucous foliage, which sets off the flowers to great advantage. The latter are generally produced in great abundance on a good-sized plant. It is of easy culture, and takes care of itself when planted in well-drained soil or on rockeries, where it forms beautiful carpets on rather dry ledges. Propagation is effected by cuttings in the usual way.

Aristolochia elegans.

THE more we become acquainted with this beautiful species, the more does its value for stove decorative purposes become evident. When grown in pots the best way to manage it is to train the long slender stems on a balloon-shaped trellis-work. A better effect is, however, obtained by training it up the rafters of a stove, as is done by Mr. F. Ross, gardener to Sir George Macleay, Pendell Court, Bletchingley. The numerous stems have already traversed the whole length of rafter, and are furnished with numerous flowers in all stages of development. The flowers are 2 ins. or 3 ins. in diameter, whitish externally, with purple branching veins. The large lip is orbicular, concave on the inner face, and densely covered all over with hieroglyphical, deep purple markings on a pale, almost white ground. Around the mouth of the tube is a deep black zone. A specially valuable character of these showy flowers is that they never, at any stage of their development, give off an offensive smell, as A. brasiliensis and other species do.

Nymphæa tuberosa flavescens.

WHILE this beautiful variety possesses the quality of N. flava in having yellow flowers, it greatly exceeds that species in the individual blooms being larger and in being more profusely produced. Although N. flava grows freely in a tank amongst other species, it flowers very sparsely, whereas that under notice blooms as regularly as the wild white type. The numerous petals are of a soft canary-yellow, and form a wide cup around the deeper yellow stamens. The leaves are of the ordinary orbicular and floating type, but they frequently exhibit bronze-coloured blotches and markings, such as we see in N. flava, suggesting that the pollen of that species had been used in the production of the yellow variety under notice. It may now be seen in the Water Lily house at Kew.

Cabomba aquatica.

THE species of this genus are extremely interesting aquatics, from the fact that they are members belonging to a group of the Water Lily family, to which the Nymphæas and the noble Victoria regia belong. Many or most of the leaves are submerged, and more resemble an aquatic Ranunculus than the other members of the order with which we are more familiar. They are grass-green, orbicular, and divided, even to the base, into five lobes, which are again cut into numerous slender, almost thread-like segments. The floating leaves, which are few in number, are also orbicular, but peltate or shield-like and entire. The plant is also known as Nectris aquatica, and was originally introduced from Guiana, in 1823. Seeds have recently been introduced from Demerara to Kew, where the plants have been flowering for some time in the Water Lily house. The flowers are small and yellow, and of secondary importance to the foliage for decorative purposes. The plant is easily grown in a cistern of no great depth, containing a small quantity of soil, filled up with water and stood in a stove or warm greenhouse.

ORCHID NOTES AND GLEANINGS.

CATTLEYA MOSSIÆ.

MR. H. PAGE, Grove Nursery, Teddington, who has this season been fortunate in flowering some grand forms of C. Mendelii and C. Mossiæ, had a splendid white Mossiæ at Protheroe and Morris's Rooms on the 4th inst. The plant, which was in a 48-sized pot, had only one leader and one flower, but its quality was proved by the fact that it realised 42 guineas under the hammer.

VANDA PARVIFLORA.

WHILE one of the smallest, if not the least of all the Vandas, this species is at the same time exceedingly pretty. The flowers are produced on erect racemes, and vary in number according to the strength of the plant carrying them. The sepals and twisted petals are of a clear pale, or even bright yellow, while the lip is whitish, and mostly occupied with a spongy or cushion-like disk that is suffused with blue or purple in different individuals. A specimen now flowering at Devonhurst, Chiswick, had its lip tinted with blue similar in hue to that seen in V. cœrulescens, for which the specimens have been mistaken till they come into flower. The lip, as to size, is also in keeping with the rest of the flower, and furnished with a funnel-shaped spur behind. It is a native of India, and known under several names, including V. testacea, Aërides testaceum, and A. Wightianum.

DENDROBIUM CLAVATUM.

IN general aspect this strong-growing species may be compared to D. fimbriatum oculatum, but the fringes are absent, and the leaves are evergreen. The latter are comparatively few in number compared with the dimensions of the stems, which grow from 18 ins. to 3 ft. long, and are arranged near the top of the latter. The flowers are produced in drooping racemes, and are of a rich golden yellow, with a large black blotch near the base of the lip, which is pubescent on the upper surface, and merely toothed at the margin, not fringed. The species is a native of Assam, from whence it was introduced to Britain in 1851, and requires the temperature of the East Indian house, and to be grown in pots as it is treated at Pendell Court, Bletchingley.

AN OUTRAGEOUS CATTLEYA MOSSIÆ.

WE are in possession of a bloom of this Cattleya, which bloomed in the collection of Mr. J. Prewett, of Hammersmith. The lip being entirely suppressed, there is no characteristic mark by which it can be determined to what species it belongs. The two petals are united by their edges to the very apex of the upper sepal, which holds a median position between the petals which are much undulated at the free edge only. The lateral sepals are also united to their tips, and the whole flower is of a uniform warm rose. The column is somewhat smaller than usual, but nothing else is abnormal, yet no one could determine the relations of the species from such materials.

AGANISIA CŒRULEA.

THE species of this small genus are mostly pretty plants of dwarf compact habit, and are structurally allied to Zygopetalum. They are epiphytical in habit, and require to be grown on blocks or in small baskets suspended from the roof of the East Indian house, the atmosphere of which should be kept warm and moist during the growing season. The flowers are produced on axillary racemes, and although by no means numerous, they are of appreciable size and pretty. The lip is the most singular organ of the flower, and is furnished with two small teeth near the base, while the middle lobe is large, somewhat saccate, and bordered with long curious bristles, the colour being violet. The sepals and petals are white. Lindley separated the genus from Maxillaria, and named the plant under notice Warrea cyanea. The species occasionally makes its appearance in collections, but is by no means common.

THE GARDENERS' CALENDAR.

THE STOVE.

WINTER-FLOWERING PLANTS.—With the warm and sunny weather we are now enjoying the stove may be relieved of a large quantity of the plants with which it is crowded. All such things as Thyrsacanthus, Sericographis Ghiesbreghtii, Peristrophe speciosa, Poinsettias that were struck early, Eranthemums, and similar subjects may be transferred to heated pits, where artificial heat may be given at night if necessary, or in the absence of heating apparatus a mild hot-bed of manure and leaves may be made up, and the pots plunged on the top of it in a little fermenting material. Care will have to be taken for a time until the plants take to the change. At first they may be kept rather close, but as growth proceeds they will enjoy free ventilation on all fine days. Syringe freely before shutting up in the afternoon of fine days.

OVERCROWDING.—While growth is being made in summer it is all important that plenty of room should be afforded to every individual plant according to its wants. With this object in view a number of subjects may be removed to the conservatory, where the conditions would hardly be suitable for their welfare in winter. Amongst these may be included many Palms and Cycads, which will give an additional charm to the ordinary occupants of that structure, and serve to relieve the monotony that would otherwise prevail when small plants alone are used. Several points will have to be observed in making the transfer. Specimens just making their growth—particularly Cycads—should not be used until their tiers of leaves have completed not only their growth in length, but have become somewhat firm. A little hardening off may be necessary, provided they have previously been kept in a very warm moist atmosphere, otherwise the leaves are liable to get checked, and present a scorched appearance, which is undesirable, seeing that no more leaves will be produced till after the first or second year. Many other kinds may be employed for the same purpose, always choosing those with leathery leaves in preference to those of a membraneous texture. Give them positions where they will be least likely to suffer from cold draughts, either from the door or ventilators. Watering will also have to be well attended to.

THE GREENHOUSE.

STAKING PLANTS.—It is desirable that plants of all kinds in the show houses should present a neat appearance; but at the same time excessive staking should be avoided. Exhibitors seem to encourage this sort of thing to such an extent that the beholder can discern little or nothing of the natural beauty of the plant on account of the hideous mass of stakes with which they are encumbered. Summer-flowering Heaths are very liable to be disfigured in this way as well as Darwinias, Pimelias, Dracophyllums, Lilies, and many more otherwise beautiful plants. No more staking should be given than is actually necessary to keep the stems in position, so as to maintain the symmetry of the specimens.

THE FRUIT HOUSES.

THE VINERIES.—With the present warm weather it is more than ever necessary to minimise the cases of scorching as much as possible by judicious ventilation. Where main or late crops are now advancing, including Gros Colmar, Alicante and Lady Downes, a chink of air should be kept on all night for the next two months at least, so that superfluous moisture may escape, and to prevent a sudden rise of temperature early in the morning while the leaves and bunches are still wet.

PEACHES.—As the ripening period of the fruit in successional houses approaches, means should be taken to have it thoroughly exposed to light. It is the practice of some growers to tie up the leaves in bunches, so as to admit the full play of sunshine, which is absolutely necessary to highly-coloured fruit. A more preferable method, however, is to elevate the fruit above the foliage, even when grown close to the glass. This may be done by means of short stakes, or even ordinary wooden labels. The latter may even be placed underneath the fruit itself, and supported by the branches on either side. The tying of the foliage, which is injurious and unnecessary, is thus avoided.

THE KITCHEN GARDEN.

CELERY.—The main batches should now be got in readiness and planted out. The heavy showers with which we have been visited lately have so moistened the soil that the effects of drought cannot be felt for some time. After planting, however, it will be well to give a good watering, so as to settle the soil about the roots. Being semi-aquatic in its nature, Celery likes a liberal supply; but the work of establishing the plants will be an easy matter, provided the seedlings in the frames have been well hardened off by full exposure both night and day for some time previous to the operation. The drawing of plants while in the frames by overcrowding and imperfect ventilation is at all times to be avoided, even should the plants be somewhat smaller and later.

HORTICULTURAL SOCIETIES.

Manchester Botanical and Horticultural.

THE grand annual Whitsuntide exhibition, which was opened in the delightful gardens at Old Trafford on the 7th inst., and will not be closed ere these pages are in the hands of many of our readers, is without exception the finest and most enjoyable of the long series of admirable displays which have been held under the auspices of the society. We say the finest advisedly, because though in some departments we have seen here finer specimens—notably of stove and greenhouse flowering plants, stove and greenhouse Ferns, pot Roses, show Pelargoniums, and one or two other subjects—there is in other sections such a wealth of quality as to more than counterbalance any shortcomings in the direction indicated. The Orchids are, as of yore, grand, and in greater abundance than ever. The groups are marvellously good, every one of them, and the contest between Mr. S. Thacker, of Nottingham, and Mr. Heine's gardener for the premier prize will not soon be forgotten, so absolutely distinct is the style of each man's work, so strikingly beautiful the *tout ensemble*. That the show as a whole is most enjoyable goes without saying, because the whole is held under glass (indeed, in its abundant accommodation under cover, its admirable suite of rooms for various purposes, the Old Trafford Garden is unrivalled at home or abroad), because there is a marked air of refinement throughout, because there was no hitch or confusion in the admirable arrangements made for the comfort of all by Mr. Bruce Findlay, and last, but not least, because the weather on Friday and Saturday was a perfect flower show sample. One disappointment there was, which was keenly felt by many—the absence, through indisposition, of Mr. B. S. Williams for the first time during twenty-three years. Mr. Broome, who presided at the dinner which followed the completion of the judges' labours, spoke in the kindliest terms of this great "horticulturist and good old man," and hearty good wishes were expressed on all sides for his speedy recovery.

THE GROUPS.

From a decorative point of view these claim the pride of place. The three groups shown in the premier class for amateurs are arranged at one end of the large show house, Mr. A. Heine, Fallowfield (Mr. Cragg, gardener), having the best position, and showing a most artistic arrangement, in which Orchids play the most conspicuous part. These are grouped with other things in a light and elegant style, but they suffer somewhat from the too pale pea-green character of the Maiden-hair Fern used as a ground-work. Mr. Thacker, who is *facile princeps* at the business, reading the terms of the schedule more literally, employs only a few Orchids, relying more upon a wide variety of plants of an ornamental and useful character, and an abundance of dark bronze-green coloured wood moss, which he employs in a manner that we have never seen approached, but which we cannot attempt to describe. The group won—and deservedly—the premier award. Mr. T. Statter, Stand Hall, who shows the third group, has a very fine lot of Orchids, but made little attempt at effective grouping. In the other amateurs' class there are no less than seven competitors, whose designs are placed in the grand avenue, and every one deserves recognition. In this competition Mr. G. Williams, gardener to S. Barlein, Esq., Didsbury, carried off first honours with an exceedingly bright and effective combination, worked out with materials of the very best quality. If one found a fault at all it would be with the quantity used, which might well have been reduced. The second award went to Mr. T. Elkin, gardener to Mr. S. Thomas Agnew; and the third to Mr. Gurney Pease, Darlington (Mr. McIntyre, gardener), but there is little to choose between them in point of merit. In the trade competition Messrs. R. P. Ker & Son, Liverpool, are practically unchallenged, their truly magnificent display, so rich in Crotons and other fine-foliaged plants, being opposed only by a small, but still very nice group of Ferns, from the Messrs. Birkenhead, of Sale.

ORCHIDS.

The leading exhibitors among amateurs are Mr. Heine and Mr. Joseph Broome, and between them they stage the finest cultivated specimens in the show. Mr. Broome's plants, too, grown by Mr. A. Cole in the pure air of Llandudno, are very fully bloomed, and remarkable for the purity and brightness of their colours. Mr. Heine's principal awards were for twelve, six, and ten Orchids in flower, and for three Vandas; while Mr. Broome, besides being second in all the above classes, is first for ten Cattleyas. The trade class was for ten Orchids in flower, and here Mr. Cypher, of Cheltenham, well holds his own from Mr. J. James, of Norwood, the former showing well-flowered pieces of Dendrobium Jamesianum, Lælia purpurata, Cattleya Mossiæ, &c. Mr. Cypher also won easily in the class for a group, with a very fine lot of Cattleyas, Lælias, Dendrobiums and Odontoglossums, well set up. Messrs. F. Sander & Co., St. Albans, have an immense collection of Cattleyas and Odontoglots, among the latter being a fine lot of Miltonia (Odontoglossum) vexillaria. The society's Gold Medal was awarded to the group. The Liverpool Horticultural Co. have also a large collection of miscellaneous Orchids, and Messrs. Hugh Low & Co., Clapton, sent a choice selection of Phalænopsis, Cypripediums, &c.

STOVE AND GREENHOUSE PLANTS, &C.

In this department, usually a good one here, Mr. Nicholas, gardener to the Earl of Zetland, Upleatham, secured the principal award in the amateurs' division. His first-prize group of ten fine-foliaged plants includes a grand example of Kentia Fosteriana, a magnificent Neottopteris australasica with an abundance of long rich deep green fronds, a superb Davallia Fijiensis plumosa from 6 ft. to 7 ft. through, and some noble specimens of Chamærops Fortunei, Cordyline indivisa, &c. His eight plants in flower, too, are exceedingly fresh and good, and includes a grand bush of Boronia elatior, Ixora Williamsii, superb in flower and foliage, and one of the most meritorious plants in the show, a first-rate Anthurium Schertzerianum, Franciscea calycina, &c. In the first class Mr. McIntyre is second, and Mr. Barlein third; and in the latter, Mr. G. Wilkes, Ashton-on-Mersey, is second. In the nurserymen's classes Mr. Cypher is again invincible, being first for ten in flower, for eight fine-foliaged, and for six Ericas. The best of the Cheltenham flowering plants are large and profusely bloomed examples of Stephanotis floribunda, Darwinia tulipifera, Franciscea eximea, Erica ventricosa magnifica, and Statice profusa. Mr. Barlein has the four best Palms, handsome specimens of Kentia australis, Cocos Weddelliana, Phœnix rupicola, and Kentia Balmoreana; and the best single specimen flowering plants are Ixora Pilgrimii, splendidly bloomed and finished, from Mr. Nicholas, and I. Williamsii, also very good, from Mr. Barlein. The Fern classes call for little comment, being below the usual standard. Mr. McIntyre has the best eight. The Crotons of Messrs. R. P. Ker & Son, though not so large as they have shown, are wonderfully coloured and beautifully fresh.

HARDY PLANTS.

The Ferns in this division are exceedingly good in quality, and well represented in numbers. Mr. R. Tyldesley, of Worsley, easily beat Mrs. Hodgkinson, and Mr. Birley, of Pendlebury, with large and very perfect specimens; and the Messrs. Stansfield, and Messrs. Birkenhead, of Sale, secure the leading awards in the order named in the trade competition. The hardy herbaceous and Alpine plants we have never seen represented either in such large numbers or of such good quality; they are, indeed, a feature of first importance and great interest. A large and varied display from the Chester Nurseries of Dickson's Limited secured the leading award for a collection, the second being taken by a most meritorious lot from the Brothers Stansfield, of Southport. For sixty plants in or out of flower, the last named have secured the highest award, as they have also for forty Alpines—a very interesting lot. Of Japanese plants and hardy evergreen trees or shrubs, Messrs. J. Waterer & Sons, Bagshot, are the only exhibitors, and an admirable lot of both they have. The amateurs' classes for Alpine and herbaceous plants are also well contested, Mr. R. P. Gill securing the leading awards. The display of Pansies in pots, always a good one here, is perhaps larger than usual, but the blooms are hardly up to their usual high standard. Mrs. E. Mellor, of Chorlton, secured all the first prizes

among trade growers, while the best twelve among amateurs come from the Children's Hospital, Pendlebury.

CUT FLOWERS.

These are mainly exhibited by Mr. T. S. Ware, Tottenham; Messrs. W. Clibran & Son, Altrincham; Messrs. Harkness Brothers, Bedale; and Messrs. Kelway & Son, Langport, and collectively make up a representative gathering of the leading herbaceous plants in season. Pæonies, single and double, Pyrethrums, single and double, Irises, Ixias and Sparaxis, Poppies, &c., form the bulk.

MISCELLANEOUS.

Specially fine among the miscellaneous attractions are a well-flowered group of single and double Clematises from Messrs. R. Smith & Co., Worcester; a large and attractive collection of stove and greenhouse plants, Orchids, &c., from Mr. B. S. Williams; a large collection of Rhododendrons from Messrs. J. Waterer & Son; a fine group of Japanese Maples, edged with the white decorative Pelargonium, Duchess of Teck, from Messrs. Fisher, Son, & Sibray, Sheffield; a large group of stove and greenhouse plants from Messrs. Cutbush & Son, Highgate; and a good lot of small stove and greenhouse plants from Mr. A. J. A. Bruce, Chorlton-cum-Hardy.

FRUIT.

If limited in quantity, as it is expected to be at this season, the fruit staged on this occasion was of very fine quality. Mr. McIndoe, gardener to Sir J. W. Pease, M.P., Hutton Hall, Guisborough, had the best eight dishes, good Black Hamburgh and Foster's Seedling Grapes, Pines, Peaches, and Nectarines, Strawberries, Cherries, &c., beating Mr. Dawes, gardener to the Hon. Mrs. Ingram, of Temple Newsham. Mr. McIndoe also put up a fine mixed collection, which included fine Galande, Grosse Mignonne and Stirling Castle Peaches, Elruge and Lord Napier Nectarines, yellow and red Tomatos, three dishes of Apples, Pines, Melons, Oranges, Lemons, and a very fine dish of well-filled Duke of Albany Peas. The competition with two bunches of black Grapes was exceedingly good, Mr. Louden, gardener to T. Barnes, Esq., Chirk, coming in first with large, well-shouldered, and highly finished bunches. Mr. Edmunds, Bestwood, St. Albans, was a good second; and Mr. Chuck, Brodsworth, an equally good third. Mr. Louden was also first for white Grapes, with Foster's Seedling. Mr. McIndoe had the best single and pair of Pines, and the best dish of Peaches; Mr. Dawes the best Nectarines; Mr. Upjohn, Worsley, and Mr. Lambert, Onslow, Shrewsbury, the finest Strawberries in pots; and Mr. Blair, Trentham, the best Cherries and Tomatos. Messrs. Dickson, Brown & Tait showed fine examples of the Northern Beauty Tomato and Penrhyn Seedling; Best of All and Prince Albert Victor Melons.

Royal Horticultural.—*June 11th.*

THE morning of Tuesday last opened raw, cold, and wet, as it had been for the two previous days; consequently the exhibits were much fewer than they might otherwise have been. Orchids were comparatively scarce, and their absence was the more notable because the splendid exhibits at the Temple show were still fresh in the memory. Hardy cut flowers, such as Pæonies, Pyrethrums, Irises, and similar things, were extremely abundant.

The largest exhibit of Orchids was a group of Epidendrum vitellinum majus, shown by C. J. Partington, Esq. (gardener, Mr. B. Gearing). The plants were grown in 32 and 24-sized pots, each piece bearing from four to thirteen spikes of large well-developed flowers. A few Maidenhair Ferns were interspersed amongst them, and did much to relieve the great blaze of colour produced by the rich orange-scarlet of the blooms. A Cultural Commendation was awarded for the group. A. H. Smee, Esq. (gardener, Mr. G. W. Cummins), The Grange, Wallington, exhibited Cattleya Mendelii Hackbridgensis, which had a large purple blotch at the apex of the petals. He also showed C. Mossiæ Schroderiana, with a variously-coloured lip. A large plant of C. Mossiæ, bearing numerous flowers, was shown by G. Ellis, Esq., Manor House, Wallington. Mr. F. Ross, gardener to Sir Geo. Macleay, Pendell Court, Bletchingley, Surrey, showed a plant of a large and richly-coloured form of Dendrobium Farmeri, and some cut flowers of D. clavatum, a rich golden yellow species, with a large black blotch in the throat.

A Silver Gilt Banksian Medal was awarded to Messrs. Kelway & Son, Langport, Somerset, for a very large group of cut flowers, including twenty boxes of herbaceous Pæonies, eight boxes of Irises, four boxes of Delphiniums, and nine boxes of Pyrethrums. These together occupied nearly the whole length of one side of the Drill Hall. Amongst the Pæonies were Janus, pink and white centre; Baroness Schroder, white and blush; Prince George, red; Mrs. Chamberlain, large rosy pink; and Alba maxima, white. All the above were double, but there were several boxes of single varieties. Irises were arranged in two large groups, while there was a group of Pyrethrums, both single and double. Some of the finer double Pyrethrums included Empress Queen, Magician, Wega and King Oscar. A Silver Banksian Medal was awarded to Messrs. Barr & Son, King Street, Covent Garden, for a large and mixed group of hardy cut flowers, occupying the opposite side of the Hall. The leading features were Irises, herbaceous Pæonies, Iceland and Oriental Poppies, Spanish Irises, &c. There were also specimens of Ononis rotundifolia, Delphinium nudicaule, Cyclobothra alba, Scilla peruviana, Sprekelia formosissima, Zephyranthes, Griffinia hyacinthina, Habenaria bifolia, Gymnadenia conopsea, and others. A beautiful Polygonum named P. sphærostachyum had short spikes of a rich red colour. A smaller mixed group of various subjects was shown by Messrs. Paul & Son, Cheshunt. Amongst them were Roses, Delphiniums, two boxes of single and five boxes of double Pyrethrums, Oranges in bloom, and herbaceous Pæonies, and others. A single white Rose was furnished with large white blooms, and was stated to be a H.P. A Bronze Banksian Medal was awarded for the group.

Some boxes of cut flowers of tea Roses were exhibited by Mr. George Prince, Oxford. Amongst them were Comtesse de Nadaillac, in fine condition; Amazone, pale yellow; Princess of Wales and Princess Beatrice, both of shades of salmon-rose; Catherine Mermet, rose; Maréchal Niel and La Boule d'Or, yellow. A small group of herbaceous cut flowers was exhibited by Mr. E. F. Such, Maidenhead, Berks, including such things as the red and white Valerian, Hesperis matronalis alba plena, Iceland and Oriental Poppies, Lychnis Flos-jovis, and some seedling Pinks, including twelve trusses of Mont Blanc, a double white variety. Flowering trusses of the Himalayan Rhododendron calophyllum and Buddlea globosa were shown by Mr. F. Ross. Mr. R. Dean, of Ealing, had a small group of hardy flowers, amongst which the hybrid forms of Aquilegia chrysantha and A. cœrulea, hybrid Pinks, and Giant Brompton Stocks were prominent. He also showed some single striped Petunias and a dwarf Musk, named Cloth of Gold, with large flowers of the Mimulus Harrisoni type. Messrs. John Laing & Sons exhibited some new seedling tuberous Begonias, a single pink and white variety, named Mrs. J. Chamberlain, being very fine. Others were Miss French, double white, and Lady J. Goldsmid, double rose. Some plants of Crassula jasminea, said to be seedlings, were exhibited by T. Brooks, Esq. (gardener, Mr. J. Lonsdale), Barkby Hall, Leicester. This species is white at first and fades to pink. A handsome, light-coloured seedling Fuchsia, named Dorothy Fry, and a fancy Pansy, Reine d'Or, were exhibited by Mr. Geo. Fry, Lewisham. The Pansy had a large black blotch on each of the three lower petals, radiating on to a narrow yellow line, while all the rest of the ground colour was of a beautiful buff-yellow, fading to a pale, almost white edge.

At a meeting of the Fruit Committee Mr. C. Ross, Welford Park, Newbury, exhibited two specimens of a scarlet-fleshed Melon named Standard. They were of medium size, round, netted, and sweet. He also showed two fruits of a large, oblong, pale scarlet-fleshed, unnamed seedling, weighing 5 lbs. 3 ozs. and 4 lbs. 14 ozs. respectively. Stapley's Wonder Cucumber was shown by Mr. Stapley, Abbey Wood. The Queen Onion was shown by Mr. R. Dean. A pale greenish yellow Cabbage Lettuce named Buttercup and some early Strawberries were brought up from the gardens of the Royal Horticultural Society at Chiswick. The varieties were King of the Earlies, Noble (Laxton), and Crescent.

ROYAL HORTICULTURAL SOCIETY.

THE following is a revised programme of the society's work for the remainder of the year:—

June 25th.—Floral Meeting in the Drill Hall. Lecture at 3 p.m., on Strawberries, by Mr. A. F. Barron and Mr. Geo. Bunyard.

July 2nd and 3rd.—Grand Rose Conference at Chiswick.

July 9th.—Meetings of Committees and General Flower Show at Chiswick. Also Show of Chiswick Horticultural Society.

July 23rd.—Floral Meeting in the Drill Hall, and National Carnation and Picotee Society's Show. Lecture at 3 p.m., on the Florists' Carnation, by Mr. Shirley Hibberd.

August 13th.—Floral Meeting in the Drill Hall. Lecture at 3 p.m., on Peaches and Nectarines, by Mr. T. Francis Rivers.

August 27th.—Floral Meeting in the Drill Hall and Exhibition of Flowers, Fruits, and Vegetables.

September 17th.—Floral Meeting in the Drill Hall and Exhibition of Flowers, Fruits, and Vegetables.

September 24th, 25th, and 26th.—Great Vegetable Conference at Chiswick and Exhibition of all classes of Vegetables then in season.

October 8th.—Floral Meeting in the Drill Hall and Exhibition of Flowers, Fruits, and Vegetables. Popular Lecture, at 3 p.m., on Conifers, by Mr. W. Coleman.

October 22nd.—Floral Meeting in the Drill Hall and popular Lecture, at 3 p.m., on Pears.

November 5th and 6th.—Chrysanthemum Centenary Conference at Chiswick, and Exhibition of all classes of Chrysanthemums under cultivation in this country.

December 10th.—Floral Meeting in the Drill Hall and Exhibition of Flowers, Fruits, and Vegetables.

QUESTIONS AND ANSWERS.

When sending Flowers or Fruits for identification it is requested that not more than six be sent at one time, that the specimens be good ones, and all legibly numbered.

NAMES OF PLANTS.—*P. M.:* 1, Fittonia Verschaffeltii argyroneura; 2, Fittonia Verschaffeltii; 3 and 4 are leaves of varieties of Caladiums which we cannot undertake to name; 5, Acalypha Macafeeana; 6, Zephyranthes macrosiphon. *P. S. E.:* Kerria japonica flore pleno; 2, Calathea Kerchoviana; 3, Quercus Ilex serratifolia; 4, Ornithogalum umbellatum; 5, Saxifraga hypnoides var; 6, Pyrethrum roseum double var. 7, Saxifraga rotundifolia; 8, Lunaria biennis; 9, Campanula glomerata; 10, Iris versicolor; 11, Saxifraga Andrewsi; 12, Tradescantia zebrina, or more correctly Zebrinia pendula; 13, Malva Alcea fastigiata; 14, Blechnum alpinum; 15, Pteris cretica albo-lineata; 16, Cyperus alternifolius. *Beauregard:* 1, Listera ovata; 2, Orchis latifolia; 3, O. laxiflora; 4, Habenaria viridis; 5 and 6, slight varieties of Orchis coriophora; 7, O. Morio. *J. Grandfield:* Epidendrum raniferum. *Mrs. Leadbetter:* Dendrobium moschatum, a good spike of its kind. It requires to be grown strongly; pseudo-bulbs should be 3 ft. to 5 ft. high. *Omega:* 1, Red Campion (Lychnis diurna); 2, Ragged Robin (Lychnis Flos-cuculi).

LIFTING SEASON.—*T. C.:* We hardly understand your question, as lifting goes on in nurseries, more or less, all the year round, but if you mean the lifting season for fruit trees, deciduous trees and shrubs, &c., we should say, in both cases, early in October or the end of September, if the season is favourable.

R. H. S. AWARDS.—*Exhibitor:* We do not know on what system the awards were made, and you had better address a question on the subject to the Secretary, 117, Victoria Street, S.W.

CLEMATIS JACKMANNI ALBA.—*J. S.:* The plant in commerce under this name is not a pure white; but a pure white variety, and of the true Jackmanni type, has been raised, of which you will hear more anon.

TULIPS.—*Amateur:* As soon as the stems have ripened to such an extent as that they can be doubled over without snapping, the bulbs can be lifted and placed thinly on shelves to ripen off. While the stems are so brittle that they will snap in two, it is not safe to disturb them; but they are better out of the ground when they reach the stage above described.

COMMUNICATIONS RECEIVED.—S. & S.—M. B. B.—R. B. D.—J. S.—G. W.—T. S. O.—B. C. W.—Laurus—T. W.—J. A.—W. A. R.

LONDON SEED TRADE.

June 8th, 1889.

MESSRS. HURST & SON, 152, Houndsditch, E., report very little trade doing in Agricultural Seeds. Mustard and Rape sell slowly. Hemp is steady. Linseed dearer. Other Bird Seeds unchanged.

COVENT GARDEN MARKET.

June 12th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Grapes .....per lb.	2 0	4 0	Strawberries.. per lb.	2 0	4 0
Pine-apples, Eng., lb.	1 0	1 6			

Canadian and Nova Scotia Apples, per barrel, 7s. to 17s.

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus ....per 100	2 6	5 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ..per dozen	1 6	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages.... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	8 0	Radishes ..per dozen	1 6	
			Small salading, punnet	0 4	
Celery....per bundle	2 6		Spinach, per strike ..	2 0	
Cucumbers ....each	0 4	0 10	Tomatos ....per lb.	0 2	0 4
Endive, French, doz.	2 6	3 6	Turnips ....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.
Anemone, 12 bunches.	1 0	4 0
Arum Lilies, 12 blms..	2 0	4 0
Azaleas ....12 sprays	0 6	1 0
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blooms	1 0	2 0
Cornflower,.12 bnchs.	3 0	4 0
Eucharis ..per dozen	3 0	6 0
Forget-me-nots.....	1 6	4 0
Gardenias, 12 blooms.	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0
Ixia.....12 bnchs.	2 0	6 0
Lapageria, 12 blooms	1 0	2 0
Lilium longiflorum, 12 blooms	2 0	4 0
MaidenhairFern, 12bns	4 0	9 0
Marguerites, 12 bun.	3 0	6 0
Mignonette, 12 bnn.	3 0	6 0
Pansies ..12 bunches	1 0	2 0
Pelargoniums, 12spys.	0 6	1 0
— scarlet ..12 sprays	0 4	0 6

	s.d.	s.d.
Pæonies....12 bnchs.	9 0	18 0
Pinks ....12 bunches	3 0	6 0
Polyanthus, 12 bnchs.	1 6	4 0
Primula, double, bun.	0 6	1 0
Pyrethrum. 12 buchs.	3 0	9 0
Ranunculus, French, 12 bnchs.	1 0	3 0
Roses, Tea, per dozen	0 6	1 0
— Red .....per doz.	1 0	4 0
— Saffrano ..per doz	1 0	2 0
Stephanotis, 12 sprays	2 0	4 0
Sweet Sultan, 12 bun.	4 0	6 0
— Peas.....12 ,,	3 0	6 0
Tuberoses, per dozen.	1 0	2 0
Wallflowers, 12 bnchs,	4 0	6 0
White Lilac, French, per bun.	3 0	5 0
White Narciss, 12 bunches	3 0	6 0

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.
Aralia Sieboldi ..doz.	5 0	12 0
Arum Lilies..per doz.	6 0	12 0
Bedding plants, in var., per doz.	1 0	3 0
— — in boxes ..each	1 0	3 0
Calceolaria ..per doz.	6 0	9 0
Cineraria ..per dozen	4 0	6 0
Cyperus, ..per dozen	4 0	12 0
Dracæna term., doz.	30 0	60 0
— viridis, per dozen	12 0	24 0
Erica, various ..doz.	9 0	24 0
Evergreens, in var. .,	6 0	24 0
Ferns, in var., per doz.	4 0	18 0
Ficus elastica ..each	1 6	7 0
Foliage Plants..each	2 0	10 0

	s.d.	s.d.
Fuchsia.....per doz.	4 0	12 0
Heliotrope ..per doz.	4 0	8 0
Lobelia .... per doz.	4 0	6 0
Marguerites per doz.	6 0	12 0
Mignonette, doz. pots	4 0	8 0
Musk ..... per doz.	2 0	4 0
Nasturtiums .... doz.	3 0	5 0
Palms in variety, each	2 6	21 0
Pelargoniums, scarlet,	4 0	9 0
Pelargoniums, per doz	6 0	18 0
Roses, H.P., per doz.	12 0	24 0
Roses, Fairy, per doz.	6 0	8 0
Saxifraga, various, doz.	6 0	18 0
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Stocks ..... per doz.	2 6	4 0

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Mr. PYPER, Somerton Erleigh Gardens	0	10	6
Mr. HUGHES, Edenhurst Gardens, Sevenoaks	0	10	0
Mr. CLARK, Stone Hall Gardens, Winchmore Hill	0	5	0
Mr. WILSON, Uffingham Gardens, Stamford	2	2	0
Mr. SUMMERS, Sandbeck Gardens, Rotherham	1	12	0
Mr, ANDERSON, Streatham Grove Gardens	1	1	0
The Hon. R. MELVILLE, Roehampton	10	10	0
Mr. LITTLE, Gardener, Spring Lane, Clapton	1	1	0
Mr. JOLLIFFE, Portesham Gardens, Dorchester	0	5	0
Mr. DALLIMORE, Foxe Hill Gardens, Frodsham	1	1	0
Mr. CRANMER, Kelvedon	0	10	0
Mr. DANIELS, Slindon, Arundel	0	10	0
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Lord CREWE	2	2	
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Next Week's Engagements.

MONDAY, June 24th.—Ryde Rose Show.

TUESDAY, June 25th.—Royal Horticultural Society: Meeting of Fruit and Floral Committees at 11 a.m. Sale of Plants, Garden Utensils, &c., at Gunnersbury House, Acton, by Protheroe & Morris.

WEDNESDAY, June 26th.—Flower Show at Richmond, Surrey.

THURSDAY, June 27th.—Flower Shows at Dublin and Winchester.

FRIDAY, June 28th.—Sale of Orchids at Protheroe & Morris's Rooms.

SATURDAY, June 29th.—Reigate Rose Show.

For Index to Contents & Advertisements, see p. 682.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JUNE 22, 1889.

CURRENT TOPICS.

MR. HARRY VEITCH ON ORCHID HISTORY.—Lovers of Orchids, present at the Westminster Drill Hall on the 11th inst., had a genuine treat in hearing the admirably compiled paper on Orchid History in this country, especially as relates to failures in the earlier methods of cultivation, read by Mr. Harry J. Veitch. Of those lovers of these beautiful flowers there were, however, but few present; and therefore to the many the non-publication of this excellent paper in the gardening press is a great loss. It was a fitting compliment to Mr. Veitch that Sir Trevor Lawrence, president of the society, should have presided on the occasion, and that a vote of thanks should have been proposed to him by such a devoted Orchidist as Baron Schroder, who has, among private growers, one of the finest collections in the world.

It is to be deplored that Mr. Veitch's paper should not be read by every young Orchid grower with even more zest and usefulness than by older men, and that it should be practically immured in the pages of the R. H. S. journal, a publication which goes into the hands of many who care nothing for horticulture, whilst it is not seen by those for whose special benefit this Orchid paper was designed. Naturally the gardening press let all the society's publications severely alone; and in publishing this journal, and thus withholding from the mass of the newspaper-reading community the publication of excellent papers in the universally-read gardening press, the society is doing horticulture great mischief.

To assume that any reader of an elaborately prepared paper is repaid by having an audience of some fifty or sixty persons is absurd; whilst to withhold the paper from publication till months after the interest in the matter has expired is a very poor compliment to the author. Readers of papers should make better bargains before placing their brains at the disposal of the Council.

ORCHID CULTIVATION.—Mr. Veitch, advisedly enough, rather illustrated his paper by describing failures in Orchid cultivation in the past than by displaying present triumphs. No doubt he was right in assuming that more can be learnt by knowing what to avoid than by what successes have been achieved. Certainly, for the first half-century of Orchid culture in this country, there seemed to have been but one long chapter of failures, until here and there it dawned upon the minds of experimentalists to test this and that form of treatment, and success was gradually evolved. Mr. Veitch paid the Royal Horticultural Society the equivocal compliment of suggesting that that body had in the past helped to elucidate largely the road to successful culture, yet showing that Dr. Lindley's course of treatment was of the most conservative kind, and that failure constantly attended upon his methods.

Really the spell in failures seems to have been broken by some private growers, who found that the old tropically treated, close, stuffy, ill-ventilated, and unhealthy houses were death-traps alike to plants and growers; and in adopting cooler treatment, giving plenty of fresh air and light, and a purer atmosphere, a wonderful gain was obtained, the fruits of which we see in the present day. No greater modesty could have been exhibited than in the omission by Mr. Veitch of all reference to the great work done in relation to Orchid culture by his own firm, a fact to which Sir Trevor Lawrence made graceful and fitting reference. It may be, as Mr. Veitch later showed, there are still many choice Orchids, the cultivation of which is imperfectly understood, but none the less we have brought our knowledge of Orchid culture to a high degree of perfection now.

YOUNG ORCHID-GROWERS.—There was one point in Mr. Veitch's paper which specially merits the attention of young gardeners, and especially of the Orchid-growers of the rising generation. It is the complaint that the present methods of culture are often too much based on rule-of-thumb, and not sufficiently upon scientific or geographical knowledge. The great cause of early failures in Orchid culture arose from the fact that growers at home little understood the real nature of the climates from which the plants were brought, the diverse temperatures found in those climates, and the even more diverse habits of growth which the various species exhibit in their native habitats.

This ignorance still largely exists—in Mr. Veitch's opinion—and his statement constitutes a grave indictment of our method of educating or training young Orchid-growers, for he holds that nearly all our present success has been obtained more by haphazard or rule-of-thumb practice than by actual scientific knowledge. Where or how is this scientific training to be obtained? Here is a problem we should like to find a solution of. We may write disparagingly of Orchid crazes, but the fact is, that this truly grand and marvellously beautiful class of plants has obtained such a hold upon the European merchant, their culture is rather likely to extend than to be restricted; and the more so as we have found out that after all they are far more easily and cheaply grown than was at first believed. They have become very abundant and accessible, and it is really more a problem as to securing accomplished cultivators in the future, than in obtaining the plants themselves. Clearly this problem of the production of a race of scientific Orchid-growers presses for solution.

KEW AND THE NOMENCLATURE QUESTION.—During the conversation which followed upon the reading of Mr. Veitch's paper, Sir Trevor Lawrence paid a not undeserved compliment to the Kew authorities for the undoubted improvement manifested in the general appearance of the Orchids at the Royal gardens; and in reference to which it was later remarked that Kew ought specially to exhibit cultivation of plants of the highest order, a remark which elicited from Mr. Dyer the reply that at Kew those who had the culture of the plants in their care had no control over the erection of the houses, which it is probable are built with as much regard to the convenient circulation of the public, as for the benefit of the plants they contain.

Very naturally in the conversation concerning Orchids the recent publication of the terms of Professor Reichenbach's will was referred to, and as it seems the desire in certain quarters that the old German professor's mantle should fall on to the shoulders of some of the Kew employés, it was equally to be expected that a plea in favour of their being regarded as the chief Orchid authority on classification and nomenclature was urged. We should entertain less objection to that course if it were not probable that all the information accumulated at Kew at the expense of the State would be marketed to the highest bidder, and reserved, as it were, for one particular gardening paper, rather than published in the *Kew Bulletin* for the benefit of horticulturists nationally.

It is about time that the Kew employés learnt that they are servants of the nation at large, and not of a select circle. We do not know of any other Government department in which information obtained in the service of the Crown is openly sold to private persons, and it should not be allowed at Kew. There is much force, however, in the appeal for specimens, whether living or dried, of all properly named and classified Orchids wherewith to enrich the collection at the Kew Herbarium, and we hope it will be generously responded to by Orchid growers.

Orchid Extermination in their Native Habitats.—Just one more note on this very interesting Orchid gathering. We have in the past taken occasion to utter a word of warning as to the ultimate probability of the energy of collectors and agents resulting in the absolute clearing out of the stock of Orchids found in some favoured countries, such is the vigour of this particular trade. To that expostulation was, on the 11th inst., added the weight of a remonstrance of a similar character from Mr. Morris, the assistant director of Kew, who spoke on this matter with considerable force. Such a remonstrance should have great weight in the proper quarter; and the fact that it is made from Kew shows but too well that there are good grounds for its being made.

It is difficult to see how any other result than a complete clearing out of the Orchid divisions of many of the most fertile countries can be anticipated, unless the Government of these countries speedily determine to place them under some sort of Wild Plant Preservation Act. Such is the cupidity of collectors that they not infrequently allow thousands of valuable plants to die in their efforts to secure too large a consignment, and by so doing they are practically killing the goose which so far has laid for them golden eggs. The attention of the Colonial Governments concerned cannot be too soon called to this interesting matter, so that native Orchids may be saved to naturally continue to increase, ere it is too late.

Mr. Morris expressed a hope that in time it might be found possible, through home-raised seedlings, and through those interesting efforts of hybridisation for which Messrs. J. Veitch & Son's establishment is so famous, that needful stocks may be maintained. That is, we fear, a hope of not easy realisation. Still it would be a tremendous misfortune were our present Orchid fields to become exhausted.

The Crystal Palace Rose Show.—His Majesty the Shah of Persia and their Royal Highnesses the Prince and Princess of Wales will visit the annual Rose show at the Crystal Palace on the 6th July. The entry list closes on the 2nd July.

The Railway Rates Question.—In a circular letter which has been issued by the Board of Trade, it is intimated that the Board find that the objections which have been lodged divide themselves into two principal classes:—First, objections on principle, such as to the allowance of station and service terminals, to the short distance charges, and to maximum rates by passenger trains. Secondly, objections on matters of detail mainly arising on the classification, and in general relating to the separate interests of each objector. The Board considers, as regards the second class, that time might be saved if discussions could take place between the objectors and representatives of the Railway Companies, and has invited the former to communicate with the companies with a view to arranging, as far as possible, the differences arising upon the classification.

The Caterpillar Pest.—It is many years since the blight was so bad in Cheshire as at the present time. The leaves of thousands of trees are literally riddled by caterpillars. The blight has got into the Damson trees, and the crop will be a complete failure in most parts, entailing very heavy losses on fruit-growers.

Schizanthus pinnatus.—Visitors to the late Whitsuntide exhibition at Old Trafford, who went through the society's plant houses, could not fail to have been struck by the grand decorative character of the numerous specimens of this marvellously free-flowering and most beautiful annual, which Mr. Findlay had on view, and which, indeed, were more attractive to us than any feature of the exhibition. It is a great favourite with Mr. Findlay, who has done it well for some years, but never better than the present season. Its cultural requirements are very simple, and it is much to be regretted that more of those who have large conservatories to decorate do not grow it more extensively. At Old Trafford the seeds are sown in September, the young plants potted into 60's, and wintered on a light shelf in a house from which frost is just excluded, until January, when they are potted on—some five plants in 12-in. pots in strong sandy loam—and kept growing on in a greenhouse temperature near the glass.

Glorious Weather in Ireland.—Mr. W. J. Murphy, writing from Clonmel on the 18th inst., says:—"The weather, which affects so much the gardener's craft, has been almost continuously all that could be desired in this, by nature, singularly-favoured island. True, about three weeks since we had a rather fierce gale, and in a few exposed gardens I noticed the always distressing spectacle of Apples, Pears, and especially Cherries, with the fruit in the preliminary swelling stages, but almost without a single healthy leaf. The foliage was either swept clean off, or so bruised by the action of the boughs as to be now crisped and turned up by the hot sunshine. Otherwise the prospect this season has been a happy alternation of sunshine and showers. Roses are healthy, and singularly free from maggot and aphis—always the result of warmth and vigorous growth. Chrysanthemums I cannot remember to have seen more promising, and the rich emerald-green of the smiling fields, verdant lanes, retired and almost silent—our population, painful to say, is every year decreasing—lanes, lakes, and rivers, are attracting the tourist in search of what Goldsmith calls blest retirement, free from excitement.

Abandonment of the Sugar Conventions Bill.—Mr. W. H. Smith stated in the House of Commons, on Monday, that looking to the state of public business, and having regard to the desire of the House generally that the session should not be unduly prolonged, and having also regard to the fact that for all practical purposes the Bill would be as operative next year as if it were passed in the present year, the Government did not think it necessary to press for the consideration of the measure this year.

Floral Decorations. — The arrangements for the wedding breakfast of the Duke and Duchess of Portland were on a grand scale. A spacious tent, 110 ft. by 40 ft., was erected over the garden at 17, Grosvenor Crescent, and most artistically decorated and draped, the roof being cunningly arranged in five sections. In the centre of each section was fixed a large umbrella, which formed a striking object, and was utilised to hide the ventilators placed above them, to allow the heated air to escape. Suspended from each of the umbrella handles was a gigantic bell, covered inside and out with beautiful white flowers, the clapper also being covered in a similar way. These floral bells are believed to be the largest ever hung on any similar occasion, and formed the feature of the whole decoration. On the west side of the tent the walls were covered at intervals with large mirrors, draped with green; this drapery over the general prevailing colour —terra-cotta red—was extremely effective and in good taste. The opposite, or east side of the tent, was treated somewhat differently. Opposite each mirror on the west side an open window was fixed in the wall of the tent, through which the large green trees growing in an adjacent garden were seen. A little below the window-sill was deftly placed a box of beautiful white flowers, interspersed with Maidenhair and other Ferns; whilst the spaces between the mirrors were lined with stately palms, bamboos, &c. Each end of the tent was treated in a similar fashion, and all round—depending above the centre of each mirror—was a basket of white flowers and Ferns, the whole charming effect being repeated over and over by the mirrors, shedding rays of beauty at every turn we took. The floral decorations displayed great taste and refinement on the part of Messrs. Wills and Segar.

NEW BEDDING VIOLAS FROM SOLIHULL.

It is not a little remarkable that our florists for years past have been labouring to the utmost of their ability to obtain in the show and fancy Pansy a perfectly solid blotch in the centre, without any rays breaking out from it, and towards this they have done very much indeed. Those who are engaged in raising new varieties of bedding Violas proceed in the very opposite direction, and they have been endeavouring for years to obtain flowers, not only without blotches, but without any lines whatever round the eye. What they assert is, that flowers to be effective for bedding purposes in the highest degree, should be strictly self-coloured, and so a white, a blue, or a yellow Viola should present to view simply a disc of one tint only.

In order to show what is being done in this direction we have just received from Mr. William Dean, Mill Lane Nursery, Solihull, who makes a specialty of bedding Violas, some flowers of new varieties of an exceedingly attractive character, especially in the way of yellows. They are Golden Gem, rich bright deep gold, dwarf in habit, very free, and highly effective; Primrose Perfection, bright yellow, of a very pleasing shade; Primrose Beauty, paler in colour than either of the foregoing, the lower petals bright yellow, the upper yellow shading off to primrose; and Bridesmaid, sulphur-white upper petals, the lower shading off to soft primrose. The two last are of very dwarf and compact habits of growth and remarkably free. All these have self-coloured flowers without the slightest marking in the way of lines. Our Viola raisers are found paying great attention to habit, and, indeed, this is one of the first considerations in a bedding Viola. The foregoing appear to approximate closely towards perfection in the matter of a dwarf, close, free-branching habit of growth.

With these came flowers of the best bedding yellows, hitherto cultivated for comparison, viz., Golden Prince, Golden Prince Improved, Golden Queen of Spring, and Bullion, all good and useful varieties, having only a few lines of colour round the eye.

With the foregoing came also some very pretty blotched varieties in the way of Old Magpie; they are Mr. John Pope, maroon, the lower and two wing or side petals margined with bright purple shading off to silvery grey or white; the top petals maroon base, and pale mauve, shading off to silvery grey. Magpie Improved much resembles this old favourite, but is a better-shaped flower. The main colour is maroon, with pale blue and greyish white blotches on the edge of each petal. May Queen has the centre maroon, shading to bright claret, the lower and side petals being lobed with light purple, delicate mauve and white. These are all excellent bedders, and very free and effective.

Three other new varieties vary somewhat in character, but they are very pretty and highly effective. They are Mrs. Wildsmith, the lower and side petals shaded with purple round a small orange eye, and which pales or softens off to delicate silvery mauve, while the upper petals are greyish white, suffused with soft mauve. Mrs. Dransfield is a flower of a type Dr. Stuart, of Chirnside, introduced a few years ago. The colour is pink, shaded with maroon, becoming paler towards the margins of the petals, while with age the maroon shading appears to become withdrawn to a large extent.

Gaiety is a variety that we scarcely think can become popular. It has primrose lower and side petals, with the upper petals primrose, shaded to delicate mauve, apparently very free; and Mr. Dean stated that it has so braved the thunderstorms and heat as to be a mass of flower in spite of them It is therefore strong and persistent, and is also sweet scented.

There is no doubt that the Violas are vindicating their claims to be regarded as the most reliable of bedding plants, in a dry as in a moist season. There is no flower, perhaps, that so soon recovers itself after a storm; as soon as sunshine falls upon the Violas they throw up quickly numbers of pretty and attractive flowers to greet it. They who are seeking to improve the Viola, and extend the number of useful and reliable varieties, are doing a good work, and they deserve every encouragement.

NEW OR RARE PLANTS.

ACINETA WRIGHTII, *Fraser, n. sp.**

This is a strong-growing species, with ovate pseudo-bulbs, furnished on either face with two strong median ridges, having a more slender one on either side of them in large specimens, and from 2½ ins. to 4½ ins. long. They soon lose their basal sheaths, and are surmounted by two to four, generally three, lanceolate, acute, strongly three-nerved leathery leaves, with more slender nervures between, tapering into short petioles, and 8 ins. to 14 ins. long by 1½ ins. to 4 ins. wide in the middle. The scape is pendulous from the base of the pseudo-bulb, 2½ ft. to 3 ft. long, many-flowered (forty-six in the specimen examined), thinly scurfy, and bearing the shortly pedicillate or sub-sessile, horizontal or ascending flowers on its upper half. The bracts are imbricated at the base of the scape only, where they are shortly connate and sheathing, scattered upwards, and smaller, lanceolate, dry, and brown by the time the plant is in full bloom; those subtending the flowers are considerably shorter than the ovary, which is slightly curved at the base and apex, six-furrowed and scurfy. Lateral sepals ovate, sub-acute, concave, spreading, obliquely projecting at the base on the anterior side, but scarcely connate; 1 in. long, ½ inch wide, pale straw-yellow, almost white, with a few small purple dots internally on the lower half, and thinly scurfy externally; posterior sepal slightly shorter, roundly ovate and equal at the base, otherwise similar to the lateral ones. The petals are much smaller, ovate-elliptic, obtusely pointed, narrowed to a short claw, arching over the column, pale straw-yellow with three lines of numerous purple spots along the middle of the inner face, about ¾ in. long. The lip is the most distinct organ of the species, and is three-lobed, erect on a short curved claw; the lateral lobes are small, rounded, turned inwards, and touching the edges of the column, decurrent, and margining the upper part of the claw, whitish, except at the base internally, and shining like ivory. The terminal lobe or epichile is ovate-triangular, acute, convex, spreading at right angles to the column, convex and revolute at the apex, somewhat hinged to the hypochile, purple, pubescent in the middle, with a white edge. The hypochile is furnished with an oblong, truncate, emarginate, maroon-coloured crest, densely pubescent, with purple hairs and projecting over the hinge of the epichile. The column is dilated upwards, somewhat sharply edged, but scarcely winged, pale yellow, and densely spotted with purple on the concave face. The pollinia are acutely furrowed or sulcate, laterally, and attached by a slender pedicel to a cordate pale yellow gland.

The specimen was imported from Mexico in February, 1888, under the name of Stanhopea by E. H. Watts, Esq., Devonhurst, Chiswick, and is named in compliment to his gardener. The spike commenced showing at Christmas last; the first flower opened on May 26th, and the plant is still in full bloom. I have examined all the figures, drawings, and specimens of Acineta in the Herbarium at Kew, and found nothing comparable to this species except a single, dried, and unnamed specimen.—*J. Fraser.*

PAPAVER NUDICAULE CROCEUM PLENUM.

Specimens of a double form of the Iceland Poppy have been sent us by Mr. William Caudwell, The Ivies, Wantage. It first appeared amongst a batch of the orange or saffron-coloured variety about two years ago, ago, and has maintained its characters since. The flower is perfectly double, and consists of the outer or true petals, which are undulated and crumpled in the usual way, and form a guard to the numerous linear or lance-shaped segments occupying the centre of the bloom. There is no question as to the origin of these small petals, for although they are of a deep orange almost to the base, most of them are surmounted by the yellow anther lobes. Mr. Caudwell makes no statement as to whether it can be raised from seeds; but seeing that the ovary is perfect, and that many of the petaloid stamens bear pollen in the anther cells, there seems no reason why this variety should not produce fertile seeds like other double Poppies. When once a double variety has been obtained we may soon expect to get double white and yellow, as well as orange, and there can be little doubt that the public will appreciate them. Double Iceland Poppies would have a more refined appearance, because smaller than the doubles of Papaver Rhæas and P. somniferum.

CEREUS CLAUDIANA.

Under this name a form of Cereus has been grown by Mr. G. Fry, Lewisham, for the last twenty or thirty years. It was originally raised from seed by a gentleman residing in the Channel Islands, after one of whose sons the plant is named. The ovary during the period of flowering is cylindrical, 1½ ins. in length, ribbed, and furrowed longitudinally, and covered with small bracts, in the axils of which are tufts of straw-coloured bristles and spines. Above this the flowers are 2½ ins. in length, with very numerous petals. The outer ones are of various lengths, from those that are mere bracts at the base to others which are oblong, and equal the flower in length. All the larger of these are of a bright crimson-scarlet, and terminate in acute points. The inner ones on the contrary are of a bright or clear rich rose, more or less tinted with scarlet along the midribs, terminating in three or more small teeth or points. They are much broader than the outer petals, are obovate, and arranged in two or three rows. The stamens are very numerous, declinate, and white; the style is pale scarlet, and the twelve or more stigmas are white.

* *Acineta Wrightii, Fraser, n. Sp.*—Scapo ad basin pseudobulborum deflexo, racemoso, 2½-3 ped. longo; floribus pro genere mediocribus, numerosis (46 in specim. observ.); bracteis imo scapo vaginantibus, sursum gradatim minoribus, ovario brevioribus, per anthesin desiccatis; sepalis lateralibus ovatis, basi obliquis vix connatis, postica rotundo-ovata; petalis ovato-ellipticis sepalis multo minoribus; labello trilobo, erecto, laciniis posticis parvis, rotundatis, ungue decurrentibus, columnam vix amplectentibus; epichilo ovato-triangulari, convexo, apice revoluto, medio pubescenti; disci appendicula truncata, emarginata, dense pubescenti, articulum epichili obtegenti; columnâ vix alata, utrinque apice obsolète apiculata.

MAURANDYA BARCLAYANA.

ABOUT six species of Maurandya are known, but with the exception of that under notice and M. scandens they are seldom seen under cultivation. They are slender climbing herbs, suitable for cool greenhouses, but if raised from seeds every spring, and treated as annuals by being planted outside, they will make a fine display against a wall, fence, or trellis. M. Barclayana branches very freely, producing long slender shoots that keep on flowering for months together. The flowers are tubular or funnel-shaped, with an oblique, five-lobed, and somewhat two-lipped limb of a violet-purple colour. There is also a white variety of it under cultivation, but with the exception of colour it differs in no other respect. All the larger leaves are five-angled or shallowly lobed, and may not inaptly be compared to those of the common Ivy, only much thinner or membraneous. Seedlings may be raised on a hot-bed early in spring; but those who cultivate their plants out of doors may perpetuate them by cuttings, which may be wintered in a greenhouse after beiug rooted. Our illustration represents a bunch of flowering stems.

MAURANDYA BARCLAYANA.

BEE-KEEPING.

I WAS rather surprised to see in your last issue that you have taken up the strain of "A. D." and Mr. J. Kipling in regarding the practice of bee-keeping as of little or no aid in fertilisation, and as having little or no profit attached to it. Now, I think all gardeners who have an abundance of flowers should keep bees, as they collect and convert into honey the nectar which otherwise would be lost. And as to their fertilising capabilities, I quite agree with your correspondents as regards our hardy fruits, whose organs of fertilisation, being fully exposed to the wind, set all right should the weather be favourable. But to make more certain, is it not better to have two agencies at work than one? Again, how are we going on with flowers whose organs of fertilisation are beyond the reach of atmospheric influence? In such cases we must call in the aid of bees or some other insects. For some years large crops of the broad-leaved red Clover were grown in Australia, but all the seed was imported from England, because they were unable to secure any themselves; the reason being that, although they had bees, the organs of reproduction were beyond their reach, and it was only when they imported a colony of "humble bees," which soon increased, that they were able to harvest their own Clover seed.

A word as to bee-keeping from the remunerative point of view. I have known one stock of bees to have produced from 80 lbs. to 90 lbs. of saleable honey in one season. This was made in the 1 lb. section boxes, and was sold at 1*s.* per lb. Considering the little trouble they are, surely there is some profit attached to bee-keeping. Last year was, perhaps, the most unsatisfactory season on record; but what of that? The gardener, as a rule, is a too far-seeing man to be disheartened by one or two failures. He is used to that, and I am sure that people who like honey would rather have it gathered from their own flowers than buy that cheap "splendid"-looking stuff which spoils the market for British honey, and which is made of Potato starch and oil of vitriol (sulphuric acid), enveloped in those exquisite white combs, often made of paraffin wax.—*H. Osborne, Yattendon Gardens, Newbury, Berks.*

A GIANT AROID (AMORPHOPHALLUS TITANUM).

THE proportions of this plant are handsome, but unfortunately the huge leaf and flower are not developed contemporaneously, but separately. When growth commences in spring the flower is first developed if the corm or tuberous rootstock is sufficiently strong to flower at all. A single leaf only is produced from a tuber, with a cylindrical stalk about 10 ft. in height, from the top of which an enormous blade spreads horizontally and umbrella fashion. The lamina divides into three main branches, and these again divide and sub-divide into numerous oblong-elliptic segments. The branches radiate in such a manner that the whole blade is circular in outline, and good-sized specimens measure 45 ft. in circumference. We can well understand from this fact why a single leaf only is produced. The whole space at the command of the plant for properly arranging this huge organ in the best position with regard to the light is fully occupied. Were two such leaves produced the one would displace the other, and instead of the stem-like petioles being perpendicular, as the solitary one is, they would be made to assume an ascending direction, rendering themselves liable to be broken or thrown down by storms. The leaf-stalk is in itself a beautiful object, being smooth green, and marked with orbicular white spots. The leaf lasts in perfection about a twelvemonth or more, and after dying down, the tuber rests for a time before starting into growth again. The tuber itself of large plants in a wild state measures 4 ft. or 5 ft. in circumference, although under cultivation we can hardly expect to realise such colossal dimensions.

The flower-stalk is of no great length, but from the base of the huge spathe to the end of the thick and fleshy spadix the length is nearly 6 ft., or the height of a man. Some idea of the colossal proportions of this Aroid may be conceived by comparing them with those of Arum maculatum, the Cuckoo Pint, or Lords and Ladies of our hedges. The spathe is nearly 1 yard in diameter, campanulate, open and spreading at the top, not convolute as in Arum, and the margins are deeply toothed. A plant is now flowering for the first time in Europe in the Victoria house at Kew.

When we examined it on the 14th inst. it was nearly ready to expand. The base of the spathe was surrounded with two large bracts of a deep green, and blotched with white. The huge spathe itself was closely wrapped round the spadix, and much plaited longitudinally to accommodate itself to the available space in the expanding bud. The whole was of a pale green externally, but when fully expanded the blade of the spathe will or should be of a deep blackish purple internally, with the exception of the lower internal portion, which is pale greenish. The outer surface does not much alter in hue.

The spadix was also pale green, of great thickness, and tapering to a blunt point. It should ultimately become of a blackish purple; but, as in the case of other Aroids, may be liable to variation. The plant is grown in a large pot, partly submerged in the water of the tank, and on the above date the tip of the spadix stood exactly 5 ft. above the surface of the soil in which the plant was growing. It increases in length

at the rate of 3 ins. or 4 ins. in the course of twenty-four hours, and at certain stages may even grow faster. Perhaps it may not be out of place here to remind those who are not botanical that this colossal structure is not really a single flower, but a whole inflorescence containing numerous small individual flowers seated near the base of the spadix, surrounded and enclosed by the huge spathe, popularly spoken of as the flower. The campanulate spathe is merely a greatly enlarged and coloured bract, and morphologically equivalent to the scarlet spathe of Anthurium Scherzerianum, or the convoluted mantle of Arum maculatum. The plant has been grown for a number of years at Kew before attaining flowering dimensions.

THE ROSE CONFERENCE AT CHISWICK.

The object of this national conference, to be held at Chiswick on July 2nd and 3rd, is to get together as large and as representative a collection of Roses of all descriptions as possible; to form an exhibition of all subjects pertaining to the Rose, whether in its botanical, its horticultural, its literary, or its artistic aspects; and to bring together for the purposes of reciprocal information and fellowship all those interested in the Rose and its culture. To carry out these ends the assistance of all lovers of the Rose is invited.

The schedule provides for the exhibition of various kinds of Roses, garden varieties and wild species, in some seventeen classes; and books on the Rose and Rose culture, as well as photographs, drawings, &c., are also invited.

The conference will commence each day at 2 p.m., and on the first day will be devoted to the horticultural side of the subject, the second day being devoted to the botany of the Rose. The proceedings will commence on July 2nd with an opening address by the Very Rev. The Dean of Rochester, president of the conference, after which the following papers will be read:—Rose Culture and Pruning, by the Rev. A. Foster-Melliar; The Grouping of Garden Varieties of the Rose, by Mr. William Paul; Stocks and Soils, by Mr. Edward Mawley; Roses since 1860, by Mr. George Paul; Decorative Roses, by Mr. T. W. Girdlestone; Market Roses, by the Rev. H. Honywood D'Ombrain; on the Employment of Rosa polyantha as a Stock, by M. Viviand-Morel, Lyons; on Rosa canina, var. from the Ural Mountains, as a Stock, by Dr. E. von Regel, St. Peterburgh.

On the second day the opening address by Mr. J. G. Baker, F.R.S., Kew, will be followed by a Sketch of a New Classification of Roses, by Professor Crépin, Brussels; New Indian Roses, with specimens, by Dr. G. King, F.R.S., Calcutta; Note on Roses in Australia, by Baron Sir Ferdinand von Mueller, K.C.M.G.; also Roses in N. S. Wales, by J. Patterson, Esq.; Some Results of the Fertilisation of Wild with Cultivated Roses, by M. Viviand-Morel; Remarks on the Physiological Characteristics of Seedling Roses, by M. Viviand Morel; Rose Construction: Normal and Abnormal, by Dr. Masters, F.R.S.

The above programme is provisional only, and will be varied as circumstances demand.

In order to increase the value of the report of the conference, which will be published in the journal of the society as soon after the conference as possible, it is proposed to add some statistics as to the best Roses for various purposes, and in order to obtain the result of the varied experiences of growers in all parts of the country, the following list of questions has been distributed:—

"Which do you consider to be for your district—1. The best twelve H.P.'s for show blooms? 2. The next best twelve H.P.'s for show blooms? 3. The most useful twelve H.P.'s for general use as cut flowers for decoration? 4. The next most useful twelve H.P.'s for general use as cut flowers for decoration? 5. The best twelve garden or decorative Roses? 6. The next best twelve garden or decorative Roses? 7. The best twelve Teas or Noisettes for show blooms? 8. The next best twelve Teas or Noisettes for show blooms? 9. The best twelve H.P.'s for forcing? 10. The best twelve H.P.'s for pot culture? 11. The next best twelve H.P.'s for pot culture? 12. The best twelve Teas for forcing? 13. The best twelve Teas for pot culture? 14. The most useful twelve hardy summer-flowering climbers? 15. The most useful twelve hardy autumn-flowering climbers? 16. The most useful twelve hardy pillar or arch Roses? 17. The best twenty-four Roses for dry gravelly, or sandy soil? 18. The best twenty-four Roses for chalk or limestone soil? 19. Mention any summer Roses you consider of value not previouly mentioned. 20. The twelve most decorative single Roses, species or otherwise? 21. Mention any Roses that are of generally weak constitution, or fail with you, and where possible assign the probable reason of failure. 22. Name the twelve Teas you find the hardiest, and mention any exceptionally delicate. 23. What do you consider the relative merits of Brier seedlings as compared with Brier cuttings for stocks? 24. Do you consider the Manetti a better stock than the Brier (*a*) for any particular sorts of Roses, or (*b*) for any particular soil? 25. What is your opinion of 'Own Root' as compared with budded Roses? 26. What is your soil, subsoil, drainage (natural or artificial), and aspect?" When this return is filled up it should be sent by post either to Rev. W. Wilks, Shirley Vicarage, Croydon, or to E. Mawley, Esq., Berkhamstead, Herts.

It has also been determined to take advantage of the Rose Conference, to hold a Royal Horticultural Society Dinner, at the Hote Metropole, Northumberland Avenue, Charing Cross, at 7 p.m., on Tuesday, July 2nd. Sir Trevor Lawrence, Bart., M.P., president of the society, will take the chair, and the foreign Rosarians who are expected to be in England for the conference will be the guests of the society.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

The Jubilee Festival.

On Thursday evening, June 13th, the Jubilee festival of this institution—and we are happy to say the most successful of the series—was held at "The Albion," Aldersgate Street, under the presidency of Mr. Leopold de Rothschild. The banqueting hall was beautifully decorated, as usual, by various friends in the trade, and on the tables there was a rich display of flowers and fruit. The attendance was larger than ever, among the company being Baron Schroder, Lord Crewe, Sir T. Lawrence, Bart., M.P., Mr. John Lee, Mr. H. J. Veitch, treasurer, Mr. N. N. Sherwood, Mr. F. A. Philbrick, Q.C., Mr. C. Czarnikow, Dr. Hogg, Mr. H. J. Adams, Mr. G. A. Dickson, Chester, Mr. Shirley Hibberd, Mr. Mosse, Mr. G. Deal, Mr. J. F. Meston, Mr. Lynch White, Mr. W. Y. Baker, Mr. A. Veitch, Mr. T. Manning, Mr. F. Q. Lane, Berkhamstead, Mr. Coleman, Eastnor Castle, Mr. J. Laing, Mr. J. Wills, Mr. P. Barr, Mr. Roberts, Gunnersbury, Mr. Hill, Tring Park, Mr. Jennings, Ascott, Mr. J. Walker, Mr. W. Poupart, Mr. H. J. Cutbush, Mr. H. B. May, Mr. T. A. Dickson, Mr. G. Munro, Mr. J. Webber, Mr. J. Willard, Mr. W. J. Nutting, Mr. J. L. Woodruffe, Mr. A. Watkins, Mr. Protheroe, Mr. H. Turner, Mr. J. Douglas, and the secretary, Mr. E. R. Cutler.

The usual loyal and patriotic toasts having been duly honoured, the chairman gave the toast of the evening, "Prosperity to the Gardeners' Royal Benevolent Institution." They were that day, he said, celebrating its 50th anniversary, and looking back over the half century they could not help observing what great progress had been made in every branch of horticulture. It was now about fifty years since the late lamented mother of Sir Trevor Lawrence was the first to grow Orchids on a large scale in England. These flowers were celebrated, and drew crowds of admiring persons from royalty downwards. Everyone could now see these beautiful plants in the suburbs of London, and right and left they had great growers like Veitch, Sander, and many others, and they were within reach of any ordinary mortal who might feel disposed to ornament his table with their bright colours. The development of flowers of all kinds had increased immensely. He remembered that Mr. Mills, a former gardener at Gunnersbury, who retired on a small pension, and who did not like to live in idleness, invested his small savings in three houses for Roses, and the blooms he sold to Mr. Harvey, whose specialty it was to provide bridesmaids' bouquets. He was under contract to sell flowers to no one but Mr. Harvey, and if he told them the small sum he received for them they would be astonished. The value of the cut flowers now sold daily in London amounted to between £5,000 and £6,000. The great question of the day was to develop this trade still further, and, if possible, to grow flowers that they might be within reach of the poorest classes. There was nothing which tended to elevate the people and improve their morals so much as bringing them in contact with the beauties of nature. How they could effect this object by the introduction of flower markets, or by other means, he left it to them to decide. The Gardeners' Royal Benevolent Institution was established in 1839. For a few years it languished, but in 1842 it appeared to have struck upon some fertile soil. The number of pensioners on the list on January 31st last was 134—76 women and 58 men—who were maintained at a yearly expenditure of £2,396. This was defrayed by annual subscriptions, interest on funded property, and donations received at the annual dinner. This being the jubilee year of the institution, they were determined to place on the pension list the unsuccessful candidates at the last election, for which purpose a sum of £3,000 was required, and he was delighted to be able to say that this sum and more had been received. (Loud cheers.) Their worthy secretary had sown broadcast a circular which he had taken the liberty of signing. The ground had been well cultivated, and the crop had been abundant. There were, however, some weeds in the shape of two letters, which he would read for their amusement. The first was as follows: "Sir,—I think you could more easily pay the £3,000 than I, a poor clergyman, could pay 5*s*. or 10*s*. or 21*s*. towards the Gardeners' Royal Benevolent Institution, and I am surprised that one so wealthy as you are should try to support the society by the doles of the poor and half-starved clergy, instead of generously paying the £3,000 out of your own pocket. I think it would redound much more to the honour of your chairmanship. (Signed) A Cleric." (Laughter.) He did not think that letter was written by a clergyman, for the grammar, to say the least, was strained. The second letter which the chairman read and flatly contradicted was of a stupidly ignorant and splenetic nature. He said there was no class deserving of higher praise than the gardeners. They ought to be men of culture, with some knowledge of Latin and geography; they had to rise early, and often in winter to leave a comfortable bed; they had to be extremely honest, because they were entrusted with valuable plants; they must not be greedy, or they would be tempted to eat the Peaches and Cherries as they grew—(laughter); they must be active and strong, and yet they must have delicacy of touch. He thanked them for their generous contributions, and ask them to drink heartily to the success of the institution.

The toast was acknowledged by Mr. John Lee, father of the institution, and Mr. H. J. Veitch. Mr. Lee, looking hale and hearty, but who was almost inaudible, expressed the great pleasure he felt at being able to be present at their Jubilee celebration. He had attended almost all of their annual festivals, and he rejoiced exceedingly that so much had been accomplished, so much good work done in aid of the institution, in which from its birth he had taken such warm interest. Mr. Veitch, after alluding to the munificent contributions which had been made to the institution by the chairman and various other members of the Rothschild family, said fifteen years ago the annual subscriptions amounted to £720, now it was £1,360, the amount of donations was £700, now it was £1,165, and the amount paid in pensions was £930, as against £2,100 at the present time. During that time the expenses of the institution had decreased from 25·1 to 16·8. The funded stock in 1874 was £10,400, now it was £21,100. In 1884 there was one pensioner, now there were 134 pensioners, which they hoped to raise to 150. (Cheers.) They had no expensive buildings to keep up, and no commissions were paid for donations. Their staff consisted of one old man—(loud laughter)—and a boy, and an odd man whenever necessary.

Baron Schroder proposed the health of the chairman, who, in acknowledging the compliment, said no charity appealed to their sympathies more than the one for which they were assembled that evening, as many of them had large gardens, and enjoyed many hours of pleasure in their hothouses, the care of which devolved on those who in their old age might need the assistance of this institution. He had been asked to propose the health of the "old boy"—(laughter)—and in doing so made a humorous allusion to Mr. Cutler having once fallen through the ice at Gunnersbury, when he was rescued by a member of his family. He promised that if Mr. Cutler should again visit Gunnersbury to try the ice he should have the best bottle of port in his (the chairman's) house. (Laughter.) In conclusion he had much pleasure in announcing that Mr. Harry Veitch would take the chair next year.

The toast of the "old boy" was received with great enthusiasm, and in reply Mr. Cutler stated that the subscription list amounted to £3,469, the chairman's list being £1,500, and gardeners themselves subscribing over £900. (Cheers.) He said he did not want to fall

in the water again at Gunnersbury, but he would like to taste some of that old port. (Laughter.)

Mr. Philbrick, Q.C., proposed "The President (the Duke of Westminster) and the Vice-Presidents of the Institution," and commenting upon the ungenerous letters read by the chairman, said sometimes they lost sight in the keen competition of business of that which refined and elevated the taste. Nothing was more calculated to alleviate those who were distressed and hard run in the daily conflict of life, than that restoration which the contemplation of the objects of nature, fostered by the art of the gardener, eminently tended to produce. The best and wisest and noblest of mankind had found their delight and recreation in the garden, and it was the boast of the English people that they encouraged the science of horticulture, and were in no sense behind the other great nations of the world. He coupled with the toast the name of Dr. Hogg, who responded. The last toast was that of "The Committee of Management," for whom Mr. George Monro replied. During the evening an excellent selection of music was performed, under the direction of Miss Mary Belval.

FRUIT PACKING AND PRESERVING.

Proposed Exhibition at Maidstone.

A public meeting was held on the 12th inst. in the Town Hall, Maidstone, under the auspices of the Maidstone Chrysanthemum and Fruit Society, to promote an exhibition of farm fruit, fruit packing, fruit preserving, &c., to be held in connection with the annual show of the above society in November next. H. A. Brassey, Esq., Preston Hall, presided, and there was a good attendance of the fruit-growers of the district. The chairman having addressed the meeting, Mr. Faunce de Laune (chairman of the Kent Fruit-growers' Association) said he was of opinion that if they could pack and distribute their fruit as well as they could grow it, they would be able to do much better than they were doing at present. There must be a complete regeneration in the mode of treatment of fruit from the time it left the grower's hands until it was delivered to the people who had to eat it. He had had considerable experience in the packing and handling of fruit, and he ventured to say there was no country in the world which packed, distributed, and put its fruit on the railway in such a manner as the English growers did. If they could have an exhibition of fruit, with specimens of the baskets and the various systems of packing, they would have done their duty; but they must also have meetings at which they could bring pressure to bear on the railways to afford better means of conveyance, and they must also request their salesmen to use that skill and knowledge they did not now possess.

Mr. Charles Whitehead, in moving the following resolution—"That an exhibition of farm fruit, fruit packing, preserving, canning, &c., be held at the Corn Exchange, Maidstone, in connection with the annual exhibition of the Maidstone Chrysanthemum and Fruit Society"—said that the fruit-growing industry was one of the greatest in this country, having many ramifications, and affecting many classes. Its interests were very wide-spread indeed, and he was quite satisfied that such an exhibition as was proposed in the resolution would tend very much to aid the great fruit industry of Kent. It might be asked what was the use of giving prizes for farm fruits? Well, he would say it was to encourage the fruit-growers to produce a better article, and so to be able the better to compete with the foreigner, who was really beating us all along the line, and who would continue to beat us if we did not take very good care. The English fruit-grower went in too much for quantity, and not enough for quality. He held that the county of Kent, which was the chief of the fruit-growing counties in this country, although having only 18,000 acres, ought to produce a great deal more fruit than it did, and to give very much more attention to it than it did. In Devonshire there were 23,000 acres, in Somersetshire 26,000, in Herefordshire 27,000, and in Worcestershire 19,000 acres. So that as regarded acreage Kent was smaller than some four or five other fruit-growing counties, but its turn-out of fruit was immensely larger than any other county in England. Kentish fruit was of a very much better quality, and of greater variety than grown in any other county, and therefore it did behove all those interested—landlords, growers, consumers, and workers on the land—to encourage this great industry of the county. As an instance of the immense advantages to be derived from an exhibition of fruit, he referred to the Colonial Exhibition three years ago, when the Canadians sent over a display of fruit of admirable quality and beautiful colour. One of the Canadian Commissioners, named Allen, on his return to Ontario, referred to the Exhibition, and said:—"That exhibition of fruit at the Colonial Exhibition did more for our country than all the literature in the world. Our fruit told dwellers in Britain of a climate far superior to anything they had given Canada credit for. Some years ago I made the remark that I believed we could grow the finest Apples in the world. My experience of Britain's markets, where I met Apples from almost all fruit-growing countries, has confirmed that impression. Our Apples have taken the British buyer by storm, and consumers there will not purchase others so long as they can obtain a suitable article from us. Canada has gained a good name for honest culling and packing. Another point I may mention here is that British Apples are mostly cookers, and it is rare to find an Apple there combining both cooking and dessert qualities. After visiting many orchards in various parts of Britain, and discussing Apple growing with growers and dealers, I have arrived at the conclusion that British growers have become discouraged, and hence the fact that hundreds of acres of orchards are sadly neglected. Apple-growing in England is rapidly waning, and there are some like indications throughout Europe."

That speech had encouraged the Canadian farmers to go in more largely than ever for fruit growing, and, therefore, it behoved the Britisher to take very much more pains with his fruit cultivation. Not only did this gentleman report on the inferiority of our fruit, but he also said the crop was failing, and that there was an opening for a very large importation from Canada, the consequence being that the next year the importation was doubled. The total importation of Apples into England in 1888 was 3,796,592 bushels, of which America sent 1,648,890; Canada, 875,863; France, 541,865; Belgium, 384,989; Holland, 137,917; Portugal, 144,126. Now, that was an enormous importation of Apples into this country; but he should not be in the least discouraged by it if proper care and attention were given to English fruit. With our advantages of climate, soil, and cultivation, we could hold our own, even against America and Canada; but they must have their helps in the shape of exhibitions; all must put their shoulders to the wheel, and do what they could to induce farmers and fruit growers to grow their fruit better and more intelligently. In America and Canada the Governments supported fruit-growing very much indeed. In the American Agricultural Department there was a pomological division, to which all fruit growers could apply for information, and obtain what they wanted; but it was not our habit in this country to rely on the Government; we rather preferred to rely on that spirit of self-help which was so characteristic of the Britisher. Referring to fruit-packing, Mr. Whitehead asked why could not something better than the traditional quarter and a half sieve be produced, into which fruits of all kinds and descriptions were rammed and crammed, irrespective of their fineness and quality? The French and other fruit growers, who sent their produce to this country, did not do any such mad and rash act as that. First of all, they divided their fruit into three or four qualities. Pears, for instance, were divided into four separate qualities. The first quality was put into cases holding *thirty-five or thirty-six*, all being nicely covered with paper, and sent to market in almost as good a state as when they left their own country. So it was with other fruits sent from Continental countries. The Apples sent from Canada were subjected to a culling process, and the grower would not think of mixing them up pell-mell; his reputation would be at stake, and he would not dream of putting a third-class quality with a first-class one. So it happened that when Canadian Apples arrived in England they came exactly according to report and sample, and the buyer in England could rest assured that he would get exactly what he was paying for, equally as well as though he went into an American shop and bought them there. Their Apples came over very nicely arranged in barrels holding three bushels, and they were carefully harvested before they were put into the barrels, so that they generally arrived in capital condition.

With regard to fruit preserving, they all knew of what gigantic importance the jam-making industry had become in this country. England was now really the jam-maker for the world, owing to the low price of sugar, which they all hoped might not be increased. That was a big statement; but it was actual fact. America, although she imported fruit ready in every way for the sugar to be applied, did not make jam, and therefore at the present time England had the monopoly of the jam trade. He hoped fruit growers and farmers would take advantage of that, for it had become almost essential for a farmer to be a jam manufacturer. In Kent there were several manufactories established, one at Swanley, which has assumed very large and very important proportions. Machines were being imported from America for making small quantities of jam, and these could be purchased at from £9 to £15 and from £20 to £30, so that any fruit-grower might avail himself of the opportunity of preserving fruit literally on the spot. The society might offer prizes for the best jams, and for the best jam-making machines. For some time the Royal Agricultural Society, like many others, took no notice of the question, but lately they had awakened to the fact that fruit-growing was a large industry, and might be made a very much larger one. It would be the means of keeping many farmers who could not grow Wheat, and could not afford to cultivate Hops, on their legs. The Royal Agricultural Society was now doing all in its power to advance fruit-growing, and it was an example they might well follow. He hoped that meeting might be the means of their having in the county town of Kent—the centre of the best fruit land, he might say without boasting, in the world, and the centre of the garden of England—an association which would produce fruit like that produced at Exeter, at the Crystal Palace, and at the shows of the Royal Horticultural Society.

Mr. F. S. W. Cornwallis, M.P., seconded the resolution, which was carried unanimously. Mr. Faunce De Laune proposed, "That the following be appointed a committee to collect subscriptions, and draw up a schedule of prizes:—F. S. W. Cornwallis, Esq., M.P.; The Earl of Romney; C. de L. Faunce De Laune, Esq.; Sir F. Geary, Bart.; R. A. H. Seymour, Esq.; Ambrose Warde, Esq.; Jno. Wigan, Esq.; Mr. P. Skinner; Charles Whitehead, Esq.; and the present executive committee of the Chrysanthemum Society," which was also agreed to.

NOTES FROM SCOTLAND.

Early Milan Turnip.—The useful Turnip known as the Early Milan is certainly a great acquisition. We hailed Munich and some others with delight, but the first named, for early work and good quality (we do not say for late summer use, except in very cool positions) out-distances any which we have tried. While those grown in cold pits, to come in early—during the latter end of April—are at their best, the early sowings in the open ground are turning into use as successions, and others sown along with them are taking their place. In taking note of the remarks of vendors, in catalogues, it appeared to me that several other kinds were chosen as the earliest, some catalogues (Scotch and English) not having the Early Milan Turnip entered. We would advise such not to omit bringing it under the notice of their customers next year.—*Stirling.*

Weather and the Fruit Crops.—After one of the most favourable spring seasons for the setting of fruit which we have experienced for many years, it is a noteworthy fact that, with the exception of bush fruits, there will not be heavy crops. Last year could not—in this district, at least—be said to have been one which was distinguished for an abundance of fruit, yet the quality was good in some cases, as the autumn was most favourable for ripening; but the fine, dry, and warm weather came too late for the maturing of the fruit buds preparatory to the production of fine crops this year. On old stunted trees which went easily to rest, and on cordons which were thickly studded with buds, fair crops have set. The show of blossoms were very great on Apples, Plums and Cherries, which was not an indication of a fine set of fruit, because the buds were generally soft. The heavy rains (no hail fell) on the memorable 7th of May seemed to decide the Plum crop, which, with most trees, was just setting; but a few of the more hardy kinds weathered the storm, and are fairly cropped, Victorias always proving to be one of the hardiest and most certain of bearers. Apples are mostly represented by King of the Pippins, Keswick Codlin, Irish Peach, Worcestershire Pearmain, Lord Suffield, Stirling Castle (very abundant on dwarf trees) and Seaton House, a kind we had in use all last winter, and the last was used on 2nd of June, after being kept from light and air. Kinds which bear so certain should be planted in quantity.—*Stirling.*

FLORICULTURE.

The "Show" Tulip Exhibitions of 1889.

THE five prizes offered by the trustees of the Turner Memorial Fund for the best collection of "show" Tulips, to be exhibited at the Great Flower Show, held in the Inner Temple Gardens, London, on the 30th and 31st ult., brought forward three collections only! I felt anxious to further the object, and forwarded seventy-three blooms to the care of my friend, Mr. Richard Dean, to stage for me; and I bestowed a great deal of attention to the "nursing" of my blooms for quite a fortnight prior to the show, in the hope of placing before the public some specimens—including many of my own seedlings—worthy of inspection; but, alas, disappointment was my lot! On the 23rd ult., and several previous days, the heat in Cardiff was most intense, nearly baking my blooms, although they were protected as far as possible by my canvas awning. On the night of the 23rd it rained heavily, and the following morning the sun was again at great power; the garden was full of steam, which had gathered under the covering of my best bed, every flower I had so carefully nursed and prepared for the London show appearing as though it had been scalded. The petals, which the night previous were firm and pure, had become quite flimsy, and the colours were all run from their refined and distinct markings into a confused mass.

I can only recollect seeing Tulips in a similar state once before, and that was in the bath-room of the "Stork Hotel," Birmingham, about sixteen years ago. Some of your readers will doubtless exclaim, "What were Tulips doing in the bath-room of the 'Stork Hotel,' Birmingham?" Well, I will explain. The Royal National Tulip Show was held that year at Birmingham, and the Lancashire flowers being rather later than usual in blooming that season, many of the blooms of our friends, Samuel Barlow, Esq., and the Rev. Mr. Horner, were merely buds, and as those gentlemen had put up at the "Stork Hotel," the first thing they did after arrival was to engage the bath-room for the whole of the night, "tipping" the chambermaid handsomely, for the purpose of ensuring the temperature of the bath-room being kept at a heat of about 90°, and they sat up until two o'clock in the morning watching the progress of their unmatured pets, in the hope of witnessing their speedy development into full-blown blooms. I am speaking from facts, for I was their guest on that particular evening. These over-anxious enthusiasts did not sleep very well, and they were up in the morning about six o'clock, when upon immediately entering the bath-room, they found their anticipated gems boiled, or, in other words, steamed to death. The expressions of their respective countenances at such an unexpected calamity can be more easily imagined than explained.

My misfortune almost prevented me exhibiting at the Inner Temple Gardens; I, however, managed to get together, good, bad, and indifferent, a very unsatisfactory collection, but even these were too far advanced to stand the journey of 170 miles, several blooms having fallen before the day of the show, and quite one-fifth had badly faded, so Mr. Dean reported. If there is one florists' flower more than another which ought to be exhibited in its primest condition, it is the show Tulip. The Royal National Tulip Society, or what would be a better appellation for it, the Lancashire Monopolists' Tulip Society, held their annual exhibition at the Botanical Gardens, Old Trafford, Manchester, on the 7th inst., and which, from all accounts, proved to be really the worst which has ever been held. The Lancashire growers had on this occasion beaten themselves with their own weapons, as the date of the show really suited nobody, and the prize-winners doubtless felt in their hearts a reluctance in carrying away their awards for flowers which on other occasions they never would have exhibited.

Up to about ten years ago, and for generations previously, the custom was to decide on the day of exhibition each year on which day the show should be held in the subsequent year, and the exhibitor had to take his chance of the seasons being favourable or otherwise to him. It, of course, happened occasionally that the weather favoured the midland counties growers, to the disadvantage of those in Lancashire, and the latter not being willing to submit any longer to the old recognised arrangement, it was decided to convene a meeting of the members on the first Saturday in May of each year, at which time it was considered that every intending exhibitor would be able to say what date for exhibition would best suit his bloom, and vote accordingly. The result of this system is, of course, greatly to the advantage of the Lancashire exhibitors, and as they command a large majority the dates of the shows, as a rule, are fixed to suit themselves. I have always voted for about the 25th of May, but the Lancashire monopolists have invariably carried the show day into June, and the consequence to me and others similarly situated has been that we have rarely ever been able to exhibit our flowers when they have been at their best. It will thus be seen how misleading it is to the general public for this Manchester Tulip show to be advertised and carried on as the Royal "National" Tulip Society. It must forthwith be altered, and for the future conducted upon a similar principle to that of the Auricula Society—viz., one exhibition to be held in London between the 20th and 25th of May, and the other in Manchester between the 25th and 30th of May, or any date more convenient to the cultivators of that district.

Nothing is so disheartening and disappointing to an exhibitor as to see his best blooms withered up before the day of the show, and to find himself compelled to stage flowers out of condition, such as the majority represented at Manchester on the 7th instant.—*James Thurstan, Finsbury House, Richmond Road, Cardiff.*

Tulips at Manchester.

No one will feel offended when I state that the Tulip show at Manchester was disappointing; but it was no fault of the growers. The few days of hot summer-like weather was felt as keenly in the north as in the south, and it had a very prejudicial and exhausting effect upon the Tulip bloom. Added to this, a terrific hail-storm a few days previously had its quota of effect upon increasing the difficulties of exhibitors; and they had to fall back upon almost anything they could get to make up their stands, therefore many unnamed and seedling blooms put in an appearance. Mr. W. Kitchen's pan of twelve blooms, two feathered and two flamed of each class, consisted of bizarres, feathered, Lord Lilford and Typho; flamed, Dr. Hardy and Sir J. Paxton. Roses, feathered, Alice and Heroine; flamed, Mabel and Aglaia. Byblœmens, feathered, seedling and John Hart; flamed, two seedlings. Mr. Samuel Barlow, Stakehill, who was second, experienced great difficulty in making up a collection. He exhibited bizarres, feathered, George Scholes and Sir J. Paxton; flamed, Dr. Hardy and Sir J. Paxton. Roses, feathered, two seedlings, one of them very bright in colour; flamed, Annie McGregor and Lady Catherine Gordon. Byblœmens, feathered, Pegg's Seedling and Queen of May; flamed, Nimbus and Queen of May. The names of the varieties shown in the class for six blooms are not necessary, as they were similar to the foregoing, except that Mr. Kitchen, who was again first, had feathered byblœmen, Violet Amiable, a flower that, like Mrs. Jackson—also a feathered byblœmen—never was in the breeder stage, but came rectified at the first time of blooming.

In the class for three feathered Tulips, one of each section—always a most interesting one—Mr. W. Kitchen was first with bizarre, Typho; byblœmen, Violet Amiable; and rose, Mrs. Sanders. The last named was selected as the premier feathered flower in the show. It was raised by a Mr. Oldfield, of Bollington, and has a pure base, good petal, and is nicely feathered with bright rosy red. The three best flamed flowers came from Mr. H. Housley. He had bizarre, Sir J. Paxton; rose, Annie McGregor; and byblœmen, Chancellor. The premier flamed flower was Sir J. Paxton, shown by Mr. W. Kitchen.

In the classes for breeder Tulips, Mr. Barlow retained his old supremacy, being first with six, two of each section. His bizarres were Dr. Hardy and a seedling; his roses, Miss Burdett Coutts and Mrs. Barlow; his byblœmens, David Jackson and a seedling. How he managed to show at all was a wonder, for two days after the show he had not a bloom on any of his beds, and he had them all cut off on Whit-Monday. Mr. Kitchen was second with six breeders. He had a charming bloom of rose Annie McGregor, which was selected as the premier breeder; and a seedling byblœmen unnamed, large in size, of good character generally, and of a rosy pink colour.

One could but feel that the Tulip growers had done their very best to make a display; and as the song says, "the best could do no more." They could not control the weather; they had to stand by and see their flowers go down before a high temperature that savoured of July rather than of May and the early days of June. I think they deserve to be congratulated upon the display they did make, all things considered. —*R. D.*

The Norton Pansy Show.

NORTON is a district close to Birmingham, comprising King's Norton, King's Heath, and other districts, and as in some of these places a loamy soil is to be found, Pansies flourish. A society or club was formed some three or four years ago for the purpose of encouraging the cultivation of the Pansy and Viola, and with an annual exhibition. That for the current year took place on Monday, June 10th, in the large hall of the King's Heath Institute; but owing to the very heavy thunder and hail storms experienced lately, the general bloom had been greatly interfered with. Still, there were a goodly number of blooms, and a great amount of interest displayed, some of the local exhibitors staging some good stands.

In the amateurs' classes for twenty-four, eighteen, and twelve blooms, Mr. James Simkins, King's Norton, author of the new book on the Pansy, took the first prizes. The twenty-four consisted of My Lady, Mrs. John Downie, Mrs. Browell, Pilrig, Allan Ashcroft, Mrs. J. Ellis, Evelyn Bruce, Renée, Mrs. Findlay, Mrs. P. Lutz, Mrs. Coupar, Neil McKay, Syren (not yet sent out), Mrs. Scott, Seedling, Princess Beatrice, May Tate, Cyril, William Dick, James Simkins, Mrs. Maxwell, Mrs. G. Webster, Bob Montgomery, and a seedling. In Mr. Simkins' eighteen were fine blooms of Pilrig, Allan Ashcroft, Evelyn Bruce, My Lady, Mrs. Coupar, Mrs. P. Lutz, Mrs. Findlay, Mrs. John Downie, Renée, and Bob Montgomery. Mr. George Newell, gardener, Edgbaston, took second prizes in each class. Mr. Simkins was also first for twelve fancy Pansies in class 9; and Mr. Robert Austin took the second prize. These were all in the open classes.

In the amateur classes, Mr. Thomas Field, King's Norton, was first for twenty-four fancies, including fine blooms of John Pope, Evelyn Bruce, Neil McKay, Lord Rosebery, Pilrig, William Dean, and Princess Beatrice, and the same grower took the second prize for eighteen fancies. Mr. W. Clements, gardener to Mrs. Horton, took first prizes for six fancy Pansies in pots, and six Violas in pots, and these were better specimens than had been seen at previous shows.

Messrs. Pope & Sons, nurserymen, King's Norton, sent, not for competition, a fine display of fancy Pansies, very fine blooms, and they are grown in the King's Norton loam, which has such a celebrity. Four blooms each of John Pope and Pilrig, attracted much attention. Of other sorts, the stands contained Charles Stansell, Lord Rosebery, Princess Beatrice, Mrs. J. Ellis, Mrs. P. Lutz, Mrs. Scott, Dr. Scott, and Allan Ashcroft.

Messrs. Laird & Sons, nurserymen, Edinburgh, sent, not for competition, a very fine stand of sixty blooms, containing some promising unnamed seedlings, two or three of which would very probably have received certificates had there been three blooms of each, and named. Amongst the named flowers were John Pope, Evelyn Bruce, Mrs. Forrester, Mrs. Weir, James Alexander, very fine; Pilrig, Neil McKay, Sir Charles Dilke, Princess Beatrice, Wm. Dick, James Simkins, a promising distinct new variety; P. J. Ross, an acquisition; May Tate and others. Messrs. Bailey & Sons, florists, Sunderland, contributed a stand of fancies, amongst them fine blooms of Evelyn Bruce, Dr. McDonald, Princess Beatrice, Lord Rosebery, Charles Stansell, and My Lady. Messrs. John Lawson & Sons, florists, Sunderland, sent twenty-four blooms of fancies: Pilrig, George Cromb, Mrs. John Browne, Charles Stansell, My Lady, C. E. Brown, Archie Buchanan, Lord Rosebery, George Anderson, John Bryce, and Mrs. G. P. Fream, were all fine blooms. Mr. Hughes, Balsall Heath, a well-known amateur, contributed a box of blooms, which contained a fine flower of James Swann, a variety very little known.

Of show Pansies there were none. The season in the Midlands has been an awkward one. So much rain, a frequency of thunderstorms, and intervals of almost scorching weather have occurred that Pansies are not blooming well. The only seedling exhibited for the society's medal were three blooms of Mr. Simkins' Princess; but they were not in good condition, and the medal was not awarded. Mr. W. Dean received certificates for four seedling Violas—viz., Golden Gem, which has no blotch or dark marking whatever, Mrs. Wildsmith, Mrs. John Pope, and Mrs. Dransfield. Mr. E. Cooper, gardener to the Right Hon. Joseph Chamberlain, M.P., took first prizes for a group of plants and other exhibits; and Mr. T. B. Thomson, nurseryman, special certificates for a beautiful group of plants and a wreath. Messrs. Pope & Sons also obtained the same honour for a very beautiful wreath of Orchids and other flowers.

ORCHID NOMENCLATURE.

It seems to me that by the death of Prof. Reichenbach, the question of who is to be considered the authority on Orchid nomenclature has become a serious matter to Orchid growers. I cannot help thinking it is a question well worthy of the consideration of the Royal Horticultural Society, and I think the Council should call a meeting of Orchid growers, both amateur and professional, to discuss the subject. It would be well to determine upon what principle Orchid varieties shall in future be named. Kew, no doubt, will give us great assistance in the naming of species, treating the matter from a purely botanical point of view, but varieties can only be looked upon in the light of florists' flowers, as although these plants have great value to the horticulturist, they possess little interest to the botanist.

To my mind varieties of Odontoglossum crispum or Cattleya Mossiæ stand in the same relation to one another as the names of Chrysanthemums or varieties of hybrid perpetual Roses. Named they most assuredly will be, because amateurs will not purchase high-priced varieties without a name, which if sold out of bloom would then only realise a few shillings. A register with descriptions of named varieties might be kept by the Royal Horticultural Society, and it would be well if drawings were also kept for future reference. If some action be not taken at once, the nomenclature will in a few years drift into a state of inextricable confusion; even at the present time it is most unsatisfactory.

To illustrate the present state of confusion, I enclose a drawing of an Odontoglossum, which three years ago I bought of Messrs. Sander as new. A flower was sent to Prof. Reichenbach to be named, and he called it Odontoglossum Marriottianum. Under this name it was exhibited at one of the Royal Horticultural Society's meetings, when the name was challenged by Mr. Pollett and Mr. Marriott. I again sent a flower to Prof. Reichenbach, who then called it O. Wilckeanum; Mr. Veitch called it O. Wilckeanum variety; Mr. O'Brien called it O. Marriottianum; and this year Mr. Rolfe has called it O. Andersonianum variety. I cannot conceive anything more unsatisfactory than for the same plant to receive different names from recognised authorities, and the facts of the case seem to me to point to the urgent necessity for calling a meeting of Orchid growers to determine some definite principle upon which Orchids shall be named. I could give other instances, but I shall be trespassing on your space. The drawing is taken from a photograph then drawn, and each flower measured with the compasses.—*A. H. Smee.* [The coloured drawing by Mr. Foord-Hughes, from which the accompanying illustration has been carefully prepared, proves by comparison with Reichenbach's description (*Gard. Chron.*, p. 168, vol. xv., n. s.) that his first name—O. Marriottianum—was the most nearly correct one. We suspect Mr. Pollett based his opinion on a plant he bought as O. Marriottianum, but which was not the real Simon Pure.—Ed.]

Odontoglossum Marriottianum?

ORIGIN OF ENGLISH PLANT NAMES.

Many of the English plant names in use at the present day are of very ancient origin, and we may conclude that those were the first employed by our forefathers to distinguish the plants with which they were familiar, and are therefore older than botanical names, whether of Latin or Greek origin, and which were called into requisition at a comparatively recent date to assist the botanist in his classification of plants in general.

As might have been expected, there was no system attached to the giving of popular names, for the simple reason that they were merely meant to individualise those plants that were sufficiently common to come frequently under observation. In such cases we find that the names given oxpressed something in relation to their appearance, to their surroundings, or the localities in which they grew; or the titles given indicated that the plants bearing them had been compared to something else that was better known. Names implying virtues, qualities, and medicinal properties, real or supposed, were also adopted. The uses to which plants were put furnished many of them with names. Some of these popular appellations, however, have been so corrupted in course of time that it is difficult to recognise the original meaning, or to get at the etymology of the word. Samphire (Crithmum maritimum) is an illustration of this. The Gaelic name is *Saimbhir*, and that is a corruption of the French *St. Pierre*, which in English is St. Peter. That again is taken from the Greek *petra*, a rock, in allusion to the habitat of the plant on cliffs or rocks by the sea-shore.

The number of names given to different plants bearing some allusion to the Virgin Mary are very numerous, and indicate to a certain extent the religious spirit of the times. Instances may be given in Goldilocks or Mary's Locks (Ranunculus auricomus) where the specific name has the same meaning in Marigold (Tagetes), in allusion to the yellow colour of the flowers, and in Marsh-Marigold, to which the Gaelic name *Lus Mairi* or Marywort is given. Lady's Fingers (Anthyllis vulneraria), Lady's Mantle, which in Irish is *Dhearna mhuire*, or Mary's Palm, and Mary's Thistle (Silybum marianum), are a few out of the many instances of names bearing reference to the Virgin Mary. Rosemary (Rosmarinus officinalis) and other names both in the Gaelic, Welsh, and Irish languages are merely corruptions of the Latin *ros marinus* or sea-dew.

The word Nasturtium is derived from the Latin *nasus*, the nose, and *tortus*, tormented, in allusion to the effects of its pungency, producing wry faces on those eating "hot" cresses. The Wood-sorrel (Oxalis acetosella) has several names derived from the Teutonic *suer*, sour, such as the Celtic *Surag*, the sour one, and the Scotch *Sourock*. It may be remembered that these names are also applied to several species of Rumea, popularly known as different kinds of Sorrel. Shamrock is sometimes applied to this Oxalis, and is derived from *Seamrag*, the gentle one, in reference to the modest appearance of the plant. Southernwood (Artemisia absinthinum) would appear to derive its name from growing or coming from some southern locality or country, but its real origin is *sur*, sour. Its common name in Irish is *suramont*, and in Welsh it is *siwdrmwt*, both from the same root, so that Southernwood means sour wood.

The medicinal qualities, real or imaginary, of a large number of plants have given rise to their popular names. Clary (Salvia verbenacea) literally means clear-eye, because a mucilage prepared from the seeds was said to clear the eye from dust. The word Thyme is derived from the Greek *thymos*, courage, and it was believed to impart that quality to persons through its smell. Betony (Stachys betonica) is derived in various ways, but all refer to the value of the plant as a medicine or sustainer of life. In Celtic the word comes from *ben*, head, and *ton*, tonic; or it may be derived from Greek, *biota*, life. Hellebore refers to the poisonous qualities of the plant, and comes from the Greek *helein*, to cause death, and *bora*, food. Quite an opposite quality is expressed by Borage (Borago officinalis). The plant was one of the four cordials, and Borage is merely a corruption of the Latin *cor*, the heart, and *ago*, to affect, and the preparation from it was believed to strengthen the action of the heart.—*J. F.*

PRIMULAS, NATIVES OF CHINA.

In an enumeration of plants from China and the neighbouring islands by Francis Blackwell Forbes, F.L.S., and William Botting Hemsley, A.L.S., forty-three species are given as natives of that vast empire, and of these more than thirty are found in the district of Yunnan, although they may not be confined to it. This part of the Chinese Empire may then be considered as one of the head-quarters of the genus.

A large proportion of them have not yet been introduced to this country, and many of them have, in fact, only been recently discovered. Many of them are exceedingly pretty, with comparatively large flowers and a dwarf habit quite distinct from most of the species in cultivation in this country. It is more than probable that the majority of them would prove unsuitable to our climate, notwithstanding the fact that a considerable number of the species have been collected at great elevations.

In taking a cursory glance at the species recorded, a number of old or well-known friends are noticeable. It is satisfactory to learn that the exceedingly popular and useful P. sinensis has at last been really discovered in a wild state. Previous to this discovery there were no wild specimens in herbaria. The plant was in cultivation when seeds were originally obtained and introduced to cultivation. We may reasonably infer, from its proneness to vary even from the very first in this country, that it had been in cultivation in China for many years previous to its introduction here. It was recently collected at "Hupeh, and the Gorge of Ichang, on the ledges of limestone rocks, where there is no soil and practically no moisture." Fancy its growing under the same conditions as the wild Stock (Mathiola incana)! Cultivators would be considered mad if they were now to attempt its cultivation under those conditions.

P. cortusoides, originally introduced from Siberia, is also found in China, occurring pretty frequently and enjoying a wide distribution from Russia in Europe through Siberia to Japan, where it joins hands, so to speak, with P. c. Sieboldii, the more valuable and decorative form, and from which the numerous and exceedingly beautiful varieties in cultivation have been obtained. The well-known Himalayan species, P. denticulata, so well known for the variety in form and colour to which imported seeds give rise, also occurs in mountainous districts of Yunnan. Curiously enough, the Japan Primula (P. japonica) is also found in Yunnan, in the marshes at a place called Tavaugmais. As a rule it is grown in the ordinary borders of British gardens, although a few cultivators may be credited

with the fact that they utilise some of their plants for the decoration of the bog garden and margins of ponds or tanks with good results.

A long-standing mistake on the part of British gardeners, and even some who were good botanists, was to describe P. viscosa nivea, a European form, under the name of P. nivalis, which is a native of the Caucasus, and extends through central Asia and the mountains of northern India to Kamtschatka and north-western America. It also occurs on the summit of some mountains in Yunnan. Another exceedingly useful species—namely, P. obconica, is found at Hupeh, in China, at considerable elevations, as well as on the banks of the Blue River, at Chapato. A grand future seems to be in store for this species when once it begins to vary freely, or gets successfully hybridised. P. sikkimensis, which proves hardy in this country, has been found on a mountain in the district of Yunnan, at an elevation of 3,500 metres, which would mean something over three times that number of feet. Where originally found in the Sikkim Himalayas it ranges at elevations between 11,000 ft. and 15,000 ft. It is more easily managed in this country than P. denticulata, when both are planted in the open under the same conditions. The former is, however, not by any means a long-lived plant, according to the experience of many cultivators, but from its perfectly deciduous nature in winter, it oftener escapes being destroyed by frost and rain than P. denticulata, which is inclined to grow and flower if the weather is at all mild.

The Amateurs' Garden.

Pyrethrums.

These are now in full season once more, and fully uphold their character as garden plants of great decorative value. The ease with which they can be managed even in town and suburban gardens should be an incentive to greatly extend their cultivation. Both the single and double varieties have been greatly improved within recent years, and the number is so great that mere catalogue description is of no value in making a selection. The best plan for amateurs and those unacquainted with the kinds is to see them growing together, or as exhibited at horticultural shows, and make a selection according to taste. Some may prefer double, others single kinds, and good varieties of either are of great value for garden decoration, owing to the quantity of flower-heads they produce and the brilliancy or attractiveness of the same. Any good garden soil will grow them to perfection, but to ensure their duration for the greatest length of time they should be mulched with manure or some moisture-holding material just before they come into bloom, because the plants are then most bulky, and require a considerable amount of moisture. In the cooler and more moist climate of the west or north mulching is less necessary. Propagation is easily effected by division of the plants in spring.

Carnations, Picotees, and Pinks.

The flower-stems of these are now pushing up rapidly, and it will be well to stake them immediately, to prevent disappointment by having them broken down by heavy storms of wind and rain, such as have been rather prevalent lately. By securing them at once, the loss of choice kinds will be avoided. Just at this season of the year, when vegetation everywhere is soft and tender, green-fly and other pests increase at an alarming rate, and means must be taken to check or destroy them in gardens. Carnations and others of that class will be kept comparatively free from the pest by frequent heavy syringing with clean water; but should this fail, the plants may be sufficiently syringed just to wet them, and then dusted over with tobacco powder.

Seed Sowing.

The present is a favourable time to sow seeds of various subjects for next year's flowering. The ground is now in suitable condition, so that those even who have no glass whatever may raise their own seeds. Wallflowers sown now will bloom next spring. The dwarf yellow strains in cultivation are very choice, having large flowers of a rich golden hue. The brown varieties are generally taller, and may be preferred by some growers. Then there are what go by the name of double German Wallflowers, also good in their way to those who like double flowers. Sweet Williams sown at present in a bed and transplanted in autumn will make plants of good size and flower magnificently next season. Foxgloves of the spotted Gloxinia-like strain are literally neglected subjects in the gardens of this country, simply from the prejudiced idea that they are common. Had the Foxglove been an introduction instead of a native it would have received a greater amount of attention. Owing to the small size of the seeds there is always a danger of sowing them thickly, but this can be remedied by transplanting them in September, allowing plenty of room between each. If ground cannot be spared to plant them where they are intended to flower, they may simply be grown in a temporary bed to form good rosettes of leaves. Canterbury Bells (Campanula medium) may be treated much in the same way. The Chimney Bellflower (C. pyramidalis) takes rather longer time to grow, although like the Canterbury Bell it is strictly a biennial, and dies after flowering. If the seeds could be sown in a box and placed in a frame or under a hand-light it would bring them on much more quickly. They could afterwards be planted out or potted up if wanted for flowering next year under glass or in the dwelling-house. Celsia cretica is a Mullein-like plant, with large yellow flowers, and being a biennial might be sown now.

The Conservatory.

The ordinary occupants of an amateur's conservatory at this season consist in the majority of cases of Pelargoniums, Fuchsias, with a few straggling specimens of Musk, Hydrangeas, and perhaps a Rose or two. All these are in themselves indispensable, but the effect would be greatly heightened by the addition of Lilium longiflorum, with its variety, L. l. eximium, better known as Harrisi, together with Petunias, Heliotropes, Agapanthus umbellatus, and tuberous Begonias. The latter are admirably adapted for greenhouse culture, and some amateurs succeed wonderfully, even better sometimes than those having plenty of glass, who keep their plants too close and warm. After they have made a start in a warm place they develop to perfection in a greenhouse, and could be grown entirely in the latter structure, merely coming into flower later in the season. Besides the above, a number of strictly hardy plants might be called into requisition, and not only be serviceable, but prove more interesting and attractive than hothouse plants themselves. What could be more graceful than the long arching white sprays of Saxifraga (Cotyledon) pyramidalis? The red-flowered Heuchera sanguinea is another member of the same family, and although it produces a smaller quantity of flowers, the latter are very graceful and showy against the dark green foliage. Campanula isophylla, C. i. alba, and several of the smaller species are also beautiful and useful for indoor work.

Gardening Miscellany.

A Sportive Pelargonium.

Zonal Pelargoniums are not so much given to variation, by sporting into distinct colours, as are many of the varieties of Pelargonium cucullatum, from which the show, fancy, regal and decorative varieties have arisen. Amongst the zonals, Vesuvius is as prone or more so to variation than any other. Some years ago a variety was sent out under the name of New Life, but it never proved so constant nor so valuable a sort as its parent, from the fact that the white stripes on the petals—and which were the characteristic marks of the variety—were frequently altogether absent or partly so on vigorously grown plants. Now we seldom hear of it, and the probability is that it has been allowed to die out in most collections. The sportive character of Vesuvius still, however, remains, and will do so as long as this useful bedding variety continues to be grown. A truss has been sent us by Mr. D. MacKie, Montgomery, Tarbolton, N.B., showing two white flowers with a pink tint at the base, while the rest of the flowers were mostly of the ordinary scarlet type with a small white eye. Two others did indeed show a white blotch on one of the petals, but were not sufficient to mar the striking contrast between the white and the scarlet ones. There is also a pure white form of Vesuvius in cultivation.

Hymenocallis ovata.

The leaves of this dwarf-growing and neat species are about 1 ft. in length, and form an arching or vasiform rosette surrounding the erect flower-stem. They taper into a short broad petiole, and although not exactly ovate, are sufficiently near it to merit the appellation implied in the specific name. They are also strongly ribbed and very characteristic. The species may be compared with H. speciosa, than which it is much smaller, and requires much less room for its perfect development. The flowers are sessile, on the top of a scape about 18 ins. high, and range from six to ten. The perianth tube is about 2 ins. or 2½ ins. in length, from the apex of which the narrow, linear, white segments radiate regularly on all sides. The staminal tube or corona is funnel-shaped and narrow compared with H. macrostephana or H. speciosa. There are some specimens of this neat species at Pendell Court, Bletchingley.

Cyrtoceras multiflorum.

Some half a dozen or more names have been given to this plant from time to time, and it would seem as if gardeners hardly know what to call it. Many of these names are uncommon, and the most reasonable plan to follow would be to call it Hoya coriacea or H. reflexa. The former has already been authorised, but the latter would be more suggestive of the characters of the plant. Cyrtoceras means curved horn, in reference to the curved lobes or horns of the corona. The segments of the corolla themselves are revolute at the margin and strongly reflexed, and the whole flower is white with the tips of the lobes deepening to a buff-yellow. The flowers are borne in large drooping umbels at the apex of the shoots, and are sufficiently attractive to merit more extended cultivation. Being a native of Borneo, it requires stove treatment. Growth is very slow, but flowers are produced regularly every year, and the stems being weak, they require a stake, although they do not climb like those of other species. It has been flowering at Pendell Court for some time.

Rhododendron calophyllum.

The flowers of this species are campanulate, and although considerably inferior in size to those of R. Aucklandii and R. Nuttallii, they may yet be classed with those of the largest flowering kinds. They are pure white internally, and more or less tinged with red externally, especially in the bud state. The plant forms a strong-growing bush, about 5 ft. or 6 ft. in height, producing four or five of its huge flowers at the ends of the branches. The leaves are also of good size, leathery, deep glossy green above, and densely covered underneath with pale-coloured scales, which become of a rusty brown colour when fully matured. The stamens vary from eighteen to twenty, which is twice the number of the typical forms of the genus, such as R. pouticum and R. Catawbiense, which have only ten. A large plant has been flowering for some time at Pendell Court, Bletchingley, where it is grown in a cool house in a peat bed, along with a number of other Himalayan species. This one is a native of Bhotan.

Eranthemum eboracensis.

Few stove plants flower so incessantly as this species, and that not merely in a straggling sort of way, but abundantly at all seasons. It seems, however, to be very little known, although highly appreciated at Pendell Court, Bletchingley, for its free-flowering and dwarf habit. A few species of Eranthemum are regularly grown for the beauty of their foliage, and others because they flower in winter, when stove-flowering plants are highly appreciated. The flowers are comparatively large, not only for the plant, but if compared with those of other species grown for winter flowering; and they are pure white. The plant forms a neat and bushy shrub, about 12 ins. or 15 ins. in height, with slender, twiggy branches and small leaves. It likes a stove temperature, but calls for no special treatment, beyond what would be accorded to other and better known species.

The Larch-leaved Sandwort.

There are numerous species in this large genus that are of no value for garden purposes, while others are tolerated on the rockery on account of their carpet-like habit. Arenaria balearica is well known for the closeness with which it clings to damp stones, and a form of it with blunt petals, and known under the garden name of A. multicaulis, has the same characteristic habit. A. laricifolia, the species under notice, is greatly superior in point of size of flowers, and is greater in stature, being 6 ins. high. The flowers are pure white, and equal those of Cerastium arvense or C. tomentosum in size. From one to six of these are borne on each stem, and from the dense habit of the plant, they form a sheet of white regularly every year during the month of June. The plant is a long-lived one, sending down wiry or woody roots into the soil, while the barren stems are procumbent and so

dense that no weeds can grow in the same space. Plenty of room must be allowed it, because although it does not increase very fast, it nevertheless monopolises every inch of ground which it has once covered. There is a fine patch of it in the rockery in the gardens of the Royal Horticultural Society at Chiswick.

Objects of Interest at Kew.

Robinia hispida or the Rose Acacia is an ornamental flowering shrub of great beauty. It is a very conspicuous object just now in one of the beds in the pleasure grounds, being full of pink-coloured pea-shaped flowers hanging from the plants in long pendulous racemes.

Kalmia angustifolia.—A native of the Northern United States, a hardy evergreen shrub, is very pretty, producing freely an abundance of rose-coloured flowers, and cannot fail to attract attention.

Campanula media alba.—The Canterbury Bells are generally popular, and are grown in most gardens. In one of the houses are a number of the above in 32-sized pots looking quite gay, suggesting the idea that these plants can be made useful for the purposes of decoration where variety is desirable.

Streptocarpus.—Quantities of these are in flower, and are exceedingly pretty. As they are of easy culture and rather showy, and as I think capable of further development, a good future may possibly be in store for them.

Puya Whytei.—This interesting and rather uncommon plant is now flowering in the Cactus house. As I believe it has been seldom seen in flower it is well worth a visit. It belongs to the family of Bromeliads, and is a native of Chili. The flowers are bell-shaped, with three petals, reflexed at the top, the colour being of a shining green, shading off into blue, and are produced in a corymbose form on the top of a long stalk.

Protea cynaroides.—This native of the Cape is also in flower in the Cactus house, and well worth notice. Its purple head of flowers, as its name would indicate, resembles in appearance those of the Globe Artichoke. It is a very interesting and curious subject.—*Alfred Gaut.*

Carnation Seedlings.

I SEND you two blooms of seedling border Carnations to show what good things may be obtained by careful attention to seed-saving at the present time. Careful manipulation brings about the most satisfactory results, and affords an immense amount of interest to the grower. I have Germania growing side by side with the yellow seedling, and unhesitatingly admit that the former is in its form and general characteristics in advance of the latter. Still, there is room for both. I have been for some time trying to add the quality of fragrance to the yellows as possessed by some of the darker varieties—for example, the dark one sent, which is exquisite—and hope to attain that object in the course of time. If you hand a very fine yellow bloom to a friend the expression invariably follows that "It is a great pity they have no scent." "Just so," answers the old gardener, "we will see what we can do in bringing about so desirable an issue."—*G. Fry, Lewisham.* [Both are good-shaped and beautiful border flowers, with a very stiff calyx in each case that shows no tendency to split. The dark purple flower has the delicious odour of the old Clove.—ED.]

Calceolaria Sinclairi.

A NUMBER of the species of Calceolaria have open slipper-shaped, or obliquely cup-formed flowers that differ greatly from the inflated pouches of the kinds with which we are more acquainted. C. violacea and that under notice may be given as examples. The latter (C. Sinclairi) is an extremely floriferous greenhouse species of ornamental character, and is capable of brightening up a collection of fine-foliaged subjects, or of toning down the glare produced by a mass of zonal Pelargoniums in flower. The flowers are produced in terminal branching cymes, and are cup-shaped, but somewhat oblique, and faintly two-lipped. They are white with purple spots internally. The whole plant varies from 12 ins. to 18 ins. in height, and is now finely in flower at Pendell Court, Bletchingley.

Jasminum revolutum.

THERE is some vagueness attached to the statement that certain specified plants may be natives of such and such a country, without giving any indication of the altitude at which it is found. This applies rather forcibly to J. revolutum, which is recorded as having been introduced from India in 1812. Now it may be found in many old gardens in different parts of the country, and even in the cold north, where it seems as hardy as J. officinale planted alongside of it and precisely under the same conditions. Being naturally a climber, it requires some means of support, and does best when planted against a wall, but requires no other protection whatever. Botanically it is considered as a form of J. humile, but is a decidedly more ornamental plant. When planted against a wall, it will cover the latter to a height of 8 ft. or 12 ft. easily. The main stems should be trained upright in the ordinary way, and the laterals pruned back every winter. The yellow star-like flowers are produced in great profusion from these laterals all through the growing season from June till late in autumn. The branches should be allowed to droop naturally as they grow. The climber has been flowering for some time against an east aspect wall in the gardens of the Royal Horticultural Society, Chiswick.

The Guava.

WHEN walking recently through one of the temperate plant houses in the Botanical Gardens, Old Trafford, Manchester, I noticed specimens of the Guava (Psidium) fruiting very freely. Guavas are the produce of three or four species of Psidium, the common is P. pyriferum, a tree which is grown extensively in the West Indies, and reaches a height of from 10 ft. to 20 ft. This is known as the white Guava. When ripe, the fruit resembles a little Apple with many seeds, and it is from the produce of P. pyriferum that the celebrated Guava jelly is made. The fruit of this species is very extensively eaten in the West Indies, both by the natives and by the Europeans, either raw or in a state of jelly; but it is said to possess great astringency, and should not be eaten by those of costive habits. At Manchester two species are grown and fruited, one is P. pomiferum, or the red Guava, sometimes known as the Apple-fruited, which bears freely in a high temperature, and is much esteemed for dessert purposes. But better still is the other—the purple-fruited P. Cattleyanum, introduced from China about 1817. The fruit is about the size of a small Walnut, and of a deep purple colour. This is grown extensively in China and Brazil.—*R. D.*

Lathyrus rotundifolius.

SEVERAL species of this genus are very useful and ornamental garden plants, but none are more serviceable for covering banks, trellis-work and fences than the tall, climbing and large-flowered perennial species, amongst which this undoubtedly holds its place. It comes into flower in June, considerably earlier than L. sylvestris, or its various other forms, including L. s. platyphyllus and L. s. p. albus, both of which are held in high estimation. The stems of L. rotundifolius are much more moderate in dimensions than those of L. sylvestris, and for that reason it is easily managed as a border plant by tying it to a strong stake. Both this and L. sylvestris with its forms have very strong roots and penetrate the ground to a great depth, but they increase very slowly in a lateral direction, and in fact, although long-lived, they seldom produce suckers. All of them produce fruit freely, and if the seedlings are fairly treated they will flower the second or third year. The flowers of L. rotundifolius are rosy red, and numerously produced in one-sided racemes. Several pieces may be seen in the gardens of the Royal Horticultural Society, Chiswick.

Robinia hispida.

WHERE a number of specimens of this can be planted together, a fine effect is produced by the large deep purple-coloured flowers. There are several forms in cultivation, one of which has rose flowers, and another has very large leaves. Both flowers and leaves are of greater size than those of the common species, Robinia Pseud-acacia. The latter is, however, a tree, and can only be planted where there is plenty of room for it to develop, whereas R. hispida only forms a bush a few feet in height, and flowers magnificently every year. The specific name refers to the coarse bristles or stiff hairs with which the younger branches and the fruits are densely beset. It is more suitable as a shrubbery plant than for planting on lawns, on account of the brittle nature of the branches, and their liability to be broken when grown in exposed places.

The Round-spiked Polygonum.

POLYGONUM AFFINE and P. sphærostachyum (the species under notice) are evidently closely allied, both in habit and in the form of the leaves. The former, however, has long slender spikes of pink flowers that bloom in autumn, while the latter is already in flower on the rockery at Kew. It is quite hardy, and may be considered a more showy and superior plant to its ally. The flower-stems rise to a height of 6 ins. or 9 ins., bearing a stout but shortly oblong head of blood-red blooms, and the spike, although broad, is not strictly spherical, as the name would imply. It might be so in starved wild specimens, but under cultivation they are different. It seems to increase very slowly by lateral extension, and this would recommend it for culture in the rock garden. The autumn-flowering P. affine, on the contrary, requires a good deal of space, for it soon spreads over a considerable extent of ground.

The Glandular Inula.

OWING to the great rage that prevailed for summer bedding some years ago, a large number of good old-fashioned herbaceous subjects disappeared from gardens. They are slowly finding their way back again, and amongst them Inula glandulosa, which was originally introduced from the Caucasus in 1804. The stems generally grow to the height of 2 ft., and bear a single large golden yellow head of flowers. The rays are very numerous, and are long, slender, and drooping at the tips, with a spread of 3 ins. or more. The whole head may be compared to that of a Sunflower for size, but it is altogether more refined in appearance. A very conspicuous character of the plant is the quantity of glands with which the involucral bracts are beset, and which gave rise to the specific name. As evidence of the ornamental character of this plant, we find that it is now being grown in market gardens for cut-flower purposes.

Carpenteria californica.

IT is with great satisfaction we note the hardiness of this beautiful Californian shrub. It has now stood for several years against a south aspect wall at Kew without any protection, and is now laden with flower buds at the apex of the branches. A number of them are already fully expanded, and amply testify to the value of the plant as a decorative subject. The broad, rounded, and overlapping petals are pure white, and surround a mass of bright yellow stamens, and these again encompass the prominent ovary. The whole aspect of the flower at a short distance reminds one of a large and handsome white Rose, with apparently more substance to the petals. The plant is a shrub, attaining a considerable size in the Sierra Nevada of California, its native country; but it may never attain the same dimensions here. The broadly lance-shaped evergreen leaves are of some size, and densely cover the shoots with a dark green leafage. It is a member of the Saxifrage family, but does not at all resemble the lovely herbaceous types.

Hardiness of Lilium Harrisi.

THERE seems to be a considerable difference of opinion among gardeners as to whether this popular Lily is hardy or not, and my experience may be useful in proving that it is, and that it is capable of standing a considerable degree of either heat or cold. Last November we planted a number of bulbs in the open ground, and without any other protection than the 6 ins. of soil that they were covered with. By February the majority of them had made their appearance above ground, each plant having about half a dozen leaves, which were of a pale lemon colour, and this colour they retained as long as the frost continued. Indeed, the appearance they presented during this period was anything but satisfactory, because the leaves were so soft that I could take hold of them by the point and roll them up close to the stem like so many strips of wet paper. After the frost took its flight, however, and more genial weather set in, they commenced growth again, and on examining them the other day I found that they were bearing a number of flower buds, which, according to their present appearance, will, I expect, develop into blooms of ordinary size and substance. The position which this variety occupies renders it difficult indeed for anyone to produce another Lily that would in any way supersede it. I understand it is usually regarded as synonymous with L. longiflorum eximium, but be that as it may, it is a charming Lily, and stands forcing well. We have also a number of these in pots, a few of which we introduced into the stove, the minimum night temperature of which was 70°, and during the day in bright sunshine with the blinds drawn it very often reached 95°. In this heat they seemed to be quite at home, for each plant produced five large flowers, which were cut quite six weeks ago.—*J. Peebles.*

THE GARDENERS' CALENDAR.

THE STOVE.

STEPHANOTIS.—Small plants that have been flowered in pots may now be potted on if required for another season; but should they be too large, and planting them out is in contemplation, the present is a good time to do so, as they become established and the roots permeate the soil before the approach of winter. All weak shoots may be cut away, leaving only those strong ones which will now rapidly extend in length. Old plants may be treated in the same way with regard to pruning, if the shoots are at all crowded. The main ones will grow rapidly, and soon commence to flower again. The primary object to be kept in view is never to allow crowding of the stems and leaves if good results are expected. When planting out, one of the principal points to be observed is that a large body of soil in which the roots will ramble is prejudicial to freedom of flowering, whereas they will be more inclined to do so if rather restricted for room.

COLEUS.—Keep tying down the shoots as they develop, and pinch those that are inclined to make loose rampant growth. This must be closely attended to when the plants are trained flat. Less tying is necessary in pyramidal specimens; and if a broad, flat-headed bush is desired, a considerable amount of pinching is necessary. The plants must be fairly well exposed to light, in order to develop their beautiful colours. Give an abundance of water, especially during bright weather, and ventilate freely to keep them short-jointed.

CLERODENDRON FALLAX.—Plants of these that were cut down in autumn with a view to keep them dwarf may be pinched to encourage a bushy habit. Towards the end of summer the buds must be allowed to develop for autumn and winter flowering.

THE GREENHOUSE.

CAMELLIAS.—Plants in pots that have made good growth may now with safety be stood in the open air to gradually ripen their wood. A slightly-shaded position should, if possible, be selected for them, or the pots, at least, should be shaded and stood on a cool bottom of coal ashes for the rest of the summer. It will still be necessary to pay close attention to watering, even in rainy weather, because although the surface may be wet, it is often misleading. A great quantity of the rain will be thrown off the pots or tubs altogether by the thick masses of foliage, hence the necessity of inspecting the pots from time to time.

HEATHS, &c.—Many hard-wooded plants may be turned out in the same way as Camellias, including Heaths, Epacris, Azaleas, and various shrubby greenhouse plants. Before turning them out see that the Heaths are in no way infested with mildew, which is very liable to attack them at this season. If so, give them a good dusting of flour of sulphur, or syringe them with a mixture of the latter in water.

THE FRUIT HOUSES.

VINERIES.—Early forced pot Vines may be placed out of doors and the house utilised in some other way. They may be forced again if required, but they cannot be depended upon with certainty to produce a good crop; nevertheless, if room can be afforded them they may be tried. They should be stood in front of some wall, against which the stems may be nailed or otherwise fastened, to thoroughly ripen the wood. Should the earliest lot have been planted out, then the main point for consideration will be to ripen the wood, and for this purpose the house should be well ventilated night and day, using at the same time a little fire-heat during the day, especially in cloudy wet weather, with which we have been visited since the severe thunderstorms that occurred a short time ago.

MELONS.—A batch of these planted now in a pit or house adapted for the purpose would come into bearing during the autumn months, and would prove acceptable when the main supply is getting short. The plants should, of course, now be in readiness, and might occupy the pit in which the earliest lot of pot Vines were forced.

THE KITCHEN GARDEN.

WALL TREES.—In relieving the wall trees of their breast wood and other superfluous shoots, that will be a good opportunity of determining the amount of the ravages of insect pests that are particularly abundant this year. The heavy rains of recent occurrence will have done much to check the increase of soft-bodied insects, such as aphides; but the black species affecting Peaches, Nectarines, and Plums, as well as many other subjects, are extremely tenacious of life, and require more than ordinary violence to destroy or even dislodge them. Where they affect the tips of unnecessary shoots, the latter may be removed bodily, thus getting rid of the insects; but the tips of needful wood may occasionally be removed also if the branches have attained a fair length. The whole of the prunings should be taken to the rubbish heap and burned without delay.

NETTING AGAINST BIRDS.—Some of the early varieties of Cherries have now commenced colouring, and where gardens are surrounded with much wood, harbouring birds, it will be necessary to net the trees, using a double layer where small birds are the chief enemies. Several of the early varieties of Strawberries, such as Noble, King of the Earlies, &c., will also require to be netted at once.

ORCHID NOTES AND GLEANINGS.

THE ORCHID GROWERS' CALENDAR.

NOW that the bulk of the Odontoglossums have gone out of bloom, it is a good time to give them another overhauling, and thereby find out any plants that may have started into growth, and which require re-potting before the larger batch, which I think is best done in September. The presence of green-fly on the flowers causes the bulbs and the underside of the leaves to become black and sticky, and now that most of the blooms have been cut off, it is a good opportunity to sponge the plants over with soft water, and thus to make all clean again, as it is apparent that cleanliness is one of the first principles in the successful cultivation of Orchids. The plants in the other houses may then be gone through as opportunity occurs, for the shifting of a batch of plants to clean and rearrange them often leads to the finding of slugs and woodlice, which so frequently do some damage before their presence becomes known.

Where it is necessary to have the houses painted inside, the present is a good time to commence, and it is absolutely necessary to clear out all the plants before the painters commence operations, and they should not be taken back again until the paint has become thoroughly dry and hard. If the newly-painted houses have a thorough good fumigating with tobacco-paper the day before the plants are taken back again, it will greatly tend to lessen the smell of paint.

The recent storms have supplied us with an abundance of pure soft water, which it is advisable to keep for watering the plants with, using hard water for damping down and washing out, unless the supply of soft water at command is unlimited.—*W.P.*

PHALÆNOPSIS MARIÆ.

THE flowers of this species are moderate in size, but they are numerously produced on erect panicles, and from their rich and varied colours are very effective. The sepals and petals are transversely banded with chocolate-red on a white ground, and are more or less tinted or blotched with magenta at the base. The lip is magenta-purple, paler at the margin, and bearded with hairs along the central ridge. The leaves are oblong, dark green, and arranged in a two-ranked manner. It differs from allied species in its smaller, much more numerous flowers, which are borne on a branching inflorescence. Neither does it emit the strong odour of pomade or hair oil which is so characteristic of the flowers of P. violacea. A finely-flowered piece may be seen in the East Indian house at Kew.

ORCHIS FOLIOSA.

CONSIDERING the hardiness of this beautiful species, and the facility with which it may be cultivated either out of doors or in pots, it is no little matter for surprise that it should find its way so slowly into gardens. The difficulties that some growers have experienced in the cultivation of terrestrial Orchids have no doubt deterred others from attempting it; but there are several species which occasion no difficulty whatever, and Orchis foliosa is one of these. The stems vary in height from 15 ins. to 30 ins., according to the conditions under which the plant is grown. The former size is a very good one for pot work, and a batch of plants may be seen of this size in a north aspect pit at Chiswick, in the gardens of the Royal Horticultural Society. The leaves are large bright green and are continued up the stem, where they become gradually smaller till they merge into the bracts of the inflorescence. From this fact the species is well named O. foliosa. The flowers are produced in long dense spikes, and in the aggregate are very effective. All parts are reddish purple, and the lip is marbled with darker markings or spots.

ONCIDIUM SPHACELATUM.

THERE are two forms of this plant in cultivation, one having much larger flowers than the other. The latter is, however, by no means plentiful, judging from Lindley's figure of the smaller or typical form given in the *Botanical Register*, 28-30, which cannot be considered a bad form, if the artists colouring of the same has been faithful. Their great number, however, rather than their colour and their endurance is a point in their favour. Both sepals, petals and lip are yellow, transversely blotched with brown. The specific name sphacelatum, signifying scorched, refers to the notched wings of the column, which are marked with dull brown spots as if they had been scorched. The species is a native of Guatemala, Mexico and Honduras; and in this country is remarkable for the length of time the flower-spikes require to develop. At Gunnersbury House recently the flower-stems were from 7 ft. to 8 ft. in length, and copiously branched from the top almost to the base. The scape showed itself at least six months ago, and the flowers now in full bloom are mixed and interlaced with Stephanotis on the roof of the house. It cannot flower every year owing to the length of time it takes to develop its great quantity of bloom.

ZYGOPETALUM STAPELIOIDES.

THOUGH introduced from Brazil so long ago as 1843, this interesting little Orchid, perhaps better known under the name of Promenæa stapelioides, is not nearly so common in collections as it deserves to be. It is now in flower with Mr. B. S. Williams, and the Stapelia-like character of its blossoms attract the attention of every visitor. The small roundish ovate sepals and petals are greenish yellow, transversely barred with dark purple, and the lip is deep purple.

FRUIT CULTURE ON FARMS.

I BELIEVE that orchards on farms can be made to pay, but very much depends upon how the culture of the fruit is carried out. English growers have to contend with a formidable competition from abroad, and if fruit culture be entered upon, it must be upon proper lines—intelligently, systematically, properly, and thoroughly. I am encouraged in asserting that fruit orchards could be made to pay by having heard farmers state that their fruit orchards helped them to tide over times when, had it not been for this aid, they must have gone to the wall. On many farms the orchard is not considered such a valuable adjunct as it could be made to become. On some farms it is a feature totally neglected. It is too often regarded as outside the attention of the farmer; a pleasant place indeed for the women folk to walk in, and the children to play in, but not as a source of income to the agriculturist. The county of Herts does not rank very high as to the extent to which fruit culture is carried on within its borders. Some parts of the county are better adapted for the purpose than others. At Rickmansworth there is generally a light soil, resting on gravel, and fruit trees, especially Apples, do well in that locality. At Berkhamstead there is a fertile vegetable mould with a subsoil of strong yellow clay and flint, some flint being mixed with the surface soil. On going across to Cheshunt, there is a strong loam resting on gravel, which produces fine Apples. On proceeding further east, to Sawbridgeworth, there is found drift clay and chalky gravel of a fertile character; but there is a keener climate than is felt on the western side of the county. It is these varying differences of soil which have probably had a good deal to do with circumscribing the areas in which fruit culture for profit is carried on in Hertfordshire, as compared with Kent, Devon, Hereford, Somerset and other counties. There are three important considerations which must engage the attention of those who contemplate embarking upon the cultivation of fruit—first, what to grow; second, how to grow it; third, how to profitably dispose of the produce grown.

WHAT TO GROW.

Of large fruits grown for profit, Apples would seem to stand first, Plums next, then Pears, and then Cherries. Of small fruits, Strawberries, Raspberries, Currants and Gooseberries are the most important; Filberts might also be planted to give a profitable crop in odd sheltered spots where other fruits would not grow well. But these different fruits do not all require precisely the same climate and soil. Mr. W. Paul, of Waltham

Cross, in a paper he read at the Fruit Congress held at Chiswick last autumn, said:—"There are fifteen sorts of Apples which I would plant in preference to others in Hertfordshire, and having an eye to the disposal of the crop as well as the production. They are—Blenheim Orange, Cox's Orange Pippin, Cox's Pomona, Devonshire Quarrenden, Ecklinville, Irish Peach, Duchess of Oldenburg, Keswick, King of the Pippins, Lord Suffield, Small's Admirable, Stirling Castle Sturmer Pippin, Warner's King, and Wellington."

How to Dispose of the Produce.

With regard to the third point, how profitably to dispose of the produce grown, I may say that no great difficulty is found in disposing of large quantities of fruits by many farmers, but what is wanted is the producer putting more money into his pocket, and the middleman getting less. The problem to be solved, therefore, is, "How can the producer and the consumer be brought face to face without a third person coming between them?" What is wanted in this country is the system which exists in Paris markets, in which producers can meet and sell direct to the consumer. The outlet for fruits will be found to mainly lie in two directions, which have a widely different character, and necessitates different treatment—the supply to London and some of the large cities and towns in the north, and the small towns and villages throughout the kingdom. In the case of London and the larger towns, there is a large concentration of fruiterers, greengrocers, and costermongers, who have hitherto furnished the means of reaching the public. In the case of the smaller towns, they have to a large extent done without fruit, as it cannot be supplied in a fresh condition. What is greatly needed, is local markets, so as to prevent fruit being sent to a great centre like London, and then sent back again to the country. If landowners and legislators would take up this question great good might result. Perhaps the new County Councils may be induced to consider the matter, and that might lead to some practical result. More combination is wanted among farmers and fruit growers, and there is a good opening for an extended application of the co-operative principle. Believing, as I do, that with a growing appreciation of fruit as a health-giving article of diet, there is a certainty of a very large extension of fruit culture in this country, I trust that the farmers of Hertfordshire, aided by land laws that are just, and increased and cheapened facilities for transit and disposal, will be among those who will reap the benefits to be derived from an extension of this growing industry.

HORTICULTURAL SOCIETIES.

Royal Botanic.—*June 19th.*

The second of the two summer shows was held on Wednesday last, when the weather proved more propitious than on several former occasions. As usual the showiest feature in the large tent occupied by pot plants consisted of Orchids, Pelargoniums, stove and greenhouse, and hardy herbaceous plants. In the open class for twelve stove and greenhouse plants the first prize was taken by Mr. J. F. Mould, Pewsey, Wilts, who also took the same place in the nurserymen's class for six. Mr. A. Offer, gardener to J. Warren, Esq., Handcross Park, Crawley, had by far the best plants in the amateurs' class.

Orchids were far more plentiful than at the last show, and the first prize for a collection in the amateurs class went to H. Little, Esq. (gardener, Mr. A. Howard), The Barons, Twickenham. Mr. J. Douglas, gardener to Mrs. Whitbourne, Great Gearies, Ilford, showed well in the class for twelve kinds reserved for amateurs, taking first prize; Mr. T. Whillans, gardener to the Duke of Marlborough, Blenheim, being a good second. Mr. H. James, West Norwood, was the only exhibitor in a similar class for nurserymen. Mr. D. Phillips, Langley Broom, Slough, took the first prizes for six show, and also for six fancy Pelargoniums in the amateurs' classes; and Mr. C. Turner, Slough, the first prizes in similar classes for nurserymen. The first prize for zonal Pelargoniums went to Mr. Eason, gardener to B. Noakes, Esq., Hope Cottage, Higbgate. H. Little, Esq., was awarded the first prize for twelve tuberous Begonias. Fine-foliaged plants, Palms, and Ferns occupied the recesses of the tent, but exhibited no very marked features. The premier prize for a collection of species of Lilium (cut) went to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, as well as the first prize for Irises. Messrs. Paul & Son, Cheshunt, had the best twenty-four trusses of hardy herbaceous cut flowers. The first prize for twelve trusses of Orchids was awarded to Mr. J. Douglas; they were arranged in pots of Maidenhair Fern.

Roses were plentiful, and generally good. There was good competition in the class for fine-scented kinds, and the first prize went to Mr. G. Prince. Messrs. Keynes, Williams & Co. took the first place for twelve trusses of one colour. Mr. Prince had the best yellow Roses. Mr. B. R. Cant, Colchester, took the first prize for twenty-four varieties, three trusses of each, and they were wonderfully fresh. The best twelve varieties were shown by Col. T. H. Pitt, Maidstone.

The miscellaneous exhibits, consisting mostly of large groups, were a prominent feature of the show. Messrs. H. Low & Co., Clapton, had a large Silver Medal for a group made up chiefly of Orchids, Palms and Ferns. A Silver-gilt Medal was awarded to Mr. B. S. Williams, Upper Holloway, for a group of Orchids, Palms and Crotons. Messrs. J. Laing & Sons, Forest Hill, had a small Silver-gilt Medal for a group of tuberous Begonias, Caladiums, Palms, &c. A large Silver Medal was awarded to Messrs. Wm. Paul & Son, Waltham Cross. A similar one was awarded to Mr. G. T. White, Winchmore Hill, for a group of Cattleyas and Miltonias. Messrs. Kelway & Son had a Silver Medal for Pæonies, Delphiniums, &c. A similar award was made to Messrs. H. Cannell & Sons, Swanley, for a group of double tuberous Begonias. A large collection of cut flowers of herbaceous plants was shown by Messrs. Barr & Son, Covent Garden; Lilies, English and Spanish Iris, Pæonies and Pansies were most prominent. Messrs. Cheal & Sons, Crawley, Sussex, showed their patent flower support tastefully arranged with blooms. Cut Tea Roses were shown by Mr. B. R. Cant, Colchester; Teas and H.P's by Mr. Wm. Rumsey, Waltham Cross; Mr. G. Prince, Oxford, also had Tea Roses. Mr. Langlands, gardener to J. W. Molly, Esq., Chingford, showed a group of decorative plants. Mr. W. Gordon, Twickenham, showed a large group of Lilium auratum and Japan Maples. Cut flowers of herbaceous plants were shown by Mr. T. S. Ware. In the corridor a fine lot of fruit trees in pots, including Peaches, Oranges, Pears, Plums, and Cherries were shown by Messrs. T. Rivers & Son, Sawbridgeworth; a large Silver Medal was awarded. Mr. J. Chambers, of Isleworth, showed a group of Phloxes, Pansies and Diplacus. Mr. A. Offer had a large Bronze Medal for a group of Crotons.

Grapes were shown in tolerable quantity, but the white varieties generally were scarcely ripe. The first prize for a collection of fruit went to Mr. R. Parker, gardener to J. Corbet, Esq., Impney, Droitwich. His Pine Apples and Grapes were fine; he also had the first prize for a Queen Pine. Melons in some cases were too large, the best coming from Mr. T. Hare, Wellingore Gardens, Grantham. The best basket of black Grapes came from Mr. T. Edmunds, Bestwood, Nottingham; and the best white from Mr. P. Feist, gardener to R. J. Ashton, Esq., Staines. Mr. T. Edmunds had the best Black Hamburgh; and Mr. G. Thomson, gardener to Messrs. W. & E. Wells. Hounslow, had the best black of any other kind. Mr. P. Feist showed the best Muscats; and Mr. T. Osman, gardener to L. J. Baker, Esq., Otteshaw Park, Chertsey, was first for any other white. Peaches and Nectarines were well represented, the latter being the better coloured. Mr. W. H. Divers, gardener to J. T. Hopwood, Esq., Ketton Hall, Stamford, had the best Peaches; and Mr. T. Hare the best Nectarines. Mr. W. H. Divers took first prize for Strawberries.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending June 15th was 29·70 ins.; the lowest reading was 29·46 ins. on Sunday evening, and the highest 29·86 ins. at the end of the week. The mean temperature of the air was 56·8°, and 2·0° below the average in the corresponding weeks of the twenty years ending 1868. The mean was below the average on every day of the week except Thursday, when it was somewhat in excess. The direction of the wind was variable, and the horizontal movement of the air averaged 7·9 miles per hour, which was 2·6 miles below the average in the corresponding weeks of sixteen years. Rain fell on three days of the week, to the aggregate amount of 1·73 in. The duration of registered bright sunshine in the week was 3·3 hours, against 18·6 hours at Glynde Place, Lewes.

NOTICE TO CORRESPONDENTS.

Special attention is paid in the columns of The Gardening World to the answering of questions on all subjects connected with practical horticulture, and the naming of Plants (other than Florists' Flowers) and Fruits, in which department the Editor is assisted by gardeners and specialists of great experience.

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's *bonâ fides*. No notice whatever will be taken of anonymous letters.

It is particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "The Editor."

When sending Flowers or Fruits for identification it is requested that not more than six be sent at one time, that the specimens be good ones, and all legibly numbered.

QUESTIONS AND ANSWERS.

Chrysanthemum.—*J. H. F.:* The leaves are attacked by the maggot of a small fly (Phytomyza nigricornis), and all you can do is to remove the worst leaves and burn them, and destroy the maggots in the others by pinching them between the thumb and finger. Syringing the leaves with tobacco-water occasionally is recommended as a means of preventing the fly from laying its eggs on the leaves.

Insects.—*Plaistow: Injurious Insects*, by Miss Ormerod. Published by Simpkin, Marshall & Co.

Names of Plants.—*M. J. R.:* 1, Trachelospermum jasminoides, commonly called in gardens Rhyncospermum; 2, Diplacus glutinosus, var. puniceus. The Trachelospermum is easily propagated by cuttings made of the half-ripened shoots in July. Insert them under a bell-glass in a good stove heat, or in a close frame. *J. Exell:* 1, Habenaria chlorantha; 2, Orchis maculata; 3, an undescribed var. of the latter; 4, Gymnadenia conopsea; 5, a pale form of Orchis maculata. *A. T. B. G.:* 1, Eriophorum vaginatum; 2, Eriophorum polystachyum; 3, Lilium pyrenaicum; 4, Sedum Rhodiola; 5, Hieracium aurantiacum; 6, Arnica montana. *M. W.:* 1, Iris pseudacorus; 2, Thalictrum aquilegifolium; 3, Thalictrum angustifolium; 4, Heuchera Americana; 5, Betonica grandiflora; 6, Geranium pratense; 7, Iris pseudacorus variegata; 8, Astrantia major; 9, Geranium Phæum luridum; 10, Pyrus aria, the White Beam Tree; 11, Alchemilla alpina var. conjuncta; 12, Geranium sanguineum; 13, Thalictrum minus var.; 14, Lychnis vespertina; 15, Geranium not recognised, the flowers had dropped off; 16, Chrysanthemum leucanthemum. Please be more moderate in your demand on our time when you send again. Our rule is only to name six specimens at a time.

Potatos.—*St. Quivox:* Unless your ground is in good heart, and was well prepared before planting, you cannot do much now to make your Potatos grow large. Nipping the tops off the stems will not help them, but thinning the stems to two or three to each root will tend to the development of finer samples than you can get under ordinary treatment.

Communications Received.—J. Campbell—J. R. F.—J. T.—G. F.—W. Downes—W. S.—Nobilius—W. C.—F. S. A.—B.—C. S. O.—Regulus—D. W.

TRADE CATALOGUES RECEIVED.

John Laing & Sons, Forest Hill, E.C.—Abridged Catalogue of Plant Noveltics.

LONDON SEED TRADE.

June 17th.

Messrs. Hurst & Son, 152, Houndsditch, report no business passing in Clover or Grass Seeds. Some French dealers are offering new Trefoil and Trifolium for forward delivery at moderate prices, but buyers here do not operate. Rape Seed easier. Mustard steady. Bird Seeds unchanged.

COVENT GARDEN MARKET.

June 19th.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Grapes .....per lb.	2 0	4 0	Strawberries.. per lb.	2 0	4 0
Pine-apples, Eng., lb.	1 0	1 6			

Canadian and Nova Scotia Apples, per barrel, 7s. to 17s.

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus ....per 100	2 6	5 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ..per dozen	1 6	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages .... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	8 0	Radishes ..per dozen	1 6	
Celery ....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers ....each	0 4	0 10	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos ....per lb.	1 0	1 6
			Turnips ....per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.
Anemone, 12 bunches.	1 0	4 0
Arum Lilies, 12 blms..	2 0	4 0
Bonvardias, per bun.	0 6	1 0
Carnations, 12 blooms	1 0	2 0
Carnations, 12 bnchs.	4 0	6 0
Cornflower, 12 bnchs.	2 0	4 0
Delphinium, 12 bun.	3 0	6 0
Eschscholtzia, 12bchs.	2 0	4 0
Eucharis ..per dozen	3 0	6 0
Forget-me-nots.....	1 6	4 0
Gardenias, 12 blooms.	2 0	4 0
Heliotropes, 12 sprays	0 6	1 0
Iris .....12 bunches	6 0	12 0
Lapageria, 12 blooms	1 0	2 0
Lilium longiflorum, 12 blooms	2 0	4 0
MaidenhairFern, 12bns.	4 0	9 0
Margnerites, 12 bun.	3 0	6 0
Mignonette, 12 bnn.	3 0	6 0
Moss Roses 12 bnchs.	6 0	12 0
Pansies ..12 bunches	1 0	2 0
Pelargoniums, 12spys.	0 6	1 0
— scarlet ..12 sprays	0 4	0 6
Pæonies....12 bnchs.	9 0	18 0
Pinks ....12 bunches	2 0	4 0
Primula, donble, bun.	0 6	1 0
Pyrethrnm. 12 buchs.	2 0	6 0
Roses, Tea, per dozen	0 6	1 0
— Red .....per doz.	0 9	1 6
— Saffrano ..per doz.	0 6	1 0
Spiræa ..12 bunches	4 0	6 0
Stephanotis, 12 sprays	2 0	4 0
Sweet Sultan, 12 bun.	4 0	6 0
— Peas.....12 ,,	3 0	6 0
Tuberoses, per dozen.	1 0	2 0
White Lilac, French, per bnn.	3 0	5 0

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.
Aralia Sieboldi ..doz.	5 0	12 0
Arum Lilies..per doz.	6 0	12 0
Bedding plants, in var., per doz.	1 0	3 0
— — in boxes ..each	1 0	3 0
Calceolaria ..per doz.	6 0	9 0
Cyperus, ..per dozen	4 0	12 0
Dracæna term., doz.	30 0	60 0
—viridis, per dozen	12 0	24 0
Erica, various ..doz.	9 0	24 0
Evergreens, in var. ,,	6 0	24 0
Ferns, in var., per doz.	4 0	18 0
Ficus elastica ..each	1 6	7 0
Foliage Plants..each	2 0	10 0
Fuchsia.....per doz.	4 0	12 0
Heliotrope ..per doz.	4 0	8 0
Lobelia .... per doz.	3 0	6 0
Marguerites per doz.	6 0	12 0
Mignonette, doz. pots	3 0	6 0
Mnsk ..... per doz.	2 0	4 0
Nasturtiums .... doz.	3 0	5 0
Palms in variety, each	2 6	21 0
Pelargoniums, scarlet,	2 0	6 0
Pelargoniums, per doz	6 0	18 0
Roses, H.P., per doz.	12 0	24 0
Roses, Fairy, per doz.	6 0	8 0
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Stocks ..... per doz.	2 6	4 0

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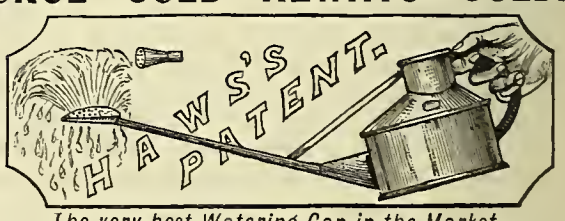

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Next Week's Engagements.

MONDAY, July 1st.—Kettering Flower Show.

TUESDAY, July 2nd.—National Rose Conference at Chiswick. Rose Shows at Boston and Sutton.

WEDNESDAY, July 3rd.—National Rose Conference at Chiswick. Flower Show at Wimbledon. Rose Shows at Bagshot, Farnham, Croydon and Maidstone.

THURSDAY, July 4th.—Rose Shows at Bath, Canterbury, Hitchin and Norwich.

FRIDAY, July 5th.—Sale of Established Orchids at Protheroe & Morris's Rooms.

SATURDAY, July 6th.—National Rose Show at the Crystal Palace.

For Index to Contents & Advertisements, see p. 698.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JUNE 29, 1889.

CURRENT TOPICS.

THE ROYAL AGRICULTURAL SOCIETY.—If we were to be guided by what is to be seen at Windsor this week, in the show yard of the Royal Agricultural Society, we should be of opinion that agriculture was one of the costliest of vocations. Machinery in vast quantities, enough in its variety to turn the brains of any ordinary farmer; horses and cattle so costly, because of pedigree, as to make agriculturists dizzy; surroundings and accessories of the most voluptuous type spread in every direction, giving to agriculture the aspect of being the richest and most prosperous of vocations, rather than that of a breaking up and half bankrupt business. Clearly to all who have studied the aspect of agriculture during recent years, either the cry as to the decadence of agriculture is all nonsense and humbug, or else the exhibition in Windsor Park is a sham.

It would be interesting to learn how many of the agriculturists of the kingdom have been made by this great society, and, on the other hand, how many, encouraged by its shows to purchase costly and very soon useless machinery, have been broken. Then what does this immense exhibition offer the small cultivator? Here are we in the midst of a great national movement for the creation of small holdings, one of the chief elements of success in the cultivation of which must be looked for in plenty of manual labour; and these holdings the Royal Agricultural Society practically does nothing to encourage. It is a society for enabling rich men to spend their money, but judging from the present state of agriculture as presented by some associated with it, the society seems to have done little or nothing to help save it from destruction. However, we do not believe all that is said on that head, neither do we hold that this said royal society has been for agriculture a saving grace. We have tried the scientific and costly methods, and they have not proved successes. We should now like to revert to the simpler plan of smaller farms and holdings and more manual labour.

THE FARM CROPS.—It is odd to find that whilst the farmer is being invited to endeavour to better his position and prospects by the association of fruit culture with farming, we should have a season in which, whilst the fruit crops will be very moderate indeed, all ordinary farm crops, such as cereals, pastures, pulse, Potatos and cattle-feeding roots generally, should present such an abundance as to bid fair to make 1889 one of the most plentiful years of the passing decade. We are in the midst of the hay harvest, and on every hand the grass and clover crops have proved to be the best for a generation; literally the soil has groaned, as it were, with the weight of the grasses, and ricks got together in capital order have been rising up in enormous numbers all over the kingdom.

As to the wheat, large breadths of it have been in full bloom so early as midsummer, and looking dense and wonderfully well; indeed, the promise of a grand wheat crop is all that can be desired. Nearly all other corn crops look as flourishing, so do the Potato breadths; the field Peas and Beans and Turnips will doubtless be excellent also. The farmer's life so far bids fair for the present year to be a happy one, and the fruit failure will not trouble him. Presently there will be a great fall in prices, and then the farmer will groan aloud, but the public will benefit, as it always does whenever articles of food are cheap and plentiful.

STRAWBERRIES.—It was announced the other day that on the 17th inst. no less than 52 tons of Strawberries were sent into the English market from St. Malo, a port in Normandy, in the west of France. That cargo would arrive just before the incoming of our earliest out-door gatherings, and naturally it materially affected the prices, the drop from shillings to pence per lb. being sudden and alarming. These French Strawberries were being sold in the market at from 4s. to 5s. per dozen lbs., whilst the best early home-gathered fruits fetched from 5s. to 6s. per dozen lbs, a very moderate price indeed for starting the season. The French consignments, however, will probably soon collapse, as with such an abundant crop at home—one of the largest seen for years—it can hardly pay to send foreign fruits here.

It is very probable that in a few days, if not already, Strawberries will be selling at from 2s. to 2s. 6d. per dozen lbs. of the best quality, and in poorer qualities at even 1d. per lb. We hope the masses will be able for once to indulge in a thorough feast of Strawberries; such a "blow-out," if we may use so slangy a term, would do them a lot of good, and indulging in a hearty feed of fruit would materially help to check the taste for coarser and more pernicious diet. The best price this year will be realised by the finest samples, and young plants on which the fruits are not too abundant will certainly give these in the most acceptable form. We hope growers will have a fine time for the fruits, for rain can yet be dispensed with, and if prices be low, then they may be recompensed by the quantity gathered.

APPLE CULTURE AT HOME.—We published last week a lengthy report of an interesting gathering which took place at Maidstone, when the question of Foreign versus Home-grown Fruits—especially of Apples—was largely discussed. We missed from the names of those taking part in the gathering that of Mr. George Bunyard, one of the most practical fruitists in Kent, who could doubtless have added much that was valuable to the discussion. Mr. C. Whitehead's remarks very much covered ground which has already been pretty hard trodden by others during the past year; and any further additions to the discussion of this interesting question will, we hope, come from practical men rather than amateurs.

But the point for consideration in regard to the production at home of Apples which can at all vie with the productions of Canada, is as to climate, for no doubt whatever, let

what may be said with respect to our climate, it is inferior to that of North America for the production of fine colour and finish in Apples, and very probably because of its more regular character gives more certain crops. We see this year at home a magnificent bloom on Apple trees—one of the very finest blooms ever seen. Now, we find as the product in some gardens a fair crop of fruit, in others a very thin one, in others literally none at all.

It is of no use to rail at or hector home growers because of their methods if we cannot secure crops of fruit. Why, we see this year the best Apple crop on the early varieties, such as Early Julien, Manks' Codlin, Lord Suffield, King of the Pippins, &c., none of which will answer for packing, or for competing with American Apples, and yet they are the most profitable varieties for the market growers. Clearly there is little hope of our being able to compete with the Canadian grower until we can ensure for Apples a Canadian summer.

CHERRIES.—One of the most wholesome of all fruits for the masses is the Cherry, and with them it is one of the most popular. Rarely in fruit consumption can a few pence be more wisely expended than in the purchase of a pound or two of ripe Cherries. But whilst the bulk of the crop with us must of necessity be produced upon standard trees and in orchards, the sweet fruits unhappily have no greater enemies than common birds, which will swoop down in flocks upon the orchards and do infinite mischief in a few hours. Trees widely disposed have little chance in such cases of being protected, therefore it is wise to have them in solid masses, so that a keeper with a gun may have thorough command over a considerable body of trees. We wonder whether Cherry growers for market work have ever adopted the plan of having a few trees of some common kinds, growing rather remote from their Cherry orchard, which may be left to the birds freely, that would at least serve to attract the enemy from preying upon the best sorts.

But Cherries to be done thoroughly well need walls and houses, the latter light, airy structures, affording ample light, warmth, and the needful protection from birds. Such a house, though not costing much, will in a few years almost repay for the original outlay in the superb, richly flavoured fruits resulting. On walls Cherries are worried by aphis and birds, but all may be washed off, and the other be prevented by netting, as we all know the grandest crop of Morellos are thus produced. Ordinarily the Morello and the Kentish Cherries do well as standard trees, cropping freely, and being little harmed by birds; but this year the crop, which at first set well, is now being thinned rapidly, the fruits being much blighted, and sweet Cherries in orchards are very thin also. The Cherry crop this year will not prove a specially profitable one, although the bloom was very profuse, and wondrously beautiful in its season.

Gardening Engagement.—Mr. Adam Elphinstone, for the past six years general foreman at Nevill Court, Tunbridge Wells, as gardener to the Earl of Aylesford, Packington Hall, Coventry.

The Crewe Horticultural Society's annual exhibition will be held on Saturday, July 27th.

Garden Hose.—At the Hastings Health Exhibition and Congress, Messrs. Merryweather & Sons have been awarded the highest prize, a Gold Medal, for their exhibits, one of the principal items being their Non-Kinkable Red-Grey Watering Hose. This is a first-class piping, of superior quality, which is supplied either plain or sphincter gripped, with a galvanised steel coil; but we understand that many users prefer it without the armour, as it is much lighter to handle, and can be coiled into a smaller space, being more flexible. It also does not tear up the gravel or earth when being pulled across paths or beds.

The Glasgow Botanic Garden.—We are glad to learn that by the terms of a temporary arrangement between the directors and the City Corporation, this beautiful garden was opened to the public again on the 17th inst. The arrangement, we understand, will continue in operation until Whit Sunday next, by which time it is hoped the Glasgow Boundaries Bill will have passed through Parliament. It is just two years since the gardens were closed, but they have not been neglected in the meantime; indeed, under Mr. Bullen's care, they have been much improved in many respects, and it is admitted by visitors that the grounds never looked better than at present.

The National Rose Show at the Crystal Palace.—We are requested by the secretaries of the National Rose Society to state that in consequence of His Majesty the Shah of Persia (who will be accompanied by Their Royal Highnesses the Prince and Princess of Wales) having intimated his wish to visit the metropolitan show of the society on Saturday, July 6th, at the Crystal Palace, the exhibition will be held in a tent adjoining the north end of the Palace, from which it will be entered. As His Majesty cannot arrive at the Palace before half-past six it is hoped that exhibitors will consent to allow their boxes to remain for the inspection of the Royal party. Some inconvenience having been experienced as to private view tickets, they will on this occasion have a piece torn off them at the turnstiles, and the remainder to be given up at the entrance of the tent.

Vegetable Conference Committee.—In view of the great Vegetable Conference to be held at Chiswick on September 24th, 25th, and 26th, a meeting of the committee appointed to make the necessary arrangements was held in the Council room. Present: H. J. Veitch, Esq., in the chair, with the Rev. W. Wilks, secretary; N. Sherwood, Esq., and Messrs. A. Dean, J. Smith, W. Bates, H. Herbst, and J. Wright, letters of inability to attend being received from Mr. Shirley Hibberd and other members. The draft schedule prepared at a previous meeting was considered, and will be printed and circulated with as little delay as possible. The subject of papers to be read at the Conference was also considered, and out of a considerable number proposed the following were selected: "Asparagus in Heavy Soils and its Production in October," by Mr. Shirley Hibberd; "The Food of Vegetables," by Mr. J. Wright; "Improvement in Potatos During the Past Twenty-five Years," by Mr. A. Dean, Bedfont; "Improvement in Peas During the Last Twenty-five Years," by Mr. T. Laxton, Bedford; "Winter Salads," by Mr. G. Norman, Hatfield; "Vegetables All the Year Round," indicating the period of use of the different kinds, by Mr. J. Smith, Mentmore.. The subjects of the papers rather than their exact titles are here mentioned, and some of the nominated readers have yet to intimate their acceptance of the propositions.

Mr. James Hudson.—Many of our readers, we feel sure, will regret to learn that the long and honourable connection this estimable gardener has had with Gunnersbury House Gardens, Acton, is about to cease, the place having passed from the hands of Mr. Atkinson, M.P., into those of the Messrs. Rothschild, and the beautiful gardens now become an integral part of the Gunnersbury Park domain. Among metropolitan suburban gardeners Mr. Hudson has long been known and highly esteemed as a first-class plantsman and fruit grower, an exceedingly tasteful floral decorator—a man of great intelligence and high moral character. His removal from Acton will be a distinct loss to the district, horticulturally; but we trust he will soon find another sphere of usefulness for the display of his undoubted abilities.

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MESSRS. HURST & SONS' SEED TRIAL GROUNDS.

What a well-ordered and well-stocked nursery is to the gardener—a place where he can see much that is new and striking; indeed, the best of everything, well grown and presented to view in their best form—so is the seedsman's trial ground, in which the best stocks of seeds are tested in the most complete and systematic manner, so as to bring out fully to view their good qualities to the young seedsman. It is sometimes said, to the reproach of the young men in our seed trade, that they are careless about learning something of the qualities and characteristics of the seeds they sell. It can be said truly of many young men in our large seed warehouses, that they have little opportunity of learning much about the seeds they deal with so largely, because they are not grown where they are sold. In this respect they are at a great disadvantage, as compared with the young men in a well-managed private garden, or a nursery. But as every seed house of any pretensions has a trial ground in which the growth of seeds is not only tested, but the quality of the stock also, there is here good opportunities for learning, and I am afraid many of the young men in the seed shops do not avail themselves of the information to be picked up here that they might.

Time was when nearly every wholesale seed house in London had its trial grounds near to its place of business—at least, within a few miles, and easily reached. The advance of the builder from the centre to the circumference has driven the seedsman further afield, and Messrs. Hurst & Son, the wholesale seed merchants, of 152, Houndsditch, have betaken themselves to Springfield, Chelmsford, where they have a trial ground of some seven acres in extent, which is mainly employed to test the growth and quality of the seeds which in such enormous quantities are turned over annually by this spirited firm. To imagine for a moment that seeds can be saved to any extent on this trial ground is to suppose that the nutriment required for a three months baby would supply the needs of Gog and Magog. It is utilised to secure a few seeds of some extra choice stocks. These are then handed over to careful growers, sown, and constantly inspected by experts of the firm during the season, and thus is laid the foundations of some of those exceptionally fine stocks and strains, for which this house is so deservedly famous. All the trials are carried out at Chelmsford in the most systematic and thorough manner, under the supervision of Mr. A. Newby, and at no period of the year scarcely can anyone interested in the matter visit these grounds without gleaning some facts of an extremely interesting and instructive character.

Just now, and for another fortnight or so, the Pea trials are complete and perfect. There are something like 550 samples of Peas, all sown upon the 23rd March, and all in lines about 4 yards or so in length. It must not be supposed there are 550 varieties of Peas, as there are several rows of one variety, but they represent every stock or bulk grown by or for the firm, or purchased from various sources. Supposing that an advice note of, say 20 quarters of William the First, or Veitch's Perfection Pea is received by the firm, a small paper bag is written, setting forth the quantity, name of variety, and sender of the same, with date of receipt, and as soon as the bulk comes to hand, five or six of the sacks are opened, and a number of Peas taken from each, so as to make up a sample—about a pint or so.

All seeds, of whatever kind, received in this way are sampled, and this important duty—a very important duty indeed in relation to the internal economy of a large seed warehouse is entrusted to one man, who is responsible for the proper execution of the task. By-and-bye these samples are sown, and their growth and quality tested. I should state that it is always a practice in connection with the large wholesale seed warehouses, in executing orders, to mark each with the particular bulk from which the goods ordered are drawn, and if any complaint arises as to the genuineness or quality of the stock, reference is made to the sample growing in the trial grounds. It also falls to the lot of the person in charge of the seed-grounds, to go through every growing sample, and note its characteristics, good, bad, or indifferent, a work requiring great care and discrimination, but obviously of the very highest importance. This record, therefore, has a great value, and references are constantly being made to it by the heads of the various departments.

Trials of Long-pod, Broad, Runner and French Beans, Brocollis, Cabbages, Kales, Lettuces, Cauliflowers, Onions, Carrots, &c., together with flower seeds, are carried out in the same manner, and with the same attention to details. Just now early and second early Peas, Long-pod and Broad Beans, Cabbage and Cos Lettuces, some autumn-sown Cabbages and Onions, &c., can be seen in good condition, together with many hardy annuals, and as the season advances many others will come in.

Among first early round Peas can be seen excellent stocks of Improved Sangster's, a very fine selection indeed; Eclipse, an excellent Pea for market gardeners; and Improved William I., one of the very best early garden Peas in cultivation. All the Peas raised by Mr. Thomas Laxton require to be very carefully and rigidly selected every year; and it is the practice of Messrs. Hurst & Son to grow one acre of

Improved William I., every season upon sticks, so that the most thorough selection may take place. The fine stock thus created is sent out to farmers to be grown by contract, the firm in all cases supplying their own stock. More than that, Messrs. Hurst & Son have at this season of the year half-a-dozen or so of men, who are about the counties of Essex, Cambridgeshire, Suffolk, Lincoln, Kent, and others, whose business it is to go through the Pea crops, and pull out all that are deemed rogues, that is, plants which have run out of character, or stray plants of other sorts, which may have put in an appearance. It is in this way that stocks are kept pure, and too much praise cannot be given to our leading seed houses for their efforts in this direction. The keen competition which exists among the seed trade is a strong incitement towards obtaining absolute purity of strains or stocks of seeds, and the general gardening public have much reason to rejoice that it is so.—*R. D.*

NEW OR RARE PLANTS.

Cypripedium de Witt Smith, *nov. hyb. angl.*

This is a hybrid between C. Lowii and C. Spicerianum, the former being the seed parent. The new production is intermediate between the two parent species. The potency of C. Lowii is seen in the two or more flowered scape, with large bracts subtending the blooms, in the petals and the upper sepal. The latter is obovate, acute, somewhat hooded, pale-coloured, and suffused with pale brown and green on the basal half. The petals are somewhat intermediate in character, but certainly most nearly resemble C. Lowii. They are 2 ins. to 2½ ins. long, horizontal or nearly so, and rather finely spotted with purple on a green ground on the lower half, broader upwards and purple at the apex. Neither are they undulated on the upper edge like those of C. Spicerianum. The labellum is brown, moderate in size, and resembles that of the pollen parent. The leaves are linear or strap-shaped, coriaceous, and deep green like those of C. Spicerianum. The flower-spike developed very slowly. A plant was exhibited at Regent's Park on June 19th by Messrs. Hugh Low & Co., Clapton, when a Botanical Certificate was awarded to it.—*J. Fraser.*

Masdevallia Ellisiana, *nov. hyb. angl.*

This hybrid, which has recently come into flower in the nursery of Messrs. J. Veitch & Sons, Chelsea, was obtained by them from the hybridisation of M. Harryana with pollen of M. ignea, and the resulting production is intermediate between the parents in several particulars. It is dwarf in stature, but being still quite young, may alter greatly as it becomes more established. The leaves are lanceolate, petiolate, tricuspidate, channelled along the centre, leathery, and from 3 ins. to 6 ins. in length. The brownish purple glabrous scape is one-flowered, and about 8 ins. high. The perianth or sepaline tube is slightly curved, about ⅝ in. long, yellow at the base, and rose upwards, with purple nerves. The free part of the upper sepal is rose coloured, suddenly tapering into a tail 1¼ in. long, of the same hue, but tipped with yellow. The lateral sepals are obliquely oblong-oval, tapering into a tail about ¼ in. long, and are of a fiery orange-red, with three deep purple nerves on each. The small, blunt, erect, white petals slightly exceed the column in length, and the oblong, blunt, creamy yellow lip is spreading above the middle. The column is edged with purple. The leading and distinguishing features of the hybrid are that the structure of the flower, including the tails of the sepals, is that of M. Harryana, the seed parent, but the upper sepal projects forward in a nearly erect position. In M. ignea it folds down over the flower. The colour of all the three sepals is almost that of M. ignea, the lateral ones being of a deep fiery red shaded with orange, and traversed with three rich purple veins. The name of Ellisiana has been given in honour of Lady Howard de Walden, Mote Park, Maidstone. The specimen was shown by Messrs. J. Veitch & Sons, Chelsea, at the last meeting of the Royal Horticultural Society, when the Orchid Committee awarded it a First Class Certificate.—*J. Fraser.*

Pteris cretica nobilis.

A large plant of this exhibited at Regent's Park on June 19th by Mr. H. B. May, Upper Edmonton, formed a dwarf dense mass of dark green fronds ranging from 6 ins. to 12 ins. in height. The segments or divisions of the fronds were very broad, but their most distinct and characteristic features consisted in the broad and robust tassels or crests in which the leaf terminated. A Botanical Certificate was awarded to it.

Lilium Wallichianum superbum.

A specimen of this Central Himalayan Lily was shown at the Drill Hall, Westminster, on Tuesday last, by Messrs. Hugh Low & Co., Clapton. Although grown in a small pot it stood 5 ft. 8 ins. high. The narrowly linear leaves are much more numerous than in the type, which usually bears fifty or sixty. In the axils of the upper ones are small bulbils, by which the variety may be propagated. Terminating this lengthy stem are two very large drooping trumpet-shaped flowers, measuring 9 ins. in length. In shape they resemble L. longiflorum, but are, of course, much longer. The outer surface of the tube is pale yellow, whereas in the type it is greenish. Internally it is of a clearer but pale yellow, and the spreading limb is white. The anthers are orange. As a variety it differs from the type in its larger flowers with clearer better defined colours, and in the absence of green. A First Class Certificate was awarded to it.

PICKING, PACKING, CARRIAGE AND MARKETING.*

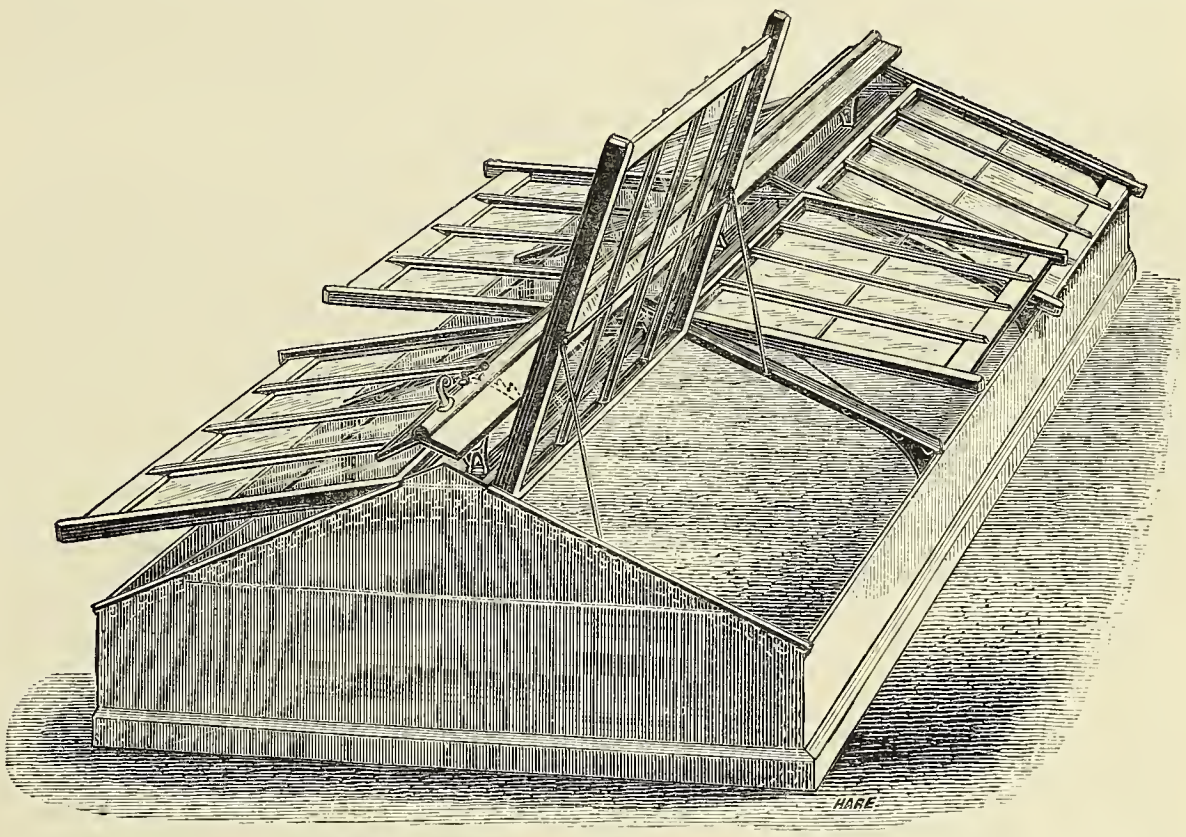
I have been asked to give my views on the subject of the packing, carriage, and marketing of fruits, and as I have had considerable experience in the business I have jotted down a few hints which I hope may lead to consideration by those who are most interested in the subject—that is, the growers of fruit.

Anyone can grow good fruit if they have the trees, the land, and the climate, but it is not everyone who can make the best price of it by judicious marketing, as there is much art in that. There is picking and the packing, as well as the choice of the market and a salesman. We are all aware of the old adage, "Put the best side towards London," and know pretty well what "toppers" mean, but you may depend upon it that it is very unfair to the salesman and customer in town to top or face the baskets of produce sent to the market with a few of the best fruit to cover the idleness in packing, or carelessness in storing the fruit before sending to market. This is often the reason of many of the complaints of certain growers receiving bad prices, as shop-keepers if once bit will be very shy of buying those growers' produce again unless at such prices as will make them some recompense for their loss on their former outlay. Now in France they manage much better, but perhaps it may be said that their dwarf pyramid trees, and their cordon system of growing facilitates the picking, as there is no climbing or shaking of trees, and no dropping of fruit by the moving of ladders. This, I will admit, is a great advantage, and the fruit must be much freer from bruises than ours; but does the English fruit-grower ever trouble whether the fruit is bruised or not? I say no; he cares not. In nine cases out of ten, all he cares about is getting it off the trees and sending it to market, and in many cases without even studying whether this or that sort ought to go to market first. Now the Frenchman does not do this; he carefully hand-picks, selecting the finest of his fruit and placing it separately, either on racks specially fitted round his fruit room, or laying it thinly on straw apart from the main crops, which, of course, he offers for sale first. Should the market prove to be brisk, he will often sort his fruit over two or three times, leaving only the very smallest to be sold in large packages. The others are made up into small packages, marked with the number of fruits and the initials of the packer. Thus one grower's packing will fetch double the price of another if he has gained the reputation of being an honest packer; but in cases of small growers, or persons who want cash at harvest time and cannot afford to store fruit, their produce is sent into the towns where there are fruit buyers or shippers, who treat the fruit as before described. The French fruit grower studies how he can improve his produce by planting sorts that command a sale, and also by adopting small packages. By this method he often realises more for one ton of his fruit than we do for two tons. Why is this?

Good and Bad Packing.

The French do not begrudge employing labour, while the English grower growls and grumbles if he employs a few extra hands. I say labour will and must pay, and farmers would do better by employing more of it. I give you an instance: I was in Cornwall, I think it was three seasons ago. A grower was about to send me some Apples for sale; they were early ones. I think there was about a ton of Keswick Codlins, and half a ton of Quarantines. I was grieved when I saw him packing them, for both kinds were really fine clear fruit. I said, "Why did you not hand-pick those fine Codlins?" "Oh," he said, "it wouldn't pay to do so; I have not time." I said, "Why did you pick the Quarantines?" He said, "Because we could not shake them off." He was packing them in large rough-looking oval baskets, the class of baskets generally used in that part to hold 80 lbs. or 100 lbs. He was using neither straw nor paper at the bottom to prevent the twigs of the baskets from bruising the fruit. I told him they would fetch more than double the price if they had been picked, and were packed in smaller baskets. I advised him to go to Penzance, and buy a lot of small baskets such as are used in picking the fruit from the ground to carry to the barns. He said he would not go to the expense. I therefore told him if he would name a price for the Quarantines I would buy them. He named a price that had been returned to him that morning for some fruit similarly packed and sent to another market. I consequently bought the fruit, obtained some smaller baskets, had lids made for them, and packed the twelve baskets I bought of him into thirty-six of the small baskets, making thirty baskets of firsts, and six basket of seconds.

Now, the result was astonishing. I had twelve



A Useful Garden Frame made by Messrs. W. Richardson & Co., Darlington. (p. 693.)

* Paper read by Mr. Samuel Rawson, Bull Ring, Birmingham, at the Fruit Growers' Conference, held at the Crystal Palace, September 7th, 1888.

baskets sent from a neighbour of his the same day, and for the thirty baskets that I packed out of the twelve baskets his neighbour consigned to me packed in the Cornish fashion, I thus made double the price for my trouble with six baskets of seconds to the good.

STRAWBERRIES.

The way Strawberries are packed from that county is abominable. Though they grow good and early stuff, it is spoiled before it gets to market, being packed in 1-lb. punnets wedged into an old orange box, with a little fern between each layer. I cannot understand what this fern is for, unless it is to cook them before they come to market; for after a twelve hours' journey in one of those covered iron trucks, that has become nearly red hot after standing in the hot Cornish sun all day waiting for its freight, then to be filled with fruit that has been picked during the day, and closed up for a long ride to London or Birmingham, this fern is admirably adapted for sweating the fruit. I have used it myself for sweating and ripening fruit, but that fruit has been of the nature of hard Pears or Plums that I wanted to get up to colour. I should think Strawberries are quite ripe enough without sweating; besides, it so alters the colour and taste, and makes it so awkward for shopkeepers to put them in paper bags, or make a parcel of one of those punnets for a customer to carry home, the juice being so liable to escape on to the dress of the lady or gentleman carrying them. Now, my opinion is that Strawberries ought to be sent to market on wooden trays about 3 ins. deep, 2 ft. long, and 15 ins. wide, made to fit into each other in nests of six, with nothing over them, except a lid on the top box; these trays to hold 12 lbs. They can be carried about the beds, there being a hole at each end for the handle and to admit air, the whole six being bound by a cord. Thus six dozen could be sold together, the shopkeeper could pay the salesman a deposit of 6*d.* each on the trays, and the shopkeeper could place the trays in his window or on his stall, without necessitating his turning them out and bruising them. Now, in my opinion, none but the finest fruit, unless in a scarce season, should be put in these trays. Each picker should have two vessels to pick into—one for first quality for shopkeepers, and one for second quality for jam-makers or hawkers. When Strawberries are packed free from stalk, they should be put in tubs. I have seen them sent to market ready picked in 12-lb. baskets, and a sorry plight they are in when they arrive in provincial towns, besides the loss in weight, some baskets losing as much as 3 lbs. each.

CARRIAGE.

On railway matters I would refer to what Mr. Gladstone said when noticing a little book that I wrote, called *The Producer and Consumer*, on the 24th August last, at the Hawarden Horticultural Show, and who has since given me permission to make use of his testimony. Mr. Gladstone said, "Market Gardeners might do themselves a great deal of good by laying their heads together and sending their fruit in large quantities by trucks which could be engaged for the purpose." In my essay I recommended the establishment of fruit associations on the co-operative principle, the members of which should act as their own salesmen, whose agents could collect in the country the produce of the small growers and send it to the market in truck loads upon the same principle as Sutton's Express does in the towns. I think it is quite clear that a large company would have a better chance of making cheap terms for transit than a small grower; besides, such companies or associations would be a great convenience to the jam boilers, as they could apply to these companies and depend upon a regular supply for the year's requirements, and so secure better and more regular prices to the grower. This can all be done, but not by the old system of marketing, neither can the produce of an extended area of fruit-growing land be disposed of under the old system of salesmen; the producer and consumer must be brought nearer together, the profits will be cut finer, fruit will be on the market in greater quantities and sold cheaper, thus creating a demand.

MARKETING.

Besides, the salesman in many cases has not the means or appliances to prevent a glut in the market by manipulating the surplus of each day's sales, or of storing the pulp from year to year, the surplus produce of an extraordinary yield in any particular season. If he had, that would be no benefit to the grower, but it would make the salesman a buyer for his own jam manufactory, and he would charge the grower five or seven and a half per cent. for selling fruit to himself, and would get from twenty-five to fifty per cent. out of the manufactured article. This, I think, would not be fair to the growers, as such salesmen would not require many outside customers to take such fruits as would suit their own jam factories, and the grower would never be sure that he got the market prices, as the fruit might never be put upon the market for fair competition. I can prove several instances of the commencement of this state of things. It is to the manipulation of the produce, and the storing of the products of seasons of extraordinary yields for the use of jam boilers, that will prevent scarcity in any particular year, and maintain regular and paying prices from year to year, thus preventing the foreigner from deluging our market in a season when our first crop fails to be sufficient to supply boilers, and compelling the grower to sell his small yield in years of scarcity at such ruinous prices as to dishearten him, and make him exclaim that fruit growing does not pay. I maintain that fruit growing pays better than most professions if the fruit is properly marketed, and I think we want fruit associations on the co-operative principle, as co-operation has proved successful in almost every instance where it has been tried. I do not see why it should not in the selling and manipulation of fruit and vegetables. If the Co-operative Society of England can send buyers out to Greece to buy Currants to supply their customers without the aid of the superfluous salesman, I see no reason why the fruit growers should not be able to get all the profits obtainable out of their own labour. The remedy is in our own hands, and I think I cannot do better than refer you to my little book, *Producer and Consumer*, p. 37.

CO-OPERATIVE DISTRIBUTION.

I think there is but one way of dealing with the produce in order that the seller may reap the greatest advantage, and also to be of immediate benefit to the people generally, and that is by a combination of the landowners, farmers, market gardeners, fruit and vegetable growers, agricultural labourers, and all classes interested. Companies or societies should be properly and carefully organised and carried on in large centres, to provide for the reception and sale of produce. By this means all classes would be interested in the success of such undertaking, and the seller could depend upon obtaining without delay the fair market value for the goods sent by him for sale, and of their disposal at such prices with certainty, at the same time having an interest in a well-paying company, out of the profits of which he would be re-imbursed most of the expenses of selling the produce of the year. To make such a company successful in any large centre is easy. It may be formed amongst capitalists as is generally the case, or it may be the parties specifically who may combine to start and support it. The latter, I think, would be the more profitable combination, as it would certainly be the more preferable, and in such a case I think it should be a company co-operative in principle, registered under the Companies Acts, limiting the liability of the shareholders to the amount of their shares. The capital should be of such an extent as to create confidence in the whole community of senders, whether shareholders or not, and it should admit of taking premises, or building if necessary, and acquiring plant of such an extent and nature, as to stamp the company "respectable" and stable, and to attract the consumer. The shares issued should be so varied in amount as to enable and induce all classes to become shareholders. Under the present system, senders of produce have only the salesmen's returns to depend upon, and they have no means of verifying them. In order to ensure a sale of the sender's goods at market prices at the least, the company might take a number of shops in different parts of the town, to which could be sent fruit, vegetables, poultry, game, or any produce of any description, and thus provide a means of disposing of goods which could not be sold at the central depôt at fair market prices. The company would be able to buy fruit and vegetables, when the markets were full, from other salesmen, thus providing for seasons when particular crops failed, or of which the prices ran high, and so be independent of the markets as a means of supply, without being crippled for want of any particular sort of fruit or vegetable for the season. As an instance of the inconvenience and loss occasioned by being placed in such a position, I may mention a circumstance that came to my knowledge in February, 1885, when Broccoli was plentiful — so prolific the yield that it did not pay to send it to market. In October of the same year, one firm of pickle makers were compelled to pay 2*s.* 6*d.* to 3*s.* per dozen for Cauliflower, which they might have bought at 6*d.* or 9*d.* per dozen in the early part of the year, and to keep their trade together they bought hundreds of dozens.

Another advantage might be given to senders of goods for sale. If a quantity of goods were actually consigned and viewed by the company's agent in any town on production of the consignment note, an immediate advance might be made to the sender. It has been pointed out to me that to do all this would require an immense amount of capital, and that it would be next to impossible to work a company so extensive in its operations. To those who have not carefully considered the subject it may so present itself; but the difficulties are few, and none that cannot be met by systematic arrangement. Its machinery would not be nearly so complicated as that of the Civil Service Supply Association for instance, nor would the capital employed or required in it, or the amount of stock to be held at any one time, ever approach in magnitude for any one district to that of the association referred to. As to the commission business beyond the initial outlay, this department would not absorb capital, as the moment business was commenced the earnings in it would begin to accrue, and receiving goods on commission only, there would be no outlay except for current expenses, whilst there would be always capital at the company's bankers. When goods were received and sold, the proceeds would go into the bank, and assuming that all accounts were made up on the day of sale, and crossed cheques sent to senders the same night, they would not, as a rule, be presented until two days afterwards, and frequently three or four days, by which time more goods would have been received and sold, and the money paid into the bank as before. The company would then have the benefit of senders' capital, at the same time settling their accounts with the greatest celerity. The utmost importance attaches to prompt settlements in this business. As generally conducted by private salesmen, the returns are made and the cash remitted weekly; but there is no reason why it should not be sent at once, as it is of the greatest importance to the sender that he should have his money, and as the trade is for cash, there can be no reasonable excuse for not doing so.

"MY GARDEN."

THE title of this article is no doubt familiar to many, and recalls the notable garden of A. H. Smee, Esq., The Grange, Wallington, Surrey. Although the acreage enclosed within its boundaries is by no means large, it is so diversified by trees, vales, brooks, and the river Wandle which bounds it on one side, that there had been no lack of material in the shape of natural history specimens, besides the works of art, from which its written history has been compiled. The banks of the Wandle, which is broad and sluggish, resembling a natural lake or pond, is lined with a luxuriant and vigorous growth of Typha latifolia, Carex pendula, Phalaris arundinacea, and other aquatics. The inflorescence of the latter at the present time is quite red and showy.

THE HOT-HOUSES.

The glass, although not extensive, is diversified and scattered about in different parts of the garden. The orchard-house has recently been reconstructed by Messrs. Newton & Co., Hitchin, on their patent glazing system without putty, and contains a varied assortment of Peaches, Nectarines, Pears, and other fruit trees, some of which are bearing good crops. A new Cattleya house is being constructed on the same principle as the Orchard house, which gives perfect satisfaction, and is quite free from drip. Both have sloping sides, with ventilation at the bottom, as well as at the base of the sloping roof, and at the top. At the ridge of the Cattleya house there is a box with round holes in it communicating with patent ventilators outside, moveable by the wind, so as to draw out the heated air from the interior. The middle of the house is wholly occupied with a large cemented tank to hold rain-water, and over this will be erected the central stage, while a narrower one will run round the sides of the house. The rafters consist of galvanised iron, each containing two gutters for carrying away the condensed moisture from the interior; and the broad panes of glass allow an abundance of light to the plants inside.

Orchids are grown in several houses, and the largest one is occupied with a rich and varied collection. Amongst those in flower were fine samples of Cattleya Mendelii, Cypripedium ciliolare, C. Lawrenceanum Hackbridgensis, Stanhopea Wardii, minus its usual black eyespots on the hypochile of the lip,

Oncidium crispum, O. palumbinum, Dendrobium macrophyllum Veitchianum, Cymbidium tigrinum, Bifrenaria aurantiaca, Masdevallia simula, the curious Maxillaria tetragona, M. bella, M. erythrochæta, Hartwegia purpurea, and many others too numerous to note in detail.

Another house devoted to Orchids contains flowering plants of Lælia Digbyana, with its curiously fringed lip, Cattleya Mossiæ, C. Gaskelliana, Dendrobium moschatum, and others; D. gloriosum superbum, with newly expanded yellow flowers, is also very curious. In a cool house near this there is a specimen of Oncidium macranthum, which made its pseudo-bulbs out of doors, and one spike is now bearing thirteen or more flower buds. Here also is the distinct-looking Odontoglossum Lehmanni. A small stove is mostly occupied with Dendrobiums making their growths, together with Tuberoses and Ferns. At the back of this is a similar structure with samples of Phalænopsis Luddemanniana, and others, being grown on blocks of concrete. Several varieties of Lycaste Deppei also occupy the same house; and large pieces of Impatiens Sultani are notable for the dark colour of their foliage and flowers. Near the middle of the grounds is a curious little house occupied with many species of Satyrium and other terrestrial Orchids from the Cape and Japan, chiefly the former. They are stood on wooden staging over an open tank of water.

The Phalænopsis house contains a large number of species in small baskets. Other subjects, such as Vanda teres, Vanilla Humblotii, a rare species, Dendrobium Brymerianum, &c., are being tried on blocks of concrete, to which their roots cling with great tenacity. The experiment is being tried with several epiphytes belonging to different genera. A fine variety of Cattleya gigas, a grand form of Cypripedium Stonei, and a richly-coloured variety of Oncidium papilio are now flowering. A form of Miltonia vexillaria, with dark flowers, resembled M. v. rubella; while another with a white lip and pale pink sepals and petals constituted a strong contrast. Some of the Anæctochili and allied subjects with variegated foliage kept company with the Phalænopsids. Goodyera japonica was notable for its ovate leaves, reticulated with silvery grey.

A curious freak is observable in Dendrobium primulinum, with a leaf connate for more than 2 ins. of its length, forming a cylindrical sheath, enclosing the stem with a number of other leaves. A Lomaria—apparently L. zamifolia, introduced with the pseudo-bulbs of Zygopetalum graminifolium on its stems—had some healthy specimens embedded in the very crown amongst the expanding leaves of the Fern. Most interesting was it to note the luxuriant growth being made by several species of Cyrtopodium, especially C. Saintlegerianum.

Mr. Smee is well known for the many experiments he tries with his Orchids under different conditions as to heat and moisture. Several kinds are grown out of doors on planks set over the streams running through the garden. They are also shaded overhead with trees. In one place is a collection of Lycastes, and in another are various terrestrial species, including several Disas, Callopogon pulchellus in flower, and a large collection of Masdevallias, apparently enjoying their surroundings. Mr. G. W. Cummins, the gardener, must find his time pretty well occupied in attending to all the particular wants of the subjects under his care. One other house deserves mention here as being almost the only one of its kind. It is occupied with hard-wooded plants, prominent amongst which we noted Darwinia macrostegia, Fuchsia microphylla, and some splendid samples of Osmunda regalis palustris, Adiantum pedatum and A. reniforme.

Hardy Plants.

The borders and various parts of the garden are occupied with a varied assortment of herbaceous plants, including a large quantity of Lilium dahuricum, now a blaze of orange-red. There is also a collection of species in pots, but none are now in bloom, with the exception of L. Krameri and L. Leitchlinii. There are some splendid pieces of Rheum palmatum about 8 ft. or 9 ft. high. Delphiniums varying from 3 ft. to 8 ft. high are also masses of blue. Amongst them are Brenus and Pilumnus, pale sky-blue; Jackino, purple, changing to deep blue; and Volscius, deep purple and blue. Pæonies, varieties of P. albiflora, are also in full bloom, and beside them are varieties of Iris Kæmpferi. On the banks of a stream are some grand masses of Petasites vulgaris—the largest-leaved British plant—the leaves sometimes attaining a yard in diameter. The Cotton Thistle (Onopordon acanthium) and Canterbury Bells in great variety flourish in the borders, and near by is a large quantity of Mimulus, showing a remarkable variety of colours. Along the sides of the stream winding through the garden, the great Willow Herb and purple Loosestrife grow in rank profusion. A specimen of Chamærops Fortunei has braved our winters for the past twenty years out of doors. There is a fine specimen of Sequoia gigantea, perfectly pyramidal in outline and standing about 45 ft. or 50 ft. in height.

Hardy Ferns.

Along the sides of the winding brook of clear water in various parts of the garden, and under the shade of trees, a large number of Ferns, both British and exotic, find a happy home. The Royal and Lady Ferns are both abundant and luxuriant, as well as Aspidium angulare. Mr. Smee, like others, finds the common Bracken difficult to establish, but when it takes to a place it is most difficult to eradicate. The Hart's-tongue (Scolopendrium vulgare) develops fronds of great length, and the American Adiantum pedatum also seems happy. Ostrich Fern (Struthiopteris germanica) forms fine masses, but is greatly exceeded in stature by its big relative S. pennsylvanica, which has more erect fronds about 6 ft. high, with falcate acute pinnules. Close by this is a Fern case with a fine piece of Todea hymenophylloides in it, and in another locality is a similar frame sheltering a large specimen of T. superba intermedia.

Fruit.

King of the Earlies Strawberry, an early and highly-flavoured kind after the style of Black Prince, but much larger, is now in full bearing. Under similar conditions, but in another part of the garden, Vicomtesse Héricart de Thury is found to be even earlier at The Grange. Apples and Pears do not promise well, although some of the trees are carrying good crops. Caterpillars and other insects are waging war against the gardening interest here as well as at other places.

GARDEN INSECTS.

(Concluded from p. 662.)

The Eucharis Mite.

Some people dispute the fact that there is such a thing as the Eucharis mite. I need not enter into a full description of it. The mite is exceedingly small, and attacks the bulbs of other plants as well as the Eucharis; but it must not be mistaken for the fungus which attacks the Eucharis. I have no doubt that is very often done, as they seem to be colleagues in the work. This disease is rather common on starch-containing substances, as are the Eucharis bulbs. It is first observed by the appearance of small blood-red spots on the outside of the outer scales; and if the scales are pulled off, the inner scales will be found stained with these highly-coloured spots. This disease, just as any other, fastens itself on the weakest point of the plant, and oftentimes the spots appear on the leaves or stalk. It is called by some a Saccharomyces, or yeast fungoid, and propagates itself by budding; but oftentimes the daughter cells will remain attached to the parent to the number of three or four, and form quite a little colony. Almost every cell contains a vacuole, which is situated on the outer side of the cell. The species of the fungus is Saccharomyces glutinis, which lives on the starch granules of plants. Seeing, then, the minuteness of the fungus producing the disease, we shall find it a very difficult matter to eradicate.

Prevention and Remedy.

We will commence first with the Eucharis fungus. The best remedy is to get the plants into a strong healthy condition, and then they are in a better state to resist its attacks. The disease spreads with great rapidity, therefore every affected part should be cut away. Some steep the bulbs for a night in sulphide of potassium. The cure for Eucharis mite is to take out the bulbs and wash them in paraffin. Others steep them in soot-water, and many other simple things are, no doubt, very efficacious in destroying these pests.

Woodlice are caught by pieces of Apple, or even Potato, and also by putting a little hay into a pot laid on its side, and emptied or examined every day. The best preventive is to scatter soot round about the plants, or to water them with soot water or liquid manure. Anything sweet seems to be enticing, while bitter substances repel them.

Wasps and bees are easily caught by hanging in the vinery bottles containing a little beer or other sweet and enticing fluid. The best preventive is to cover the ventilators with fine gauze.

Ants are entrapped by placing in the houses small pots containing a little meal and sugar, and dipping them into either boiling or cold water to destroy the insects. The best preventive is to keep the plants clean, for we know where filth is not present, few, if any, sorts are to be seen.

Beetles are driven away by spreading dry soot round the plants, or they are killed by dipping the infested shoots in a mixture composed of ½ lb. of soft-soap, ¼ lb. of flour of sulphur, and the same quantity of soot, well stirred together in a pail of warm water. The best way to prevent the ravages of the Bean Beetle is to examine the seed before sowing.

Bugs are destroyed by syringing the plant with a solution of soft-soap and paraffin, holding the plant with its head downwards, and afterwards well syringing with either cold or warm but clean water, in order to prevent injury to the plant by the operation.

Red-spider increases with great rapidity in hot dry climates; therefore the best cure and preventive is to keep our greenhouses moist and our plants well syringed, cleansing the leaves where practicable with soft-soap and water.

Thrips thrive in close moist houses, and are best removed by dusting with sulphur, by syringing with tobacco-water or soft-soap and water, and by many other insecticides.

For cockroaches I should say the best remedy is to search for them after dark with a lamp, but I have also found that the placing in the houses of bottles containing a sweet fluid, such as lemonade or lemon juice is very efficacious.

Earwigs feed at night on the various kinds of flowers, and when daylight appears they seek for some dark place in which to hide themselves. This being so, our object can only be attained by placing traps in the shape of rolls of paper amongst the plants, and examining them every day or two. A piece of cotton-wool twisted round the flower-stem will prevent them getting at the flowers. Inverted pots filled with moss and placed on a stake and examined occasionally is a very good method.

Some people argue that there is no remedy for scale, but I have found a mixture of soft-soap, paraffin and water a very good remedy, applied either with a brush or sponge.

Aphides are easily destroyed by fumigating, by syringing with tobacco-water, soft-soap and water, soap-suds, or by quassia chips steeped in water.—*S. Heaton.*

NOTES FROM SCOTLAND.

Notes on Peas.—However much we may strive to attain a desired object in the cultivation of any plant, our best efforts are not always attended with the success so much desired. On the other hand, it sometimes happens that when no particular endeavour is made, or any extra care taken, our hopes are more than realised. In no case are we more likely to meet with this experience than in the cultivation of early vegetables. I have always looked upon Pea forcing as a waste of time and means; but where a proprietor desires to have them fresh and palatable during early spring, I should never object to the simple practice of growing early Peas as far as circumstances would allow. However, what I am driving at is the endeavour sometimes made to have Peas early in June by the ordinary methods of sowing early, either in the open ground during November, or in boxes, pots, turves, &c., during January, and using all the arts afforded by traps, cats, and poison, to ward off rats, mice, slugs, &c., and then to be no further forward than if we had left such work alone—nay, not so well off as if we had sown the seed during March or April. Such has been my experience for some years, and we pick Peas on the 18th of June from four lots—viz., those planted successively from boxes in March, which were sown at the turn of the year—fine, stiff, hardy stuff, which has grown well, but no earlier than those sown later (from the same bags of seed) out in the open borders. The latter are stronger, and will produce heavier crops. Kentish Invicta, sown on April 2nd, is equal in point of time with the earliest crops we have. William the First and Beck's Dwarf Gem are ready for use at the same time. I have often remarked in these pages before that in seed sowing cultivators frequently make more haste than good speed.—*Stirling.*

FLORICULTURE.

New Tuberous Begonias.

LORD WEYMOUTH.—The stems of this variety are rather dwarf (8 ins. to 12 ins.) when at their best, and well furnished with bloom. The latter is of large size, perfectly double, and made up of numerous rosettes, the outer petals of which are orange, and the inner ones white. A plant was exhibited at Regent's Park, on the 19th inst., by Mr. J. Ford, gardener to Sir C. Pigott, Wexham Park, Slough, and received a Floricultural Certificate.

MISS FRENCH.—The flower-buds of this variety open of a pale creamy yellow, but become French-white when fully expanded. The outer and larger petals are crenated at the margins.

MAJESTICA.—The flowers of this form are single, of great size, and bright scarlet. The sepals are of great breadth, especially the outer ones, which give the blooms a circular outline. The leaves are very broad and deep green.

LADY STAFFORD NORTHCOTE.—The orange-salmon colour of this variety is rather novel and pleasing, the petals being broad, and arranged somewhat loosely, and altogether more tasteful in this respect than when the latter are densely crowded. All the three were exhibited by Messrs. John Laing & Sons, Forest Hill, at Regent's Park, on the 19th inst., and received Floricultural Certificates.

LADY LEWISHAM.—The flowers of this are very large and double, and consist of many rosettes of a reddish salmon colour. The petals are rather densely crowded, and somewhat undulated. The leaves are long and dark green.

A. F. BARRON.—Habit dwarf, and carrying its flowers well above the foliage. The flowers are fully double, of moderate size, and consist of a few large rosettes, not in any way crowded. They are rose in the centre and pink outwards.

MELAINE SOUPERT.—Flowers pale yellow when young, changing to a pure white, and consist of a single large and rather loose rosette, that is, there is only one centre to the flower. The outer petals are much the longest, and show themselves conspicuously beyond the central rosette.

MISS MATTHEWS.—There are several rosettes in this flower, rather loosely arranged, with rounded petals. The whole flower is of a soft salmon-pink, and very pretty. The above-mentioned four varieties were shown at Regent's Park on the 19th inst., by Messrs. H. Cannell & Sons, Swanley, Kent, who received Floricultural Certificates for them.

New Delphiniums.

CASTRO.—Spikes of considerable length and closely occupied with bloom. The individual flowers are large, of an intense sky-blue, and slightly marked with purple.

DUKE OF TECK.—In habit and general vigour this variety resembles the last, and the flowers also are of a very intense blue, comparable to that of the dark blue Gentians. The small petals occupying the centre are white.

PRINCESS MAUD.—This form has light blue flowers, with the inner sepals tinted with pale red. The petals are small, white, and filling the centre of the bloom. These three were exhibited at Regent's Park on the 19th inst. by Messrs. Kelway & Sons, Langport, Somerset, when they were awarded Floricultural Certificates.

MRS. ROPER.—Flowers of medium size, and closely arranged on a large branching inflorescence. The sepals are pale or soft sky-blue, and some of them are tipped with a pale metallic purple. Exhibited by Mr. T. S. Ware at Regent's Park on June 19th. A Floricultural Certificate was awarded.

BRITANNIA.—The flowers of this variety are very large, rather thinly arranged on the inflorescence, but striking from their bold appearance. The sepals are of an intense blue, with the outer ones having a broad purple edge. The centre is filled up with numerous small white petals, giving the whole a lively appearance.

THE SHAH.—The central raceme of the inflorescence is strong and densely arranged with rich dark-coloured flowers, shaded with purple on a blue ground.

SIR TREVOR LAWRENCE.—This is a very pleasing variety on account of its paler, softer, and more delightful colours. The flowers are of good size as Delphiniums are now reckoned, and are of a soft, yet rich sky blue, shaded with pale rosy or reddish purple. The centre is occupied with small white petals.

BANQUO.—The flowers of this variety are large, and thinly arranged on the inflorescence. The outer sepals are deep blue, and the inner ones deep purple. All the four were exhibited by Messrs. Kelway & Son, Langport, Somerset, at the Drill Hall, Westminster, on Tuesday last, when they each received an Award of Merit.

Tea Rose, Souvenir de S. A. Prince.

FOR description of this new white Tea Rose see p. 660. A stand of bloom was exhibited at the second summer show of the Royal Botanic Society by Mr. Geo. Prince, Oxford, when a Floricultural Certificate was awarded it.

Phlox, White Swan.

THIS is a rather early-flowering Phlox of the P. paniculata type, with stems about 2 ft. high, and lance-shaped, acuminate leaves. The flowers are large, white with a pale purple eye, and are rather chaste. Numerous specimens were exhibited at Regent's Park on the 19th inst. by Mr. J. Chambers, Westlake Nursery, Isleworth, and a Floricultural Certificate was accorded them.

H. P. Rose, Duchess of Albany.

A stand of bloom of this variety was shown by Messrs. Wm. Paul & Sons, Waltham Cross, at the last summer show of the Royal Botanic Society, and a Floricultural Certificate was awarded. The blooms were of great size, resembling La France in form, and were rose in the centre and pink outside, with broad recurved petals.

New Pæonies.

MRS. CHAMBERLAIN.—This and the two following are colour varieties of Pæonia albiflora, a Siberian species. The flowers in this instance are large, fully double, and blush-pink.

PRINCE GEORGE.—Flowers large and very double, with deep reddish crimson petals.

CALLIPHON.—Unlike the above two the flowers of this variety are single. The petals are few, very broad, and rose-coloured with pink edges. The yellow stamens form a very large and prominent mass occupying the centre. All three were exhibited by Messrs. Kelway & Sons, Langport, Somerset, at the last show of the Royal Botanic Society, and were awarded Floricultural Certificates.

STEAM v. HOT-WATER HEATING.

I HAVE been greatly interested in the article quoted at p. 656, from the *American Florist*, referring to overhead heating and to the merits of steam and hot water for this purpose. I have had a great deal to do with both these systems, and I am quite convinced that heating by hot water is by far the better system for all horticultural purposes. We in this country have lately been going in more for steam, following in this the American practice; but it is a backward step, and there are distinct indications that the Americans are beginning to recognise the advantages of hot water for heating purposes.

The advantages of hot water are so obvious that it is almost unnecessary to enumerate them. First of all there is the extreme simplicity of the hot-water system (of course, I refer to the low pressure), requiring neither pressure gauge, water gauge, injector, nor safety valve; it is difficult to put it out of order, and will run for many hours without attention; it keeps the heat up more steadily, and the heat is milder. What has steam to recommend it? I know of nothing, while no doubt by-and-bye a law will be passed making it compulsory for a trained man to be in charge of every steam boiler, and the sooner the better, for where there is steam under pressure there is always considerable risk; this will be a further disadvantage.

The overhead heating advantages are not so clear, nor does the article referred to show that it has any. The astronomical part is rather mixed; we get our heat from the sun, truly, but on a hot day it is much colder at the top of the Eiffel Tower than at the bottom, although the top is nearest the sun. I should like to know how overhead heating only would suit for hothouses 6 ft., 7 ft., 8 ft. and 10 ft. high at the sides. A very low house may be heated from top or bottom I have no doubt, and an overhead pipe may be of advantage in some cases, but overhead heating, as a rule, is a reversal of the proper order theoretically and practically.—*A. Donald MacKenzie, Edinburgh.*

BROAD BEANS.

THE Broad Bean, though not so universally popular as its *confrère*, the garden Pea, still occupies an important position as a garden vegetable. Its rather peculiar flavour does not suit the palates of some persons, while others are very fond of it, and look forward to the season of its introduction to the table with longing interest. It is not my intention to endeavour to write a long article on its general cultivation, varieties and uses, but simply to call attention to a few interesting things in connection with it, and also one or two different methods of practice.

There are many varieties of Broad Beans, but those in general use may be classed in three sections—viz., the Mazagan, the Windsor, and the Long-pod, with their varieties and selections under their several commercial names. These would include all those which are most suitable for any garden requirements. The Broad Bean is said to have been originally brought from Egypt, but it has, however, been cultivated from time immemorial in all parts of Europe, and even in China and Japan. The Early Mazagan, which still holds the first place as the most useful early variety, was introduced from Mazagan, on the north-west coast of Africa, just outside the Straits of Gibraltar, an old Portugese settlement, from whence it takes its name, and according to an old botanical herbal, of which I cannot give the author, when first introduced the seeds were much smaller than the common Horse Bean, "but after the seed has been saved for two years in succession in England the beans become larger, and do not ripen so soon, which is a symptom of its degeneracy."

For the production of the earliest crops there are two methods of practice. The first is sowing in the early part of November, repeating the operation at successive intervals until the main-crop sowing in March and April. The second mode is to sow in pans or boxes in heat in February, hardening off and transplanting to an outside position when the plants are about 3 ins. high, warm and sheltered borders being in both cases understood. Each method has its advocates, but I prefer the latter process, for I find that those which are transplanted will be several days earlier than those sown in the autumn, and if evergreen branches are stood between the rows to ward off the frosts and cold winds, it will help them along considerably; besides, all trouble in connection with loss of crop, which is so usual in winter, will thus be obviated.

There is also much difference of opinion as to whether or not the plants should be topped when in flower, which course would induce fruitfulness. I have heard many controversies amongst gardeners on this question. This would surely depend upon the requirements. If seed is required, topping would be decidedly beneficial, and even thinning the young pods to ensure good sound plump seeds of superior quality; but if the crop is intended for table use, and which is usually gathered very young, topping is not so necessary. I have gathered the pods when they were very young and tender, to be used in the same manner as French Beans, that is, the pods sliced up and cooked, when they are really very nice, and in such cases quantity is required, and the duration of the crop would be greatly shortened by topping.

In former times there seem to have been many curious prejudices and superstitions in connection with the Bean. Pythagoras, the Greek philosopher, religiously abstained from eating the Bean, and also forbad his disciples to feed upon them. Many versions have been given by different commentators for this interdiction. Some say the Bean was believed to be the retreat of the soul after death, and by others because the seed was consecrated to the gods by some nations. Others supposed that the prohibition was founded merely on sanitary principles, that Beans were unwholesome, and that many people were subjected to certain ailments during the flowering season—the "blackspot," as it is called, in the centre of the blossom being prophetic of the maladies which were to ensue.

We have a similar superstition amongst us in the present day with respect to "hay fever," which happens about the same time as the blooming of the Bean, but these ailments would more probably be attributable to the excessive summer heats, which usually occur during that period. Other commentators, however, affirm that when Pythagoras said "abstain from Beans," he only meant that his disciples should abstain from intermeddling with political affairs, as votes were formerly given by Beans, and even in the present day we find vestiges of this practice. Some of us would say that this was wise policy, often applicable to circumstances in the present age.—*Alfred Gaut.*

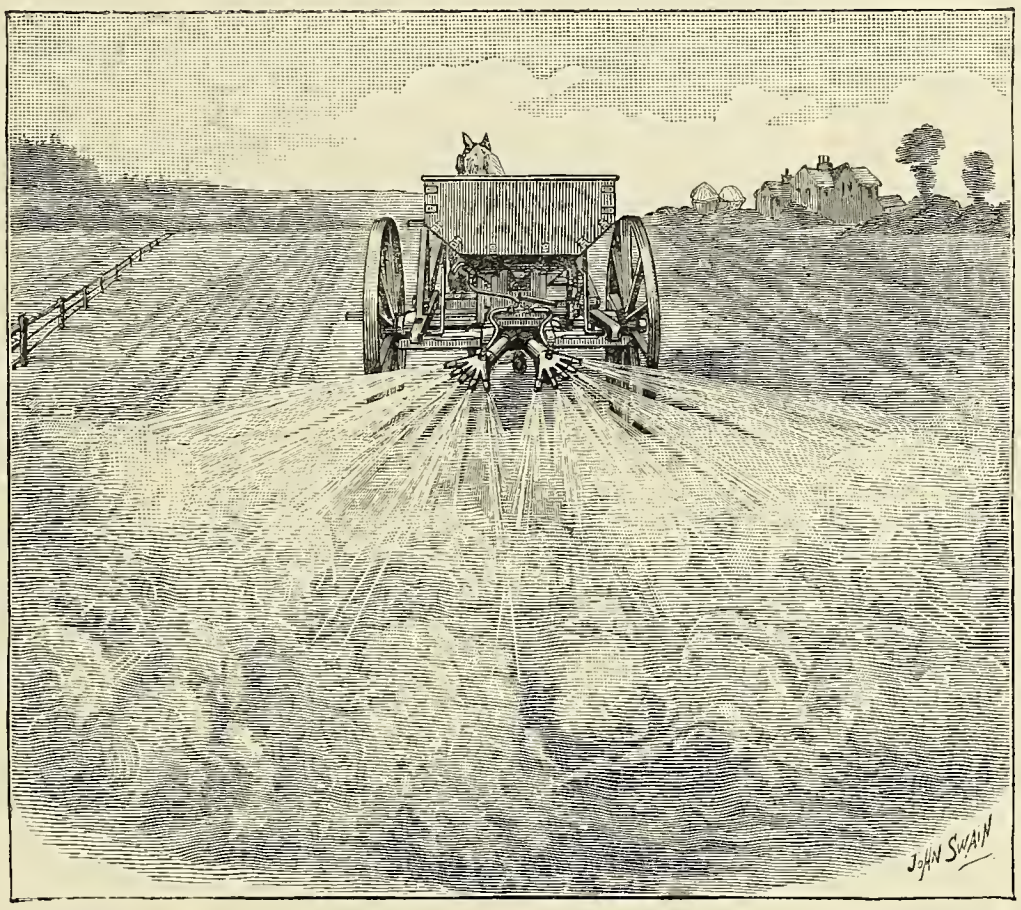
THE R. A. S. AT WINDSOR.

The Jubilee exhibition of the Royal Agricultural Society, which is being held this week, very appropriately in the Royal Park at Windsor, is without doubt the most extensive and most complete, and promises in every way to be the most successful of the long series of annual gatherings which commenced with the society's first show, held at Oxford in 1839. It may also safely be said that never before has the society been able to pitch its tents in a spot enjoying more picturesque surroundings, the show yard occupying an open sloping glade about 125 acres in extent, to the right of the Long Drive, and about a mile from the Castle. Some idea of the magnitude of the show yard may be gleaned when we say that the hoarding surrounding it is over two miles in length, and that the cattle and machinery sheds, and those which contain the thousand and one miscellaneous articles always to be seen at a Royal show, make up a total length of nearly ten miles.

From the entrance, which is flanked by the really handsome seed stands—museums we ought rather to call them—of Messrs. Sutton & Sons, Messrs. E. Webb & Sons, Messrs. James Carter & Co., and others, five main avenues lead through the implement section to the live stock sheds beyond. The main central avenue leads direct to the Queen's Pavilion, one of the handsomest buildings ever erected in an agricultural show yard, and which is situated in the centre of the yard, and forms the most conspicuous object. The pavilion is luxuriously furnished, and the floral decorations internally and externally, which were entrusted to Messrs. Sutton & Sons, in every way do credit to that enterprising firm.

With the cattle classes, in which all the leading breeds are admirably represented, the grand show of horses, and the immense display of agricultural implements of all kinds we have no concern in these columns, but during a hurried inspection on Monday we made a few notes of some objects which could not fail to interest a gardener. The splendid seed stands of the leading houses are well worthy of inspection, although the bulk of the objects exhibited naturally appertain to the farm rather than to the garden. The Messrs. Sutton, besides good examples of their fine strain of single Begonias, and an attractive show of varieties of Gladiolus Colvillei, have a group of some three dozen plants of their superb strain of erect-flowering Gloxinias, a group of which, for the profusion and quality of the blooms, their size, substance, brilliancy of colour and wide range of variation, we have never seen surpassed. The Messrs. Carter, in addition to their many agricultural specialties, have some good forms of their fine strains of Petunias and tuberous Begonias. The Messrs. Webbs' fine stand is almost exclusively occupied by samples of the various cereals, grass and Clover seeds, roots, &c., for which they have gained a high reputation. Messrs. Dickson & Robinson, of Manchester, have also an admirable display of grasses and Clovers in growth, farm and garden seeds, and a capital collection of Potatos, selected from the splendid group they exhibited at Manchester last autumn, and still in a remarkably fresh condition. Near at hand also are the stands of Messrs. Oakshott & Millard and Messrs. Little & Ballantyne, of Carlisle, the former having an attractive display of farm and garden seeds, and the latter exhibiting some beautiful young specimens of various Conifers. In the opposite avenue, Messrs. Barron & Son, of Elvaston, exhibit plans of estates and model villages; and Messrs. Dicksons', Limited, Chester, have a capital display of seeds, &c. On stand No. 395, Messrs. Corry, Soper, Fowler & Co., Limited, 16, Finsbury Street, E.C., show a considerable number of their tobacco preparations and other insecticides, including the popular Lethorion Vapour Cones, and amongst the special preparations of manures, our ancient friend "Standen's," one of the most genuine articles ever put upon the market. The leading cake and manure firms are very strongly represented, but call for no comment in these columns. We may add, however, that from the stand of The Anglo-Continental (late Ohlendorff's) Guano works, we received a most interesting pamphlet—*Peruvian Guano:* a retrospect by Hermann Voss—which contains much valuable information respecting this particular fertiliser, which was first introduced into Europe about fifty years ago.

No inspection, however casual, will be complete without a visit being paid to stand No. 158, where Mr. G. F. Strawson has on view several examples of what is decidedly—either from an agricultural or horticultural point of view—the most valuable new invention on the ground. This is the now famous "Strawsonizer," which was described in our issue for June 1st, p. 625, and of the character of which a general idea may be gleaned from the accompanying illustration. In the words of the inventor, "The 'Strawsonizer' is a new kind of distributor, for applying by air power liquid or solid insectifuges, and for broadcasting all kinds of grain, seeds, and chemical fertilisers," and we are glad to say that a small machine has been introduced for use in gardens, which will prove to be a great boon. To the farmer, the fruit and the Hop grower, and equally so to the gardener, the "Strawsonizer" must prove to be the most valuable insect-destroying and crop-saving appliance yet introduced.



The "Strawsonizer."

The horticultural builders are well represented by such firms as Messrs. W. Richardson & Co., Darlington; Messrs. Boulton & Paul, Norwich; Messrs. Wrinch & Sons, Ipswich; Messrs. A. Peel & Sons, Wood Green; Messrs. Wright & Holmes, Birmingham; Messrs. Foster & Pearson, Beeston, Nottingham; Messrs. Newton, Hitchin; and Messrs. S. Deards & Co., Harlow, all of whom are worthily represented. There is not much of novelty in this section, but in the extensive stand of admirably constructed houses and frames shown by the Messrs. Richardson, we noted a very serviceable span-roofed frame, with simple but substantial contrivances for affording ventilation, and securing the lights when tilted. On page 689 we give an illustration of this frame, which would be a boon to many an amateur. Mr. Samuel Deards has a novelty in the "Uncle Sam" Patent Radiator and Propagator, of which we hope to give an illustration showing its form, and the method of heating. The radiator is made of corrugated galvanised iron with a water jacket, and is heated by the new Defries' lamp placed underneath in the centre. The body of the radiator constitutes a hot-air chamber, through which the heat from the lamp passes. The largest size (No. 6) holds 10 gallons of water, and is said to be equal in heating power to 25 ft. of 3 in. pipe. When at work it can be used for propagating purposes by simply placing a small frame made of tin on the top of the radiator.

Garden pottery in its many useful and ornamental forms is well displayed on the stands of Messrs. R. Sankey & Son, Bulwell, Notts, and Mr. Conway G. Warne, of Weston-super-Mare, the latter of whom has now the business so long carried on by Mr. John Matthews. The Messrs. Sankey, besides samples of their admirably-made ordinary pots, have a fine show of rustic and ornamental ware, which is characterised by good taste in design, and well-toned colour. They also exhibit a novelty in a new fluted tile designed to cover the face of unsightly walls. The tiles are plain on the back, fluted on the front side, about 1 in. thick, and pierced for screwing to woodwork or nailing to walls, and some of them are made with ornamental pockets in the centre large enough to hold a 48-in. pot. At a comparatively small cost, many a damp or ugly piece of wall could easily be given a neat and pleasant appearance by means of these tiles.

CLEMATIS MONTANA.

When Mr. Buchanan introduced this species in 1831 from the mountains of Nepaul, he placed in the hands of English gardeners one of the most useful spring-flowering hardy climbing plants that can find a place in the garden. At the end of May I accompanied some friends in a row upon the Thames. Taking boat at Reading, we went up the river to the village of Sonning, and there saw on many of the cottages and villa residences this charming white-flowered Clematis in all the glory of its spring bridal costume. It is a remarkably free-growing and hardy ornamental climber, well adapted for training on trellises, walls, or other places where a considerable space has to be covered. A river side inn at Sonning, much frequented by boating parties, has a great portion of its frontage to the river covered with this Clematis, and what a delightful sight it presents to view!

Perhaps there is something in the soil of Sonning which suits this creeper; it, as before stated, covers the fronts of many of the residences, and in every case it was laden with its pure white blossoms, which are so copiously produced, several springing from each axil, that the branches literally become converted into floral garlands. The flowers are sweet-scented, and this is no doubt the reason why it has been named C. odorata. The more freely the plant is allowed to grow, the more ornamental does it become, on account of the greater profusion of blossoms produced when well established. It will grow from 20 ft. to 30 ft. in a season, while every joint will bear blossoms as white as snow.

To have it in full beauty in the month of May, its well-ripened wood should be trained in at full length, as the blossoms—as in the case of the C. patens type—are produced from the shoots of the previous season. Wistaria sinensis grows freely, and flowers with great beauty on some of the houses at Sonning. In one of the streets a plant was growing against a public-house, and, I think, I never before saw the pendulous racemes larger, or deeper in colour.—*R. D.*

The new Commissioner of Assize.—The Queen has appointed Mr. Frederick Adolphus Philbrick, Q.C., of the South-Eastern Circuit, Recorder of Colchester, a Royal Commissioner of Assize at the ensuing Summer Assizes.

The Amateurs' Garden.

A Showy Bed of Hardy Flowers.

A wonderfully fine effect in the way of summer bedding can be obtained by the use of hardy plants alone. Those who have not tried the undermentioned, nor seen it, may make preparations for next year, and rest assured that the results will not be disappointing. The simpler the arrangement the better. Canterbury Bells (Campanula medium) and one or two kinds of bedding Violas are all that are necessary to produce a very telling effect in the flower garden. The Campanula is a biennial, and if seeds have not already been sown they should be immediately, either in a frame or in the open ground, preferably the former. As soon as the seedlings have attained some size they should be planted out in moderately good soil in a reserved portion of the garden. During late autumn or winter they may be planted in beds where they are intended to bloom. Alternating with them some free-flowering Violas should be planted, and no better can be used than Countess of Kintore, which is of a beautiful mauve and white on the upper petals, and has a very enlivening effect as a groundwork to the Canterbury Bells. Countess of Hopetoun, a white variety, may be planted as an edging round the margin of the bed.

The Common Hydrangea.

No doubt many an amateur casts an envious eye at the small plants bearing a single huge head of bloom as grown by the market gardeners. Amateurs by a little careful attention would soon learn to grow them as well for themselves. Strong cuttings taken now and rooted can be grown into nice plants in 48-size pots, and be had in full bloom in the early part of summer. Those having large old plants should select those shoots that have not flowered this year. The strongest only should be taken, as they produce the finest heads. As soon as rooted they may be placed singly in 60-size pots, and kept growing by close attention to watering. A rich compost should be used, as the Hydrangea is a gross feeder. Before these pots get too crowded with roots the plants may be put in 48-size pots (5½ ins.), and in these they may be flowered. Give weak doses of liquid manure about twice a week, and ventilate freely. The size and rich colour of the foliage, together with the size and plumpness of the terminal bud, will give an indication of what the plants will do next year.

Basket Plants for Cool Greenhouses.

The Indian Strawberry (Fragaria indica) is an old inhabitant of British gardens, but for some reason or other it enjoys but a very intermittent share of attention. It grows very freely, and fruits equally well. Botanically it is most interesting on account of its seed-like fruits being covered with a thin pulp in the manner of a Raspberry. The receptacle is fleshy, as that of a Strawberry should be; and it likewise produces long trailing runners, each bearing a yellow flower, and in this respect is comparable to Potentilla reptans or P. anserina, which also flowers on the rosettes of young plants developed at the nodes of the runners. If grown in a basket and suspended from the roof of a greenhouse, the long runners bearing their bright red fruits hang down in a very charming way. The fruits, although they have a very tempting appearance, are by no means palatable, so that the plant is not liable to be despoiled of its ornamental effect in private establishments. The only danger is when there are many fresh visitors who wish to taste the bright red, but uncommon fruit.

Snowdrop Wind-flower.

Amongst the summer-flowering species of Anemone, few if any of them have such large and chastely white flowers as A. sylvestris. It is perfectly hardy, easily cultivated, and when once planted can easily take care of itself. Like A. japonica, which comes into flower later on, it has the habit of throwing up suckers at some distance from the mother plant, and by this it can easily be multiplied if necessary. For a like reason it may be planted at the sides of walks in woods, or where there is plenty of space in the front of shrubberies, where it can be allowed to form a large patch unmolested.

Tomatos.

In fairly good summers in the southern counties, those having a frame or greenhouse in which to raise seedlings will have no difficulty in raising them. The next best requisite is a wall, fence or bank, against which to plant the Tomatos. Even where these requisites are wanting, a piece of sheltered ground in a fully exposed place will favour the ripening of a good supply of fruit in tolerably warm summers. What most calls for attention at present is the tying up of the main stem and the pruning away of all side shoots. Whether under glass or out of doors the plants produce the best fruits and the largest quantity if confined to a single stem. The whole energies of the plant are then restricted to the setting of the bloom and the perfecting of the fruits resulting from them. When planted in the soil, either out of doors or in greenhouses, very little water is required at the roots, and indoors the atmosphere should be kept in a strictly dry condition.

Gardening Miscellany.

Double Tuberous Begonias.

A boxful of blooms of double-flowered tuberous Begonias has been received from Mr. R. Cavill, The Gardens, Pamflete, near Ivy Bridge, South Devon. The box was very much crushed in passing through the post, so that the blooms did not reach us in so fresh a state as we could have wished, but enough remained to show their general character. All were fully double and varied greatly in size, but we prefer those of medium size, because they are less lumpy, and being lighter they can be carried in a more erect position by the plant, and are less liable to be broken off. Three of the smallest we consider worthy of preservation and improvement, from the novelty or pleasing colour of their blooms. No. 4 was a pure white of medium size, and the petals not too crowded; No. 7 was pale yellow, and tinted with salmon; a very sweet little flower was No. 16, with pale scarlet petals and a pink centre. A globular and rather lumpy flower was No. 3, with very numerous narrow sepals, but we very much liked their light orange-scarlet colour. The numerous rosettes of No. 9 were of a charming rosy pink, with pale nearly white centres. It is certainly worth growing, if the habit of the plant is good. No. 8 was rather larger, consisting of numerous light orange-scarlet rosettes, more or less tinted with pink, and having pinkish white centres. The petals were somewhat undulated, and we are rather partial to it, although the choicest flowers now being produced consist of one, or at most but a few rosettes. A deep rich scarlet variety, numbered 14, with few rosettes of broad rounded petals, promises to be a good thing if seen in a fresh condition. A good flower of the double Pelargonium type was No. 10, with large bright scarlet flowers. Nos. 1, 13, and 15 are too dense and lumpy, and 17 showed its yellow stamens in the centre of each rosette. No. 18 was too small, and Nos. 6 and 12 were altogether too big; the same might be said of Nos. 5 and 11, which are very interesting teratologically, owing to the extreme development and prolification of the flowers, the rosettes of which had very long pedicels.

The Earliest and Best Strawberries at Birdhill.

With Mr. Crehan, one of our local gardeners, I paid a visit here yesterday to see the fine collection of Strawberries George Gough, Esq., the worthy proprietor, has got together. There are many things well done here, but Orchids and Strawberries are specialties, generally reflecting credit on the head gardener, Mr. Thomas Bulfin. We went through the long lines of each variety, which have, as a rule, large healthy foliage, and are mulched with straw litter to keep the fruit clean—Mr. Crehan has his mulched with spent hops—and found of a score varieties, including Laxton's Noble, King of the Earlies, Sir Joseph Paxton, The Captain, Viscomtesse Héricart de Thury, James Veitch, President, Dr. Hogg, Pioneer, Sir C. Napier, British Queen, &c., the ripening, productiveness and, with one exception, the flavour was in the order named. Noble is the favourite here, and Mr. Gough means next year to give it more space, and has commenced to take runners.—*W. J. Murphy, Clonmel, June 25th.*

The Guava.

There is a large plant or tree of the Guava (Psidium Guava) at Pendell Court, Bletchingley, the English residence of Sir George Macleay, where it has fruited annually for many years. For five years past it has been under the care of Mr. F. Ross, and is now well set with clusters of young fruit. P. pomiferum, mentioned by "R. D." at p. 679, is synonymous with this species, and P. pyriferum, the Pear-shaped fruited one, is considered by botanists merely as a form of P. Guava. The latter is a small tree, bearing its flowers and Pear-shaped fruits singly, thus differing from P. Guava, which has clustered globose fruits. The tree is grown on the back wall of a vinery, and occupies a considerable area, reaching to the top of the wall. It bears most freely on the upper branches—a fact which may easily be accounted for, as the branches are most favourably situated there with regard to light, and getting well ripened, are better able to bear fruit than those at a distance from the glass, and heavily shaded by the Vines. The Guavas are members of the Myrtle family, and the fruits of several other genera are also edible, including those of some species of Eugenia and Myrtus, the fruits of which differ widely in size and appearance.—*F.*

Jatropha multifida.

Very few out of the seventy known species of this genus of the Euphorbia family are ever seen under cultivation in this country. Many of them are to be regarded as objects of curiosity than otherwise, with stems of a sub-succulent nature, although the flowers of others are bright and showy. In the present instance they are no great size individually, but are produced on extra axillary umbels, and are scarlet, with yellow anthers. The plant might be valued as an ornamental-leaved subject, independently of its flowers. The leaves are large, nearly orbicular, and palmately divided to the base into nine or eleven wedge-shaped segments, that are again deeply pinnatifid and cut in the manner of some Aralias, but they are less leathery—in fact, quite membraneous and soft. It is, perhaps, as often seen as any of them in cultivation, and we recently noticed it in flower in the large stove or warm conservatory at Pendell Court, Bletchingley.

Inula glandulosa.

The lower stem-leaves of this handsome species are ovate-lanceolate, and more or less stalked, while the upper ones are stalkless, and all are hairy and ciliated with glands at the margins, as are the floral bracts, and this peculiarity has given rise to the specific name. The flower heads are produced singly at the apex of the stem, and are of a rich orange-yellow, with very numerous long rays drooping at the tips. A Botanical Certificate was awarded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for some specimens of it, which he exhibited at the Regent's Park second summer show.

Acer Gordoni.

Numerous specimens of this Japan Maple were shown by Mr. Wm. Gordon, Twickenham, at the second summer show of the Royal Botanic Society, when a Botanical Certificate was awarded. The leaves are nearly orbicular, broadest above their middle, and divided nearly to the base into nine or eleven finger-like segments, which are oblanceolate, lobed, and serrated above their middle, and quite entire below that. They have red petioles, and reddish brown margins, but otherwise are pale green.

Lilium Martagon album.

The flowers of this chaste variety of the Martagon Lily are pure white, with the exception of a greenish tint in the centre, at least, when newly expanded. The ovary is also green, and the anthers are yellow. They are drooping, with revolute segments, and are borne in a long terminal raceme. The lance-shaped foliage is borne in whorls of six to nine leaves each, along the stem. Specimens were shown at Regent's Park on June 19th, both by Messrs. Barr & Son, Covent Garden, and by Mr. T. S. Ware, when a Floricultural Certificate was awarded. It was also exhibited by Messrs. Barr & Son, at the Drill Hall, on Tuesday last, when the Floral Committee of the Royal Horticultural Society awarded it a First Class Certificate.

Streptosolen (Browallia) Jamesoni.

This is one of the many neglected plants Mr. Henry Cannell has been instrumental in rescuing from oblivion and replacing in plant houses. It was hitherto put among the Browallias, but it is now known as Streptosolen. It is Jameson's Browallia of plant lists, and was introduced from New Grenada in 1850. I recently saw a specimen of it in Messrs. Saltmarsh & Son's nurseries at Chelmsford; it forms a bush 3 ft. or more in height, it branches freely, and each branch bears a dense cluster of flowers, which open with a pale colour and change to a cinnamon-red. Its capacity to bloom appears to be unlimited. When grown in pots it develops rapidly and vigorously, and forms a compact specimen if it is stopped from time to time during the growing season. It is included among our cool greenhouse plants, and is well worthy of cultivation as a summer-flowering decorative plant.—*R. D.*

What can it Be?

In reference to the query made by "E. W.," p. 647, as to what the Herb of Prophecy in Mexico can be, the following extract from the Hong Kong *Daily Press* may elucidate, if it does not definitely make certain, the botanical name of the plant:—"In his annual report for the year, 1882, the colonial surgeon, Dr. Ayres, referred to the fact that cases of the use of Datura as a poison have cropped up very largely of late." He then went on to say:—"The prisoners in one case, after sentence, said that the Datura (probably D. Stramonium or Mad Apple) was the drug used, which grows freely in Hong Kong; that they got the plant from native herbalists, and that they used Jasmine in the decoction they made, which modified the symptoms of Datura poisoning, and rendered the patient less noisy, though it increased the danger to life, and must be used very sparingly and with great care. They also stated that a decoction of Liquorice-root, well sweetened with coarse brown Chinese sugar, was an antidote; and that if this was mixed with the decoction of Datura it destroyed its efficacy. This, no doubt, is only a popular delusion. The effects of Datura are well known all over the East; it is very commonly used in India for drugging in the same way as here. It produces an appearance of intoxication, and this effect is produced very rapidly, and takes a long time to wear off, generally at least twenty-four hours. In the first stage the patient is talkative and merry, performing all sorts of odd antics; as the effects progress it causes profound sleep, and if used in a poisonous dose, coma and death. As the sleepiness passes off, the delirium and antics occur again. The pupil of the eye is always largely dilated, and this symptom remains long after all others have disappeared. In India it is also used to produce an appearance of insanity, the patient being kept under the influence of the drug for weeks or months."—*B. E.*

Laxton's Noble Strawberry.

This first-rate new variety has proved itself with me to be the best early variety in cultivation, and I grow Strawberries somewhat extensively for market. Garibaldi has hitherto been a leading sort here for earliness, but Noble is some days earlier. A great cropper, fruit of good size, fine colour, firm, and of good flavour, with a slight acidity. I have a good breadth of yearling plants, planted as runners last year, and these are yielding a large crop, many of the plants with 2 lbs. of fruit to each. Garibaldi and others are only just showing colour, whilst I have been gathering from Noble since the 16th of this month. The fruit generally is large and well formed, and as the fruit is firm it will be a good market sort. I also grow Laxton's other new sorts, King of the Earlies and Jubilee. The former is not so early as Noble by a few days, as grown here. Jubilee is very late and a valuable variety, and I have discarded Elton Pine for it, as Jubilee is as good in flavour, and has a much better constitution. I send you a few fruits of Noble that you may see what it is.—*James Bubb, Nurseryman, Solihull, Warwickshire.*

Successful Culture of Lilium auratum.

A correspondent writes:—Amongst the many splendid examples of high-class cultivation to be seen in the well-kept gardens of Miss Cox, Clements Park, Lochee, near Dundee, are some specially well-grown specimens of Lilium auratum. There are four plants in 10-in. pots, all of which bear upwards of 100 flowers on each, and one has over 120 blooms, thirty-two of which are on one spike, and there are no less than nine stems from a single bulb. Lilium Harrisi is also well done, and several fine pots of this now popular Lily may be seen in perfection. Mr. Moir, the gardener, is to be congratulated on his success in their culture.

Lilium Hansoni.

In habit and general character this may be compared to the European L. Martagon, but the structure of the flowers is somewhat different. The lanceolate leaves are scattered at the base and apex of the stem, but on the middle are arranged in whorls of eight or twelve to each. The flowers are crowded in a short raceme at the top of the stem, and are of a beautiful reddish orange marked with blackish purple spots on the lower half of the segments. The latter are paler externally, remarkably thick and spongy, with great elevated midribs on the outer face of the three inner ones. The flowers are agreeably, not powerfully fragrant. Specimens were exhibited at Regent's Park on the 19th inst. by Mr. T. S. Ware, when a Floricultural Certificate was awarded.

Anthuriums.

I have often read of the necessity of re-potting these annually, but I think when roots are healthy and abundant, the flowering proclivity of this truly grand species is greatly promoted by keeping them intact, removing all old surface soil and giving them a good top-dressing with fibrous peat mixed with Thomson's Vine and Plant Manure. Some huge plants which have not been re-potted for five years, and treated as indicated, bloom abundantly every season, and afford good supplies for the cut-flower boxes. While I write, an old plant in a Gardenia house has some half-hundred expanded spathes, and others are coming. A. Knightii is blooming less freely, however, but the flowers are very large and of fine colour. A. Andreanum I never grew, and have no desire to; but I admire very much the majority of the other kinds. Their cultivation is so easy and their inflorescence is so abundant, that they are true friends to those who have many flowers to supply.—*Stirling.*

HAMBURGH PARSLEY.

This finds a place in wholesale catalogues of seeds, and yet it is very rarely found in gardens. When at Messrs. Hurst & Son's trial ground at Chelmsford a few days ago, I saw among some trials of Parsley one of the Hamburgh; the plants being of strong growth, and the leaves deeply cut. The botanical name of this plant is Petroselinum sativum; it is known as the Turnip-rooted, the broad-leaved, and the large-rooted Parsley. From whence it comes, or when introduced into this country, I cannot say, but it is chiefly cultivated for its roots, which when properly grown attain to the size of a small Parsnip. The Parsley is a very old plant, and was known to the ancients, having received its distinctive name of Petroselinum from Dioscorides.

It is said to be a native of Sardinia, from whence it was brought to England about the middle of the sixteenth century. Some have thought that the Parsley is indigenous to Britain; at any rate it has become completely naturalised in this country. When the rooted type first came to be grown is not stated.

To grow the rooted Parsley to perfection, a good depth of rich soil is necessary. The seed is sown in February, and also in the two following months. It is best sown in drills in the open ground, and when the soil is good, to thin out the plants to 9 ins. apart, as this gives room for them to develop. It is scarcely necessary to state the hoe should be used to keep the surface free from weeds and the soil stirred, and by Michaelmas the roots will be ready for use. They are dug up as required, in the same way as Parsnips.—*R. D.*

THE SMALLER RHODODENDRONS.

R. punctatum.—This North American species must be placed in the first rank, because, although it may not be considered the prettiest, it is certainly the most useful, a very free-flowering species, and the most easily cultivated. It forms a dense spreading bush ranging from 2 ft. to 6 ft. in height, but is more usually seen about 3 ft. high. The stems branch freely, forming a twiggy, very compact growth, densely clothed with evergreen foliage. It may be readily recognised by its small, oval, or lance-shaped leaves, acute at either end, and densely covered on both surfaces, but especially beneath, with rusty, glandular dots. The flowers are moderate in size, but very plentifully produced in corymbs, and are of a soft rose-purple, spotted internally. The species was originally introduced to British gardens in 1786, or 103 years ago, and is now pretty common, but more neglected than it ought to be. It is now in full bloom, while the larger-leaved hybrids of the Pontic and other hardy Rhododendrons are mostly out of flower. There is a major form of this species with larger flowers and leaves.

R. ferrugineum.—Much smaller in all its parts than the last, this species may be said to accommodate itself more readily to small gardens, but it is more difficult to establish in the south, especially in town gardens subjected to the influence of smoke. A peat bed is necessary or almost indispensable to reconcile it to its surroundings, in order to keep the roots cool. Generally the stems do not exceed 1 ft. in height, and although healthy specimens are moderately dense in habit, the branches do not spread to any great extent. For this reason it is admirably adapted for planting in beds and forming masses in sheltered spots about the pleasure grounds. It may be readily distinguished by its small almost Box-like leaves, of a deep green above, and generally almost covered with rusty scales on the under surface. The flowers are developed in May, June, and July, and are bright rose, funnel-shaped, and deeply divided into five segments. It is a native of the Alps of Europe on the confines of ligneous vegetation, and together with R. hirsutum furnishes shepherds with the only fuel they can get for their fires. To British gardens it was first introduced in 1752.

R. hirsutum.—Being introduced in 1656, this species is an older inhabitant in British gardens than either of the two preceding, yet it is a scarcer plant at the present day than either. It is also a native of the European Alps, where it is known as the Alpine Rose, from its great plenty and the abundance of its pale or bright red flowers, which are funnel-shaped, but small in size. The plant forms a dwarf branching shrub, about 1 ft. or 2 ft. in height, furnished with tufts of ovate-lanceolate, or elliptic, hairy leaves.

R. Chamæcistus.—Introduced in the same year as R. ferrugineum. This species is the less common of the two, although as a true Alpine it is the prettier. Botanically it is hardly a Rhododendron, although very closely allied, and forms a dense, dwarf, branching bush about 6 ins. high, with the general appearance of an Azalea, and more resembling a Rock Rose than a Rhododendron in its small, elliptic, lance-shaped leaves. The pink or rosy purple flowers are produced during May and June. It is a native of the Alps of Eastern Europe, and in British gardens it would be most at home in a cool peat bed in a sheltered recess of the rockery.

ORCHID NOTES AND GLEANINGS.

Odontoglossum Lehmanni.

In habit and general appearance this bears a close resemblance to O. Pescatorei, but on examination it is evidently a natural hybrid between that species and O. crispum, with the greatest leaning towards O. Pescatorei. The lip appears to be a compound between the two, and instead of being pandurate or fiddle-shaped, is oblong or quadrate, and equally broad close to the involute and recurved tip as it is at the top of the claw. The disk is yellow, as well as the median three-toothed portion of the crest, and the lateral radiating processes are, like those of O. Pescatorei, very much abbreviated. The wings of the column are obliquely oblong, deeply laciniated, striped with purple, and are more like those of O. crispum than O. Pescatorei, the wings of which are half-ovate, entire, and slightly striped with brown. The lateral sepals have a dark purple band on the upper edge, while the upper ones are purple externally, and the petals slightly flushed with the same colour. There is a flowering plant in the collection of A. H. Smee, Esq., The Grange, Wallington, Surrey. It is a pretty Orchid.

Cattleya Mendelii, Miss Little.

The petals of this beautiful variety are large, ovate, strongly undulated, crisped, and pure white as are the sepals. The lip is also white, with a horseshoe-shaped purple band on the lamina, and a yellow throat. It is also of great size and much undulated and crisped round the margin of the lamina. It was exhibited by Henry Little, Esq. (gardener, Mr. A. Howard), The Barons, Twickenham, at the second summer show of the Royal Botanic Society, when a Botanical Certificate was awarded to it.

Cattleya Mossiæ, G. T. White.

The flowers of this fine variety are pure white with the exception of the lip. All the parts are of good size and well formed. The lip shows the characteristic features of C. Mossiæ in the pale purple on the apex and middle lobe of the lip, forming a sort of reticulation or broken markings along the principal veins instead of being in one piece. The throat is pale yellow. A plant was shown in the group exhibited by Mr. G. T. White, Winchmore Hill, at Regent's Park on June 19th, and a Botanical Certificate was awarded to it.

Cattleya Gaskelliana, Cooke's var.

The summer-flowering form of C. labiata, best known in gardens under the name of C. Gaskelliana, is beginning to show somewhat of the variation which is so characteristic of several others, such as C. l. Mossiæ, C. l. Trianæ, and others. The special features of this attractive variety consist in the pleasing and uniform

rose colour pervading the sepals, petals, and lamina of the lip. The latter is not very strongly undulated or crisped, but it fades into a pale almost white band at the base, and this again merges into the large pale yellow blotch in the throat extending down the tube. A plant of this charming variety was exhibited at the Drill Hall, Westminster, on Tuesday last, by Mr. Malcolm Cooke, Kingston Hill, when the Orchid section of the Floral Committee of the Royal Horticultural Society gave it an Award of Merit.

THE GARDENERS' CALENDAR.

THE STOVE.

SYRINGING AND VENTILATION.—The maintenance of a genial atmosphere is of the greatest importance at this season, while hard-wooded and other subjects are in full growth. Frequent damping down must be given on all bright days, as well as overhead syringing where it can conveniently be done. A good syringing in the early part of the day and again at closing time is of the utmost importance, and should be done with the object, not only of damping the foliage, but of keeping it clean. The under surface of the leaves, the flower-buds, and every corner offering lodging for insects should be thoroughly and forcibly syringed, according to the character of the leaves as to whether they are soft or leathery. If well done at closing time the vapoury condition of the atmosphere will prove a great check to insect pests. With the long day and the great warmth of the sun on bright days, ventilation must be attended to at an early hour, and with the increased amount of air, more frequent damping down will be required.

THE GREENHOUSE.

CLIMBERS.—The rafters of most greenhouses or conservatories are furnished with climbers of one sort or other. They occasion a great amount of care and attention, but the cheerful effect they produce in high-roofed houses cannot be ignored. They are now in the full vigour of growth, and frequent attention will have to be given to tying up the loose shoots that soon appropriate more than their own share of the house. It will be found necessary in the case of some Passifloras, Bignonias, Hardenbergias, Habrothamnus, Loniceras, and other plants of that class, to thin out a portion of the older or weaker and useless shoots where they are getting too crowded, obstructing the light, and shading the plants beneath too heavily. A few shoots well matured are of more value than a greater number of soft, slender and badly ripened ones.

RE-POTTING CAMELLIAS.—Some of the earliest started Camellias will now have set their flower buds, and if re-potting in any case is considered necessary, it must be done before the buds plump up, otherwise they will be liable to drop, owing to the disturbance to the roots caused by the operation of potting. For pot culture a mixture of good fibrous loam, with the addition of a little well-decayed cow manure and some silver sand will answer admirably, and be of more service to the plants than the peat in which they used to be grown. Those not intended for potting will be much benefited by a dose of liquid manure—say, twice a week. In no case must it be strong if artificial, nor must it be thick and muddy if the drainings of cow manure are used, otherwise the surface of the soil will be choked up and rendered impervious to air.

THE FRUIT HOUSES.

VINERIES.—As soon as the earliest crops of the permanent Vines have been cut, they should be syringed with a weak mixture of paraffin and water if they are infested in any way with red-spider or bug, which may have been encouraged by the dry condition of the atmosphere while the ripe Grapes were hanging. The ventilators should be thrown wide open night and day, or even taken off altogether to ripen the wood thoroughly. During dry weather they will be much benefited by an occasional heavy syringing, which will keep the leaves healthy and tend to check the increase of vermin.

MELONS.—As the roots push through the sides of the mounds of soil in which they are planted they should be earthed up with fresh material to keep the plants progressing strongly. Attend to thinning, stopping and tying of the shoots, otherwise satisfactory results cannot be obtained. In order to prevent any undue strain upon the stems, the swelling fruits should have supports placed to them before they get heavy. Watering must also be given without stint when necessary.

THE KITCHEN GARDEN.

PEACHES ON OPEN WALLS.—Bearing in mind the unfavourable nature of last year, and the badly ripened condition of the wood even after the fall of the leaf, an effort should be made to keep the shoots so thinly disposed that all will get the full advantage of sunlight. All weak, badly placed, or superfluous wood should be pruned away in summer, so that the cuts will get thoroughly healed over before winter. The remainder will then get the full advantage of exposure.

STRAWBERRIES.—Where it is intended to make fresh plantations, a sufficient number of runners should be layered in pots, or even pegged down on a small quantity of rich, light soil, and planted in their permanent situations as soon as well rooted. When treated in this way the plants will be sufficiently strong to bear a tolerably good crop of fruit next year.

HORTICULTURAL SOCIETIES.

Great Flower Show at York.

THE thirty-first annual exhibition of plants, flowers, and fruits in connection with the great York Gala was held on June 19th, 20th, and 21st, and in bright summer weather. These annual exhibitions are very popular, and exhibitors support the committees by sending their best for competition as well as for honorary exhibits. The numerous tents were well filled, and it was generally acknowledged that the exhibition was a good one, and in the opinion of many the best all-round show the society has yet held. The display of Pelargoniums was, indeed, a fine one. York has always been noted for the size and quality of the Pelargoniums shown yearly; but Mr. Eastwood's twelve and six, which took the first prizes respectively, were the finest he ever exhibited, and in the opinion of many who remember Pelargoniums in their palmy days, the finest twelve ever set up. Mr. McIntosh, gardener at the Asylum, York, is also a grower in the first rank, and last year beat Mr. Eastwood; but on this occasion he takes the second position in both classes with a very fine lot of plants.

Double zonal Pelargoniums were very well shown, especially Mr. G. Cottam's first prize lot of well-done plants in every respect. Mr. Eastwood was second, and Messrs. Simpson & Son third. For nine bronzes and tricolors, Miss Wharton, York, was first, and Mr. G. Cottam second with well-cultivated plants. The class for six plants of double Ivy-leaf Pelargoniums was well-filled, Mr. G. Cottam being first with exceedingly well-grown plants. The zonals were a grand lot, Mr. Eastwood being first for a splendid group of twelve plants, Mr. H. Pybus second, and Miss Stewart third. Mr. Cypher took the premier prizes for some good specimens of Orchids, he being the leading exhibitor of these plants.

Groups of plants in two classes were invited, and were well filled. In the large as well as the smaller class, Mr. McIntyre, gardener to Mrs. Gurney Pease, Darlington, was first with artistic groups; Mr. Thacker, Nottingham, was second, Mr. G. Cottam third, and Mr. W. Simpson fourth for the larger group; and for the smaller, A. Milnthorpe, Esq. was second, Dr. Baker third, and Mr. Widdell fourth. These groups filled one large tent. In the class for the stove and greenhouse plants, Mr. Letts, gardener to the Earl of Zetland, was first with plants in his usual style; and Mr. James Cypher an excellent second. The other classes for stove and greenhouse plants, ornamental plants, &c., were well filled, Mr. Letts taking the first prize for six admirable ornamentals, which included a very fine specimen Encephalartos Vroomii, and a wonderfully fine Kentia Fosteriana quite 18 ft. high, and fresh and vigorous. Mr. Letts was also first for three Ericas, a capital lot. Exotic Ferns, Tree Ferns, and hardy kinds were plentiful and good. Orchids were not so plentiful as we have seen at York. Mr. Cypher was first for ten, six, and three in the open classes, and these included the leading sorts of Cattleyas, Dendrobium Jamesonianum and D. Bensoni, and some fine examples of Cypripedium caudatum and C. Stonei. Fuchsias are invariably good at York, although the show is rather early for them. Mr. McIntosh, gardener to J. T. Hingston, Esq., was first for both six and three well-done specimens. Tuberous Begonias, Gloxinias, Calceolarias, table decorative plants, Coleus, Dracænas, Crotons, &c., were well represented.

There was a large number of Roses in pots, Mr. Henry Pybus and Messrs. Jackson & Co. being the leading exhibitors. The cut blooms were an important feature in the show, being very numerous and fine, and nearly filling the two sides of a long tent. In the class for seventy-two blooms, not less than thirty-six varieties, there were five exhibitors. Mr. Frank Cant, Colchester, was first; Messrs. Harkness & Sons second (some very fine Teas in this lot); Messrs. George Cooling & Son, Bath, third; and the Messrs. Burch, Peterborough, fourth. For forty-eight blooms Mr. F. Cant was first, Messrs. Harkness & Sons second, and Mr. Henry May third. For thirty-six varieties there were seven exhibitors, Mr. F. Cant taking first honours, Messrs. Cooling & Son second, and Messrs. Harkness & Sons third.

For twenty-four varieties Mr. F. Cant was again first, Mr. George Prince, Oxford, second, and Mr. S. P. Budd, Bath, third. White and yellow Roses are always encouraged at York by special classes. For twelve blooms Mr. George Prince took first prize with some fine blooms, Messrs. Harkness & Sons coming in second, and Mr. Henry May third. For twelve Tea Roses, dissimilar, Mr. Prince was first with superb blooms of Comtesse de Nadaillac, and Messrs. Harkness & Sons were second with Caroline Kruger. In the class for twelve H.P.'s, one variety, Messrs. Cooling & Son won first honours with twelve faultless and very fine blooms of Mrs. John Laing, which were much admired, and the second prize lot of Lady Alice, staged by Messrs. Harkness & Sons, was very beautiful. From Oxford came a box of blooms (not for competition) of Souvenir de G. A. Prince. Altogether the Roses were a grand display.

There was a very fine display of cut herbaceous blooms, both for competition and as honorary exhibits. For twelve varieties in bunches Mr. McIndoe was first, Messrs. Harkness & Sons second, and Mr. J. D. Hutchinson third. For twenty-four varieties (prizes offered by Mr. T. Ward) Messrs. Harkness & Sons were first, and Mr. J. D. Hutchinson second. In this section was a large group from Messrs. Harkness & Sons, including a rich display of Iceland Poppies; while the group from Messrs. Kent & Brydon, Darlington, included Lilium Scovitzianum (or Colchicum)—a gem amongst hardy Lilies. Messrs. James Backhouse & Sons set up a large and attractive group of hardy herbaceous and Alpine plants, and Messrs. Dicksons, Limited, Chester, a fine collection of cut herbaceous Pæonies and other plants.

Pyrethrums, both double and single, were extensively shown. For twenty-four bunches of doubles, Messrs. Harkness & Sons were first with a showy well-set-up lot, as well as for twenty-four bunches, dissimilar, of single varieties. For twelve bunches of doubles (amateurs), Mr. Battersby was first, and Mr. Hutchinson held a similar position for twelve bunches of singles. These blooms were very attractive and popular. The cut stove and greenhouse flowers from Trentham were very fine indeed, and consisted chiefly of Orchids. Mr. Blair was first for twelve bunches as well as for six; Mr. Duncan, gardener to C. H. Wilson, Esq., M.P., being second in both classes. For bouquets, Messrs. Perkins & Sons, Coventry, were first in each of the three classes for two bouquets. Pansies in a cut state were very numerous, and in some cases fine. Show Pansies were not up to the mark, but some of the stands of fancies were fine, and there was a keen competition. For twenty-four shows and the same number of fancies, Mr. T. Battersby was first; and for twelve fancies, Mr. R. Mann was first. There were, however, numerous exhibits, and Mr. Campbell, florist, Blantyre, sent, not for competition, nearly 150 very fine blooms. Some of the minor sorts, such as Thomas Battersby, Miss French, A. Ollar, Mrs. J. Ellis, Mrs. Freeland, Miss Gladstone, A. Buchanan, Maggie A. Scott, Lizzie Duncan, J. C. H. Hozier, Mrs. John McConnell and Alexander Ritchie will find their way into many a collection. Only two lots of Violas were staged, Messrs. Harkness & Sons being first, and Mr. Hutchinson second.

Fruit is always a feature at York, and on this occasion there was a fair display, though not equal to what is generally seen. For ten varieties Mr. McIndoe, Hutton Hall, was first, the Hon. Mrs. Ingram, Temple Newsham, second, Mr. Edmunds, Bestwood, third, and Mr. Blair, Trentham, fourth. For six varieties, Mr. McIndoe was first, J. Thorp, Esq., Newark (Mr. John Crawford, gardener), second, and Mr. Blair third. Mr. Alsopp, gardener to Lord Hotham, was first for three bunches each of black and white Grapes, and there was an excellent display of Melons. Amongst the Strawberries was a dish of Noble from out of doors, and from our own experience of this variety, we venture to predict great popularity for it, as it is so early and free. Sutton's Perfection Tomato, exhibited by Mr. Blair, took the first prize.

There were over twenty exhibits of a brace of Cucumbers, and some first-rate vegetables were staged in competition for Messrs. Sutton's and Messrs. Webb's special prizes, Mr. J. Thorpe securing the first award for the former, and Mr. McIndoe for the latter. Messrs. Henry Cannell & Sons sent cut double Begonias; also Pelargoniums, including their new double white regal, Pearl; a beautiful and distinct single, Souvenir de Mirande, cerise, with white centre; and King of the Purples. Messrs. W. & J. Birkenhead, Sale, set up about 300 plants of choice Ferns, chiefly hardy, among them being Todæa grandipinnula, Adiantum Fergusonii, Athyrium plumosum elegans, and several others of considerable beauty.

We are unable, for want of space, to mention everything which now deserves notice. Mr. M. Smout, Hastings, sent a rich display of "ocean flowers" for indoor decoration, which were greatly admired; Mrs. Hodgkins, Manchester, showed a beautiful assortment of skeleton leaves; and Messrs. Foster & Pearson, Nottingham, sent a good display of their well-built horticultural structures.

Royal Horticultural.—*June 25th.*

HARDY plants were the most prominent feature of the meeting at the Drill Hall, Westminster, on Tuesday last, including Roses, Irises, Liliums, Pæonies, Delphiniums, and herbaceous plants generally. Fruit was represented by numerous small collections of Strawberries, and the afternoon lectures by Messrs. A. F. Barron and G. Bunyard were devoted to that subject.

A Silver Banksian Medal was awarded to Messrs. Barr & Son, Covent Garden, for a general collection of herbaceous plants in a cut state. English Irises (Iris xiphioides) in great variety figured largely, and Liliums were numerous, including L. japonicum Krameri, L. Thunbergianum americanum, L. pardalinum, L. Martagon album, L. Hansoni, L. monadelphum Szovitzianum, L. davuricum, and L. d. croceum. Amongst the other subjects were Alstrœmeria aurantiaca, Spiræa filipendula plena, Hemerocallis fulva, Iris Monnieri, Ornithogalum pyramidale, Gnaphalium arenarium, Senecio macrophyllus, Iceland Poppies, Cypripedium spectabile, and others. A similar award was made to Messrs. Kelway & Son, Langport, Somerset, for a fine collection of Pæonies (varieties of P. albiflora), Gaillardias, Delphiniums, and Pyrethrums. The only variety of the latter was Aphrodite, double pure white, with flat rays and a quilled disc. The Delphiniums were a superb lot, and several were Certificated. A Silver Banksian Medal was also awarded to Mr. William Gordon, Twickenham, for a finely arranged group of Liliums, Japan Maples, Palms, and Maidenhair Ferns. Lilium auratum and L. a. pictum, with prominent red mid-ribs, constituted the prevailing feature of the group, and some fine forms of L. elegans stood along the front. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, had a collection of herbaceous plants, including a great number of Liliums—namely, L. monadelphum Szovitzianum, L. Hansoni, L. pulchellum, L. Washingtonianum, L. pomponium verum, L. tenuifolium, L. Martagon album, and numerous forms of L. elegans. He also had Habenaria fimbriata, a very beautiful species with a three-lobed fimbriated lip, and others. An interesting group of plants was exhibited by Messrs. J. Veitch & Sons, Chelsea, consisting chiefly of hardy plants and a few Orchids. A greenhouse plant—namely, Leptospermum baccatum—was notable for the great profusion of white flowers produced by it. A vote of thanks was awarded for Rhododendron The Czarina, a hybrid variety. Andromeda speciosa pulverulenta and A. s. cassinæfolia, the former having the leaves powdery beneath, and the latter having green leaves and more widely expanded pure white flowers, together with Styrax japonica and Ceanothus, Marie Simon, were notable for their floriferous habit. They also showed Zygocolax (Zygopetalum) Leopardinum and Masdevallia Ellisiana, two of their new hybrids. Messrs. Wm. Paul & Son, Waltham Cross, had several stands of cut Roses. With the exception of Sappho, Medea, and a few other Teas, they were all H.P. varieties. Amongst them were Magenta Queen, magenta; Grand Mogul, intense crimson; Duchess of Albany, a new rose-coloured form of La France; Spencer, pink; and Marchioness of Lorne, rose.

The other exhibits were smaller. Orchids were more sparingly represented than on any previous occasion for a long time. Dr. Duke, The Glen, Lewisham, showed Cattleya Mendelii Hallæ and C. Gaskelliana Sunray, having a purple blotch on the petals. Mr. F. Ross, Pendell Court, Bletchingley, exhibited an interesting variety of Orchis maculata, closely allied to O. foliosa, and Coreopsis elegans, a curious Asclepiad. N. N. Sherwood, Esq., Dunedin, Streatham Hill (gardener, Mr. T. Jones), showed a specimen of the beautiful and rarely seen Dendrobium stratiotes, with erect twisted petals, and a white lip, beautifully reticulated with purple. Messrs. Heath & Son, Cheltenham, exhibited Masdevalli Heathii, a hybrid form.

Messrs. H. Cannell & Sons, Swanley, Kent, showed a new strain of tuberous Begonias, called Carnation Begonias, which were rose or rose-scarlet with a yellow ground; also double Petunias, Clematis, Canterbury Bells, and double Balsams. A fine collection of Shirley Poppies was exhibited by the Rev. W. Wilks, Shirley Vicarage, Croydon, showing the most beautiful and delicate shades of colour, and some of the varieties showing a trace of yellow—a new shade in the strain. Mr. R. Dean, Ealing, also showed a collection of Shirley Poppies, amongst which was a semi-double pure white variety. He had also some seedling Carnations, amongst which a crimson variety named The Shah resembled the old Clove in colour. Lord Penzance (gardener, Mr. G. B. Baskett) sent a stand of a new H.P. Rose, and another of hybrid Sweetbriars, showing some beautiful shades of colour. Messrs. Hutchinson, Marston, Grantham, sent a box of cut and zonal Pelargoniums. A curious tuberous Begonia with single, semi-double, and double flowers of great depth, and named Mrs. A. Smith, came from Mr. Robert Owen, Maidenhead. A stand of a new H.P. Rose named Miss Rose Roberts came from Mr. J. Churchman, gardener to Miss Roberts, Rose Hill House, St. Clements. Mr. George Phippen, Reading, showed six boxes of Sweet Williams, for which he was awarded a vote of thanks.

The fruit exhibited before the Fruit Committee consisted almost solely of Strawberries, and a Cultural Commendation was awarded to each of the six following exhibitors:—Mr. T. Laxton, Bedford, who had three boxes of Laxton's Noble, and a basket of Laxton's Commander. Mr. R. Gilbert, Burghley, Stamford, who sent Noble, A. F. Barron, and Sir Joseph Paxton. Mr. S. Ford, Horsham, who showed specimens of the wild Strawberry grown in the garden. Mr. W. Allan, Gunton Park, Norwich, who sent four boxes containing a large number of varieties, amongst which were La Grosse Sucrée, James Veitch, Mr. Radcliffe, and others. Mr. J. Smith, gardener to the Earl of Rosebery, Mentmore, had also a large collection, including many popular kinds, together with Marguerite and Crown Prince. Mr. J. Watkins, Pomona Farm, Withington, showed Alice Maude, British Queen, and the Alpine Strawberry. The largest collection came from the gardens of the Royal Horticultural Society at Chiswick. Besides the better-known kinds, the collection included The Pilot, Sir Harry, Manchester, the Crescent, the Alpine, and Sir Charles Napier. Messrs. George Bunyard & Co., Maidstone, had a collection of popular kinds that need not be severally mentioned, together with Helen Gloede and others. Some seedlings with fruit of good size were shown by Mr. H. E. Rundle, Stoke, Devonport, as well as a kind named Peter the Great. A small lot was also forwarded by Mr. George Breese, Petworth, consisting of a box each of Sir Joseph Paxton, Lucas, and Dr. Moresc. W. F. Hume Dick, Esq. (gardener, Mr. W. Palmer), Thames Ditton House, Thames Ditton, showed Thames Ditton Hero Melon. The committee had under inspection a box of "wood wool" from Mr. J. George, of Putney. Strawberries had been packed in it for a week previously by a member of the committee, and when exhibited the "wood wool" was found to be suitable for the purpose, as it had not tainted the flavour of the Strawberries, nor imparted its smell to them.

THE WEATHER.

AT the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending June 22nd was 29·94 ins.; the highest reading was 30·06 ins. on Tuesday morning, and the lowest 29·86 ins. at the beginning of the week, on Thursday afternoon, and on Saturday afternoon. The mean temperature of the air was 59·6°, and 0·6° below the average in the corresponding weeks of the twenty years ending 1868. The mean was below the average on Monday, Tuesday, and Wednesday, but showed an excess on each of the other days of the week. The general direction of the wind was N.E. and E.N.E., and the horizontal movement of the air averaged 8·5 miles per hour, which was 1·5 miles below the average in the corresponding weeks of sixteen years. No rain was measured during the week. The duration of registered bright sunshine in the week was 65·3 hours, against 68·4 hours at Glynde Place, Lewes.

QUESTIONS AND ANSWERS.

BEANS BLIGHTED.—*G. M.:* Your Beans are being destroyed by the bean or black fly (Aphicis rumicis), a pest that is very difficult to exterminate. It commences about the top of the plants, and as the pest increases in numbers the lower parts of the plant and the flowers become black with them, and very soon get destroyed if means are not taken to check their progress. Remember that when the pest first makes its appearance is the best time to attack it. Syringe your plants with soft soap, or soap suds, mixed with tobacco water. The latter should be made by steeping a pound of coarse shag or cut cavendish in six gallons of hot water, and mixing this with half-a-pound of soft soap. Syringe your plants heavily with this, and a few hours afterwards syringe with clean water to ward off any ill effects of the tobacco.

CALANDRINIA UMBELLATA.—*G. Harris:* You could easily raise seedlings of this in the open air, but seeing that it is now rather late for the plants to get established before winter in the open ground, you should sow the seeds in a pan of light soil, and place them in a cold frame or under a hand-glass, and keep the same close and shaded if need be till the seedlings appear; then they want plenty of air and light, together with attention in the matter of watering. After the seedlings become firm and fit to handle, prick them off in a box in lines an inch apart each way. When they have made nice little tufts, plant them in the open border or in the rockery. A number of plants may be grown as a reserve stock in frames, in case the others should be destroyed by severe frosts in winter. Keep them tolerably dry in winter, and when out of doors the soil should be well drained, so as to afford a dry medium for the roots.

CHRYSANTHEMUMS.—*F. J. S.:* If you want show-blooms of the largest size, you should not have taken out the points of the single shoots in May; the plants would have broken themselves as soon as the crown-bud had formed. The best thing you can do now is to remove the side-shoots as they appear, and take the crown-bud, or the terminal one, which will, perhaps, answer best in your locality. Your other question next week.

CHRYSANTHEMUM TRICOLOR.—*Geo. Hinds:* Yes, you can save seeds of these readily. As the different varieties come into bloom, mark them, so that you can distinguish what are worth saving when the seeds ripen. Any particular colour can be distinguished by attaching a small label with a name or number, which should also be written in a book, so that reference can be made to the same when about to sow the seeds of any particular or choice kind.

GRAPES.—*A. C.:* The berries are scalded, and in a very bad way. They have either been bathed in condensed moisture, or wet from drip, when the sun has caught them, and, acting on the drops of water like a lens, has killed the tissues of the berries. All you can do to prevent its recurrence is to give more air and earlier in the day, so as to dispel the condensed moisture before the sun gains much power.

NAMES OF PLANTS.—*An Amateur:* 1, Phyteuma spicata; 2, Salvia sylvestris, dark variety. *Thomas Merrifield:* A rather distinct variety of Stanhopea Wardii, but the colour was nearly all gone except on the lip. *E. G.:* Ipomæa Bona-nox.

PEACH LEAVES DROPPING OFF.—*Subscriber:* The leaves are scalded or sun-burnt, in the same way as Grapes occasionally suffer, from the sun acting like a lens on spots of water, but this has nothing to do with their falling off, which, in the absence of any information to the contrary, we can only suggest may be due to the want of water at the roots, either at the present time or in the autumn when the trees were ripening up the wood. Giving air earlier in the morning, and not syringing the trees until the sun has lost its power for burning, will correct the scalding.

COMMUNICATIONS RECEIVED.—E. W. & S.—E. W. B.—W. D.—J. W.—W. R. & Co.—A. O.—D. W.—C. J.—W. P. D.—Heeley—T. C.—F. E.

TRADE CATALOGUES RECEIVED.

DAMMANN & Co., San Giovanni a Teduccio, near Naples.—Wholesale Catalogue of Bulbs, Roots and Orchids.

LONDON SEED TRADE.

June 24th.

MESSRS. HURST & SON, 152, Houndsditch, report market for Agricultural Seeds unchanged. Report as to growing crops continue favourable, consequently there is no speculative demand. Mustard and Rape sell slowly. Bird Seeds dull.

COVENT GARDEN MARKET.

June 26th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Grapes .....per lb.	2 0	3 6	Strawberries.. per lb.	0 2	0 8
Pine-apples, Eng., lb.	1 0	1 6			

Canadian and Nova Scotia Apples, per barrel, 7s. to 17s.

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus ....per 100	3 0	8 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ..per dozen	1	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages .... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	8 0	Radishes ..per dozen	1 6	
			Small salading, punnet	0 4	
Celery ....per bundle	2 6		Spinach, per strike ..	2 0	
Cucumbers ....each	0 4	0 10	Tomatos ....per lb.	1 0	1 6
Endive, French, doz.	2 6	3 6	Turnips ....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms..	2 0	4 0	Mignonette, 12 bun.	3 0	6 0
Asters, French, per bunch	1 6	2 6	Moss Roses 12 bnchs.	4 0	9 0
Bouvardias, per bun.	0 6	1 0	Pansies ..12 bunches	1 0	2 0
Carnations, 12 blooms	1 0	2 0	Pelargoniums, 12 spys.	0 6	1 0
Carnations, 12 bnchs.	3 0	6 0	— scarlet ..12 sprays	0 4	0 6
Cornflower, 12 bnchs.	2 0	4 0	Pæonies....12 bnchs.	6 0	12 0
Delphinium, 12 bun.	3 0	6 0	Pinks ....12 bunches	2 0	4 0
Eschscholtzia, 12 bchs.	2 0	4 0	Primula, double, bun.	0 6	1 0
Eucharis ..per dozen	3 0	6 0	Pyrethrum, 12 buchs.	2 0	6 0
Forget-me-nots.....	1 6	4 0	Roses, Tea, per dozen	0 6	1 0
Gardenias, 12 blooms.	2 0	5 0	— Red .....per doz.	0 3	1 0
Heliotropes, 12 sprays	0 3	0 9	— Saffrano ..per doz.	0 6	1 0
Iris .....12 bunches	6 0	12 0	Spiræa ..12 bunches	4 0	6 0
Lapageria, 12 blooms	1 0	2 0	Stephanotis, 12 sprays	2 0	4 0
Lilium longiflorum, 12 blooms	2 0	4 0	Sweet Sultan, 12 bun.	4 0	6 0
Maidenhair Fern, 12 bns	4 0	9 0	— Peas.....12 ,,	3 0	6 0
Marguerites, 12 bun.	3 0	6 0	Tuberoses, per dozen.	0 6	1 0
			White Lilac, French, per bun.	3 0	5 0

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Aralia Sieboldi ..doz.	5 0	12 0	Lobelia .... per doz.	3 0	6 0
Arum Lilies..per doz.	6 0	12 0	Hydrangeas..per doz.	6 0	15 0
Bedding plants, in var., per doz.	1 0	3 0	Marguerites per doz.	6 0	12 0
Calceolaria ..per doz.	4 0	8 0	Mignonette, doz. pots	3 0	6 0
Cyperus, ..per dozen	4 0	12 0	Musk ..... per doz.	2 0	4 0
Dracæna term., doz.	30 0	60 0	Nasturtiums .... doz.	3 0	5 0
— viridis, per dozen	12 0	24 0	Palms in variety, each	2 6	21 0
Erica, various ..doz.	9 0	24 0	Pelargoniums, scarlet,	2 0	6 0
Evergreens, in var. ,,	6 0	24 0	Pelargoniums, per doz	6 0	18 0
Ferns, in var., per doz.	4 0	18 0	Rhodanthe ..per doz.	3 0	6 0
Ficus elastica ..each	1 6	7 0	Roses, H.P., per doz.	12 0	24 0
Foliage Plants..each	2 0	10 0	Roses, Fairy, per doz.	6 0	8 0
Fuchsia.....per doz.	4 0	12 0	Saxifraga, various, doz.	6 0	18 0
Heliotrope ..per doz.	4 0	8 0	Spiræa .....per doz.	9 0	12 0
			Stocks ..... per doz.	2 6	4 0

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Next Week's Engagements.

TUESDAY, July 9th.—Royal Horticultural Society: Meeting of Fruit and Floral Committees at Chiswick. Chiswick Horticultural Society's Show. Diss and Hereford Rose Shows. Portsmouth Summer Show (3 days).

WEDNESDAY, July 10th.—Rose Shows at Brighton, Dursley, Ealing, Ipswich and Tunbridge Wells.

THURSDAY, July 11th.—Gloucester Rose Show. Highgate Flower Show at Caen Wood Towers.

FRIDAY, July 12th.—Alexandra Palace Rose Show. Sale of Orchids at Protheroe & Morris's Rooms.

SATURDAY, July 13th.—Rose Shows at Eltham and New Brighton.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JULY 6, 1889.

CURRENT TOPICS.

THE ROSE SEASON.—The recent hot weather has given the Rose growers some cause for anxiety. It has been of so forcing a kind that calculations as to the duration of flowers, or their time of opening, seem to have been sadly discounted. When very hot weather ensues the work of a week is often performed in a day, and flowers come with a rush, which is absolutely alarming. The exhibition of the National Rose Society this day, at the Crystal Palace, attracts special attention this year, because of the expected presence of the Prince and Princess of Wales and the Persian Monarch; but everything in the way of success hinges upon the continuation of the heat, or the reversion to a cooler temperature.

At Richmond last week, although the show there was held at the earliest possible date, yet the display of Roses exceeded by far all previously seen in that locality; indeed, the committee were exceptionally fortunate in thus standing alone at the opening of the season in securing the remarkably brilliant display of flowers which resulted. What with the shows almost all over the country just now, we shall be filled with Roses to satiety, yet they can be endured, for they are indeed glorious flowers.

Then, if we have such early blooming, the wood should become so firm as to encourage the production of summer growths of the stoutest character, and a fine autumnal bloom should result. We shall look hopefully to that end. A fine corn year seems always to be a good Rose year, because the Rose likes warmth and clear skies, and where modern appliances enable water to be freely applied the absence of rain need not be regretted.

STRAWBERRIES.—We make no apology for reverting to these popular fruits again, because we have never had on the market a bigger crop of these fruits than has been seen this year. To growers there have been far too many, as, whilst the cost of gathering remains about the same, in thousands of cases prices have fallen so low that after all expenses have been paid there has been little or nothing left for the grower. The fact is, our large growers—the ten, twenty, or fifty-acre men—have been by far too dependent upon merely two or three kinds of mid-season ripening, large croppers and popular sorts, such as Paxtons, Napiers and Presidents, the former especially, with the result that the market has been literally deluged at the same moment with fruit.

The early samples have been wondrously fine, chiefly because all the earlier bloom remained unhurt by the late frosts. On the other hand, the later pickings show a considerable falling off in size, consequent upon the heat and lack of rain generally. It has therefore been found more profitable to pull these and send them to the jam makers, than to gather and market the fruits in the usual way. The great want of the market growers is a first-class early sort, and that want seems about to be supplied in Noble, which is making a big reputation as a decidedly early, as well as a fine fruiting kind; indeed, in dimensions of fruit, it rivals Sir J. Paxton. To secure any fine variety which shall command the market a week before the rush of the fruits from standard kinds come in, would not only be a great gain, but would effectually shut out the French consignments. Then we should like to see Waterloo and Elton Pine, two of the very best late varieties, more largely grown, and thus enable the public to have good fruits earlier and later, rather than to be flooded with them in a too short season.

BARRON'S TREE TRANSPLANTER.—Amidst the wealth of exhibits, attractive and otherwise, to be seen at the great show at Windsor, very many of the visitors, we fear, failed to notice, as we did on our first visit, that very interesting, practical exposition of Mr. Barron's (of Elvaston) famous tree transplanter, seen in one part of the grounds. Here suspended some 18 ins. or 20 ins. above the ground, in the middle of a huge vehicle resembling a big timber carriage, was seen a fine Scotch Fir some 40 ft. in height, which had some ten days previously been lifted by the machine at Ascot, and brought to the show yard, so that the practical value of the lifter might be thus exemplified.

We saw the tree after it had been in this novel position for several days, and exposed to the full glare of almost tropical sunshine, the heat of the show week being for England abnormally high, yet there the tree still hung, suspended upon the bearers by stout chains, the roots beneath and at the sides somewhat protected from the sun's rays by mats, but, none the less, not a twig hung, and not a branch flagged; in fact it seemed as though it had grown on the machine for years and liked it. The entire tree and ball of soil weighed several tons. Occasionally a few buckets of water were thrown over the grassy surface of the ball to keep it moist.

Really this exhibit was for foresters and gardeners one of the most practical and useful things shown, for beyond much of the very showy and elaborately got-up machinery seen, it was thus demonstrating what it could do, whilst other things left much to be inferred. Mr. Barron has accomplished some remarkable things in the way of transplanting in his day, and merits our warm congratulations for the success he has met with.

THE PAPERS READ AT THE DRILL HALL.—If the lack of interest in the papers read at the Westminster Drill Hall, as shown when Mr. Barron and Mr. Bunyard read their admirable essays on the 25th ult., is to mark future gatherings, then we hope that both in the interest of the society and the readers of papers—and these latter merit some consideration—that steps will be taken to ensure a larger gathering, or else that the papers will be taken as read and published without further trouble or fuss.

On the recent occasion it was painfully obvious that of the thirty or forty persons present, the majority were those whose exhibits compelled them to remain, or were ladies who had no practical knowledge of the subject. The gardeners and others who make up the attendance at the committee meetings earlier in the day were marked by their absence, as it is not possible for them—their ordinary duties being over by one o'clock—to remain some two or three hours later for the purpose of assisting to make an audience. Were the committees' business to be taken at twelve o'clock, ample time would be afforded for members coming from a distance to do so easily, or in other cases to attend to some important duties at home first. Then, with half-an-hour for refreshment, the papers might be read at two o'clock, and be over in such good time as to enable the members of the committees to still return home at an early hour.

The present arrangements seem to be peculiarly opposed to the convenience of those most concerned, with the unfortunate result that they are compelled to depart ere some most interesting features of the meeting come off. So far, in almost every case, the papers have been good and the discussions practical, but readers have some right to demand that an intelligent and fair audience shall be present to listen to their essays.

The Orchid Album.—Mr. B. S. Williams announces that after the completion of the eighth volume, this work will be issued as a bi-monthly publication, one volume being completed every two years.

English Flowers at the Paris Exhibition.—We understand that the jury at the flower show held from June 21st to the 27th, in connection with the Paris exhibition, have awarded a premier prize to Messrs. Kelway & Son, of Langport, for a bank of herbaceous Pæonies, Delphiniums and Gaillardias.

Alexandra Palace Rose Show.—A capital schedule has just been issued for this exhibition, which is to take place on Friday next, July 12th, and in conjunction with which the ceremony will be performed of crowning the Rose Queen by the Rev. Father Nugee. It is also proposed to have a bazaar for the sale of surplus specimen blooms of Roses, garden literature, &c., the proceeds of which are to be given to the Gardeners' Orphan Fund.

The York Gala.—We are pleased to hear that the total receipts at the late annual exhibition held at York exceeded last year's return by £220, the full amount being £1,430. In the report in our last number we hardly stated the awards correctly in the class for ten dishes of fruit, which were taken as follows:—First, Mr. McIndoe, Hutton Hall; equal seconds, Mr. Edmonds, Bestwood, and Mr. Dawes, Temple Newsham; third, Mr. Blair, Trentham.

An Improvement in Trafalgar Square.—By way of experiment in beautifying the paved open spaces of London, the Metropolitan Public Gardens Association, with the sanction of the First Commissioner of Works, has just placed in the two upper corners of Trafalgar Square large banks of flowering and foliage plants, which will be removed from time to time as occasion may require, in order that they may always present a bright and attractive appearance.

Honours to French Horticulturists.—We learn from the *Bulletin d'Arboriculture* that M. Alphand, author of *The Parks, Promenades and Gardens of Paris*, has received the Grand Order of the Legion of Honour, and one of his lieutenants, M. Laforcade, Superintendent of the Gardens of the City of Paris, after thirty-three years service, is named Chevalier of the same Order. The veteran M. Bergman, of Ferrières, has received the decoration of Chevalier of Agricultural Merit.

Origin of Chrysanthemum Mrs. Alpheus Hardy.—Some doubt having been expressed as to the origin of this new variety, a correspondent of *The Garden* says of its history:—"To begin with, a young Japanese named Neisima, wanting to become a Christian, went on board an American vessel. He was brought to the notice of Mr. Hardy, who sent him to Andover and Amhurst Academies, where he was educated. This Mr. Neisima returned in due course to Japan as a missionary, and sent to Mrs. Hardy as a token of his gratitude a box containing the roots of the Chrysanthemum in question. At that time no one knew or surmised what character of flower it might be. Mrs. Hardy gave them to a Boston seedsman, who divided the roots with another florist; but no bloom had been described or seen up to this time, nor had anyone any idea what the outcome would be. When the plant flowered and showed such marked original character and beauty, it was exhibited in Boston, where it was at once awarded the Silver Medal as the most beautiful flower of recent introduction. There were many attempts made to purchase the stock by conspicuous business men, and it was only after the payment of £300 that it was secured by its present possessors—a price never before given for any soft-wooded plant in America.

The R. A. S. at Windsor.—Her Majesty the Queen, accompanied by the Prince of Wales and other members of the Royal family, visited the show yard on Friday morning (June 28th), and during their drive round the show the Royal party stopped several minutes at Messrs. Sutton & Sons' handsome range of offices, to inspect some of the features of this interesting exhibit. Mr. Martin J. Sutton, Mr. A. W. Sutton, and Mr. Leonard Sutton had the honour of receiving Her Majesty, who was graciously pleased to express satisfaction with what she had seen, and thanked Mr. Sutton for the beautiful floral decorations provided by his firm for the Royal pavilion. Mr. Sutton had the honour also of presenting Her Majesty with a magnificently bound copy of the Sutton album as a souvenir of the exhibition; also a bouquet of splendid Gloxinias grown at their Reading seed grounds. Messrs. James Carter & Co. were also honoured by a visit from Her Majesty, who ordered a collection of their new cross-bred Wheats (eleven varieties), as H.R.H. the Prince of Wales had done on the previous day. Her Majesty also visited the stand of Messrs. Little & Ballantyne, of Carlisle, and expressed her desire that the handsome young specimen of Abies Albertiana, exhibited by this firm, should be planted in the Windsor Great Park, as a memorial of the Jubilee Exhibition. The honorary director of the R.A.S. (Sir Jacob Wilson), who on Saturday received the honour of knighthood, has made arrangements for this being carried out.

Gardeners' Orphan Fund.—At the usual monthly meeting of the committee, held on the 29th ult., Mr. Deal presiding, Mr. Barron made the gratifying announcement that the total receipts from all sources during the twelve months was over £1,900. Amongst other routine business Mr. F. Q. Lane, Berkhamstead, was elected to serve on the committee in the place of Mr. H. Williams, resigned, and Mr. George Gordon, Gunnersbury, in the place of Mr. Charles Howe, deceased. Arrangements were also made for the annual meeting, the election of candidates, and the second anniversary dinner, to be held at the Cannon Street Hotel on the 19th inst., which promises to be even more successful as a gathering of gardeners than was that of last year. We may again remind our readers that the object of the fund is to make allowances or grants of money to aid in the maintenance of the orphans of gardeners, foremen in public, private, and market gardens, and the managers or foremen in nursery and seed establishments. Although it has only been two years in existence, the necessity for such a fund has been amply demonstrated, eleven children having been elected to its benefits at the first annual meeting in July last year. At the second annual meeting on the 19th the committee find that the funds at their disposal will not justify the election of more than five out of fourteen pressing claims; and under these circumstances earnestly appeal to the benevolent public generally, and to those interested in horticulture in particular, for funds to aid in the good work. Subscribers may rest assured that their money will be utilised to the best advantage, as the fund is administered with the strictest economy, no money being expended on buildings or an expensive staff. The children are placed in most cases with the mother, and under the supervision of the local secretaries. By this means almost the whole of the money subscribed is employed for the object intended—viz., the maintenance of the children. The president, Sir Julian Goldsmid, Bart., M.P., will preside at the annual dinner, and we shall be pleased to receive an annual subscription or donation, large or small in amount, from any of our readers to add to the president's list.

NEW OR RARE PLANTS.

CYPRIPEDIUM STONEI, HACKBRIDGE VARIETY, *nov. var.* The original or typical form of Cypripedium Stonei, figured in the *Botanical Magazine*, t. 5349, has the inner face of both the upper and lower sepal white, and entirely without stripes or other markings, whereas the external surface has a median band of purple. The upper sepal of the Hackbridge variety is unusually broad, almost rotund, with a short point. The outer face is deep purple with white edges, and so intense as to shine through, giving the inner face a pink tint. There are in addition five claret-purple and somewhat broken stripes on the inner surface; the lateral and combined sepals have seven such bands along the principal veins. The petals are equally distinct from those of the original type, and measured, when I saw them, 5 ins. in length, and ⅝ in. in width; but they were still young and growing. They were of a bright yellow marked longitudinally with brownish purple, oval blotches, and were brownish purple at the tips. The narrowness of the petals of the original type may also be noted by referring to THE GARDENING WORLD, vol. ii, p. 761. The specimen was obtained as a small unbloomed plant from the collection of the late Mr. John Day, of Tottenham, and has just flowered for the first time with A. H. Smee, Esq., The Grange, Hackbridge, Surrey. At present the plant has a two-flowered scape; and the foliage is very vigorous, giving great promise of being even better than it is as yet.—*J. Fraser.*

ACINETA WRIGHTII. In describing an Orchid under this name as a new species at p. 673, I find I was in error, as a subsequent examination of the unnamed specimen in the Kew herbarium, which I alluded to as being labelled Acineta, but without a specific name, turns out on dissection of the flowers to be Lacæna bicolor of Lindley, and that is the correct name of the plant in question. It is figured in the *Botanical Register*, 1844, t. 50. Lindley's specimen was 18 ins. long and nine to ten-flowered, whereas the specimen at Devonhurst had forty-six flowers. I may add that I am not the only one who as been deceived by this plant, as Prof. Reichenbach has also described it as a species of Acineta (A. longiscarpa) in a German publication. Lindley himself says of Lacæna bicolor, "in habit like some of the Peresterias, with a pendulous raceme, that it would certainly be mistaken for them, and in structure it approaches them, no doubt, very closely. It is, however, essentially distinguished by the labellum and pollen apparatus." The very short foot of the column is also exceedingly liable to be overlooked.—*J. Fraser.*

LYCASTE DEPPEI VIRIDIS, *nov. var.* The typical form of this South Mexican Orchid has pale greenish sepals as a rule, heavily marked with brownish purple spots on the inner surface, white petals, and a golden yellow lip, more or less spotted with red or crimson, and striated longitudinally on the side lobes with the same colour. The small somewhat pointed crest is free in front and decurrent, forming a narrow median ridge to the base of the lip. The front of the column is covered with short, whitish, somewhat woolly hairs. The variety under notice differs in the sepals being pale green, and devoid of brownish purple markings, except at the base of the inner face. The lateral lobes of the lip are also closely striped with deep purple, except the anterior edges which are spotted with purple on a golden yellow ground. The column is creamy white, spotted with purple all over the face beneath the stigmatic disc. The plant flowered in the collection of A. H. Smee, Esq., The Grange, Wallington, Surrey, from whom I received the specimen.—*J. Fraser.*

HARDY SHRUBS IN FLOWER.

DEUTZIA SCABRA.—Both this and D. gracilis are hardy Japanese shrubs, but although equally amenable for cultivation in pots, the former is more frequently grown out of doors, while the latter is even more generally cultivated in pots, and extensively used for forcing purposes. D. scabra is best known under the name of D. crenata, and grows from 3 ft. to 8 ft. in height, according to age and the treatment it receives. In the single or typical state it produces long erect racemes of pure white flowers all along the shoots of the previous year's growth. The double white form (D. s. flore pleno) is the most popular, judging from the frequency with which we meet with it; but there is a pretty pink or rosy pink form (D. s. purpurea plena) that has been in cultivation for many years, yet

may be considered a comparatively neglected plant. Now and again it crops up under a new name, but does not get so widely disseminated in gardens as its merits deserve. The individual flowers droop on their pedicels, showing the exterior, which is the most highly coloured. As a plant for the shrubbery or mixed beds on the lawn by the side of the double white variety it is really charming, and should be rescued from the unmerited neglect it now suffers.

Spiræa japonica.—This must not be confused with the plant so extensively grown for forcing purposes, and known under the names of Spiræa japonica and Hoteia japonica, the true name of which is Astilbe japonica. The shrubby species under notice is also known as Spiræa callosa and S. Fortunei. It is a native of China and Japan, from which it was originally introduced in 1859. The typical form has bright rosy red flowers, produced in large, flat, branched corymbs, and grows from 3 ft. to 6 ft. in height. The white form (S. j. alba) is a choice and handsome little shrub, seldom exceeding 1 ft. in height, and bearing a great profusion of pure white flowers. S. j. splendens is also a dwarf variety, with peach-coloured flowers, and eminently adapted for forcing. S. j. rubra has deep red flowers, and forms a highly desirable plant for the shrubbery. As a species S. japonica is extremely liable to variation, more especially in the colour of the flowers.

Cistus ladaniferus.—Like the rest of its congeners, the flowers of this species are very striking and showy, but they are at the same time very fugacious. The flowers are large, solitary, terminating the branches, and when fully expanded measure 3 ins. or more in diameter. In the month of June they suddenly expand in batches during the prevalence of bright weather; but in a day or so thereafter they complete their maturation and drop, to be succeeded by others if the plant is a large one. The typical form has pure white flowers, but C. l. maculatus has a black or dark blood-coloured blotch at the base of each petal, and besides being the showiest form, is the commonest in gardens. A large plant of this variety has been flowering freely for some time at The Grange, Wallington. The leaves are narrowly oblong, very dark in colour, and evergreen.

Rosa moschata.—Our native field Rose (R. arvensis) belongs to the same group as the Himalayan species, and the two are similar in habit, inasmuch as the stems are long, slender, and sprawl on the ground or scramble over bushes with which they come in contact. There is a large old specimen of Rosa moschata near the succulent house at Kew, which annually makes as grand a display as any single wild Rose can well do. The flowers are of large size, white, or blush tinted, and are produced in large terminal corymbs or clusters. The long rambling stems clamber over an old Yew hedge and are 12 ft. or 15 ft. in length. Such a plant would be an acquisition in the wild garden, for it is showier and more floriferous than our native field Rose, and has larger leaves with long lanceolate leaflets. For horticultural purposes it ranks next to R. multiflora in the class to which all the above-mentioned kinds belong, and which may be described as climbing Roses. June and July are the months during which R. moschata, sometimes called Brown's Rose, is at its best.

Styrax serrulata.—There are several forms of this, both in a wild and cultivated state. The species as a whole is a native of Eastern Asia from India to Japan. From the latter country comes a dwarf and free-flowering form, which is to be found in some gardens under the name of S. japonica. The latter is a fine plant, but is only a sub-variety of S. serrulata virgata. It produces its large, pure white, and Philadelphus-like flowers in racemes terminating the short lateral branches, and during June and July constitutes a very ornamental bush for the shrubbery or pleasure grounds. Like other Japanese shrubs, it proves quite hardy in the climatically more favoured parts of this country at least, but as yet is not very common.

Zenobia speciosa.—Formerly and frequently even yet do we find this plant under the names of Andromeda speciosa and A. cassiniæfolia. The flowers, however, are large, bell-shaped, and open—quite different in appearance from a true Andromeda. They are pure white, and produced in such abundance on healthy subjects that they constitute the plant an object of great beauty. The leaves are green, but those of the variety Z. s. pulverulenta are covered on the under surface with a white powdery-looking material. This form is also very floriferous.

HELICHRYSUM BRACTEATUM.

The flower heads of this Australian annual are large compared with those of most species of plants coming under the designation of everlastings, and have been greatly improved in gardens with respect to size, but more especially colour. A considerable number of forms have received varietal names, but a packet of seed from a good strain will afford a large amount of variation in all the leading colours. The value of the flower heads and their durable properties depend on the dry coloured bracts which surround the true flowers. The primary or typical colour of the species would seem to have been yellow, but they are now golden yellow, pale yellow, orange, crimson, rose, pink,

Helichrysum bracteatum.

and other shades of colour in endless variety; and some are said to be double on account of the great size of the heads and the greatly increased number of bracts. The larger illustration accompanying this shows the form and appearance of the flowers, while the smaller figure illustrates the habit. Treated as half-hardy annuals the various colour varieties are excellent as bedding plants for planting in clumps or as cut flowers either in the fresh or dried state.

Helichrysum bracteatum.

THE NATIONAL ROSE CONFERENCE AT CHISWICK.

There is but little to say of a complimentary character respecting this event, which came off at Chiswick on Tuesday and Wednesday. It was a dismal failure from beginning to end, and had only one redeeming feature—the singularly interesting collections of old-fashioned Roses, and of species and varieties not often seen at exhibitions, which were contributed by a few of the leading trade growers. Beyond these the display of Roses about equalled the attendance of Rosarians—there was a handful of both—and no more. Of the why and the wherefore of this poor return for a mountain of labour we shall not now stay to inquire, suffice it for the moment to express our sorrow that such a failure should at this time have to be associated with Chiswick, and our hope that the garden, now looking at its best and full of interest, will in no way suffer through this unfortunate venture.

The largest collection of Roses of all kinds grouped in their several families or classes was that shown by Messrs. Wm. Paul & Son, Waltham Cross. It contained 350 sorts, and was awarded a Silver-gilt Flora Medal. They were grouped according to their affinities, arranged in boxes to the number of nineteen, and occupied a large extent of table space. There were varieties of Musk Roses (Rosa moschata), Ayrshire, Moss, Perpetual, Provence, Polyantha, Tea, Climbing Tea, Noisette, Bourbon, and H.P. Roses in large quantities. A similar award was made to Messrs. Paul & Son, Cheshunt, for a meritorious, but less extensive group or collection similarly classified. Single and Polyantha Roses were very prominent in this collection. Other exhibits were made in Class 1 by Mr. W. Rumsey, Joynings Nurseries, Waltham Cross, who was awarded a Silver Banksian Medal, and by Mr. C. Turner, Slough, whose collection consisted largely of H.P. Roses.

Class 2 was for a collection of Moss and Provence Roses, and that of Messrs. G. Bunyard & Co., Maidstone, being the most meritorious, was awarded a Silver Banksian Medal. The common crested and various white Moss Roses were very prominent in the collection. Messrs. William Paul & Son, and Messrs. J. Cranston, King's Acre, Hereford, also exhibited in this class. Amongst old kinds that one misses at modern exhibitions are Lanei, rose; White Bath, and Blairii No. 2, another beautiful rose kind. The third class was for hybrid Chinas, hybrid Bourbons, hybrid Noisettes, Gallicas, and Albas. Messrs. William Paul & Son, Messrs. G. Bunyard & Co., and Messrs. J. Cranston & Co. exhibited in this class.

The space at our command does not permit of detail, otherwise much might be said of these beautiful garden Roses. A deep red variety named Ohl, a variety of R. gallica, reminds us of the old-fashioned cottage garden Roses of many years ago. A very pretty pink-coloured and wavy-margined Rose named Princess Louise Victoria, was very handsome. Single Roses of decorative value were shown by the Rev. J. H. Pemberton, Havering-atte-Bower, Essex. They were, however, mostly double or somewhat improved garden forms, including the striped Damask, Scotch Blush, Crimson Damask, and R. cinnamomea plena. Climbing Roses were shown by Messrs. Wm. Paul & Son, Messrs. Paul & Son, and by Messrs. G. Bunyard & Co. They consisted of Ayrshire Roses, hybrid Chinas, varieties of R. sempervirens, Noisettes, such as W. A. Richardson, with charming orange buds; Celine Forestier, white; Maréchal Niel, yellow; and various climbing Teas, such as Bouquet d'Or; climbing Devoniensis, blush-white; Beauté de l'Europe, and others. Other summer-flowering Roses were shown by Messrs. G. Bunyard & Co., and by Messrs. Paul & Son. Amongst these Rosa Mundi, rose striped with pink; Perle des Panachées, handsomely striped and marked with purple, rose, and white; Persian Yellow, double; Austrian Briar, single yellow; Alba, single white; and R. indica, single and white, were very noticeable and pretty.

The autumn-flowering Roses, so called, consisted mainly of H.P.'s and Tea Roses, as well as Polyanthas, the single or typical form of which has four or five white petals, greatly resembling a large-flowered Bramble, and China Roses. As might be expected, there was a good competition in the classes for H.P.'s and Teas, which are at present the most popular kinds, and greatly encouraged at all the principal shows. A Silver Banksian Medal was awarded to Messrs. J. Cranston & Co. for a collection of H.P.'s not exceeding forty-eight varieties, and a similar award was made to Messrs. Keynes, Williams & Co., Salisbury. Her Majesty, rose-pink, Merveille de Lyon, white, and Marquise de Castellane were very choice and often represented. Messrs. J. Burrell & Co., Cambridge, also showed in this class. A Silver Banksian Medal was awarded to Mr. Frank Cant, Colchester, for twenty-four varieties of H.P. Roses. Other exhibitors here were Messrs. Keynes, Williams & Co., Messrs. J. Cranston & Co., Messrs. G. Bunyard & Co., and Messrs. J. Cheal & Sons, Crawley, Sussex. Nearly all the same exhibitors competed again in the class for ten varieties, together with E. Mawley, Esq., Rose Bank, Berkhamstead. Teas and Noisettes were very fine, and attracted a large share of the attention of the public. The champion growers, Mr. Geo. Prince, Oxford, and Mr. F. Cant were each awarded a Silver Banksian Medal in the class for twenty-four varieties.

The Rev. F. R. Burnside, Birch Vicarage, Hereford, Messrs. J. Cranston & Co. and Messrs. J. Burrell & Co. also exhibited here. Messrs. Keynes, Williams & Co. and Mr. Geo. Prince were awarded Silver Banksian Medals in the class for twelve varieties.

Other exhibits were shown by Mr. F. Cant and by Messrs. J. Cheal & Sons, Crawley, Sussex. Collections of Teas and Noisettes in bunches were shown by Messrs. Paul & Son, Mr. Geo. Prince, and by Messrs. G. Bunyard & Co. The Polyantha Roses and hybrids of them were shown in fine form by Messrs. Wm. Paul & Son, and by Messrs. G. Bunyard & Co. These miniature Roses are produced in large trusses, and are so charming for garden decoration that they ought to be more largely grown. Very choice are Perle d'Or, Gloire de Polyantha (rose-pink), Pacquerette (white), and Mignonne (blush - pink). The collections of Chinas were not very extensive, but were represented by the crimson, purple, blush, and green (viridiflora) varieties. Messrs. G. Bunyard & Co. and Messrs. William Paul & Son were the exhibitors. Five collections of species were shown, foremost amongst which were fifty-four species from the Royal Gardens, Kew, also fine lots from Mr. R. J. Lynch, Cambridge; and T. W. Girdlestone, Esq., to whom a Silver Banksian Medal was awarded; and from Messrs. Paul & Son.

In the miscellaneous class were H.P. seedlings and others, shown by Messrs. Wm. Paul & Son; H.P.'s by Messrs. Keynes, Williams & Co.; Teas by Mr. Geo. Prince; various garden Roses by Messrs. J. Cranston & Co.; Cheal's patent flower-stand, arranged with flowers, by Messrs. J. Cheal & Sons; and a bouquet of W. Allan Richardson Rose by Messrs. H. Drover & Son, Ventnor, Isle of Wight. Mr. W. Gordon, Twickenham, showed a stand of Japanese Irises; coloured plates of Roses came from the Royal Gardens, Kew; and Messrs. Byrne, Richmond, showed photographs of Roses.

The Conference.

The Conference commenced at two o'clock on Tuesday in a large tent on the lawn. The Very Rev. The Dean of Rochester (S. Reynolds Hole) presided, and it is greatly to be regretted that there were not more persons present to hear his interesting opening address, for he had a very limited audience, and perhaps the most unsympathetic one he has ever addressed when Roses or gardening have been the subject of his remarks. On this occasion the Dean told us how he became "converted" to Rose culture some forty-five years ago, and gave some interesting reminiscences of the first National Rose Show, held in St. James' Hall, of the organisers of which there are now only two left—himself and Mr. William Paul. The first paper read was one in which the Rev. A. Foster-Melliar dealt in a sound practical manner with the subject of Rose pruning. Mr. Edward Mawley followed with a paper on stocks for Roses, confining his remarks to his own experience at Addiscombe and Berkhamstead with the Manetti, the seedling Briar, the Briar cutting, and the standard Briar, all of which appeared to do equally well with him. Dr. Masters gave the substance of a paper by M. Viviand-Morel on Rosa polyantha as a stock, from which it appeared that M. Alegatière, of Lyons, ascertained that the seeds of this species germinate within a month without being stratified, so that they can be budded in the first year. Various confirmatory statements by different experimenters were given; amongst others, some by M. Bernaix, who advocated the budding of Roses on seedling Polyantha stocks as specially suitable for pot Roses, and Roses intended for forcing. Such plants came into growth and flower ten to fifteen days earlier than those budded on the Briar, and did not throw up suckers. The stock was as well suited for Teas as for H.P.'s. M. Viviand-Morel himself repeated these experiments with the same results. A comparative trial of Roses for forcing—budded on the seedling Polyantha and on the seedling Briar respectively, and in which the conditions were identical, gave the following results:—Roses budded on the Polyantha stock gave twice the number of flowers that the same variety produced on the Briar, and, further, they were a fortnight earlier.

Mr. William Paul followed with a paper on the Grouping of Garden Varieties of the Rose; and Mr. George Paul with some observations on Roses since 1860; after which a vote of thanks to the chairman—proposed by Mr. T. B. Hall, Rockferry, and seconded by a Rose-grower from South Africa—brought the proceedings to a close.

On Wednesday Mr. J. G. Baker, F.R.S., Kew, took the chair, and in his opening address, said that a great impetus was given to Rose-growing on the introduction of R. Indica from the Himalayas in 1789, and that all true H.P. Roses were descended from that and the European R. gallica; in fact, about three-fourths of our garden Roses had been derived from those two parents. For R. gigantea, another Indian species, he predicted a grand future, if gardeners would take it up as they should do. With regard to the European species of Roses, he said that some authors reckoned there were about 405 species, but in doing so they far exceeded the real number, as all the known Roses could be reduced to 30 or a little more good species. Roses were natives of the whole of the north temperate zone, and those within the tropics all inhabited mountains at high elevations. None were found in the south temperate zone—in any country. There were five distinct Rose regions, inhabited by the different types. The genus Rosa was one of the most distinctly characterised of the whole vegetable kingdom. He then went on to speak of the varying characters of the spines, stipules, leaves, and flowers, as to their comparative value in distinguishing and classifying species. Roses descended from R. gallica had compound sepals, while those from R. indica had nearly entire sepals. Mr. D. T. Fish, Mr. G. Paul, Dr. Masters, and the Rev. S. Henslow took part in the discussion.

Dr. Masters introduced Lord Penzance's gardener, who read a paper on the hybridisation of Roses. Sir Dietrich Brandis spoke about climbing Roses that had been utilised in Germany for improvement by gardeners. He spoke also of Alpine, Pyrennean, and Indian Roses. Messrs. G. Nicholson, J. G. Baker, D. Morris, and J. Fraser also discussed several points relating to the last paper.

Mr. J. G. Baker gave the leading points of the new classification of Roses by Professor Crepin, Director of the State Botanic Garden at Brussels. Dr. Masters then discussed several points taken from his paper on "Rose Construction, Normal and Abnormal." Sir Dietrich Brandis proposed, and Sir Alex. Arbuthnot seconded a vote of thanks to Mr. Baker for presiding, and a vote of thanks was also accorded to Dr. Masters.

On Tuesday evening some sixty gentlemen dined together at the Hôtel Métropole, Sir Trevor Lawrence, Bart., M.P., presiding.

ENEMIES OF THE APPLE AND PEAR.

Both animal and vegetable enemies are numerous, but the former probably outnumber the latter considerably. They range from the minute gall mites, about one hundredth of an inch in length, up to birds, hares, rabbits, and cattle. Vegetable enemies are, however, none the less destructive sometimes, and certain kinds are very difficult to exterminate on account of their microscopic smallness, and more especially when hypodermal, that is, living beneath the epidermis of the host plant.

All diseases are attributable to some cause or other, even if it is difficult to detect what that may be. Science may yet determine the true cause of canker, even if it fail to suggest a cure. That canker is something of the nature of a parasite, we have evidence in its spreading and attacking previously uninjured tissue. Decay itself is brought about by the action of living organisms on matter that is already dead, and effects the changes that crumble organic substances into dust. There is some truth in the statement that cold and undrained soil, severe pruning, extreme variations of temperature, late growth, and unripened wood, give rise to canker, just as bad treatment will undermine the constitution of a human being, and prepare the way for disease. The real enemy does but take advantage of the weakened state of the victim.

Animals.

Numerous as these are they may be roughly divided into a few groups, such as insects, birds, and other animals. Kaltenbach, a German entomologist, says that 183 species of insects prey upon the Apple, of which 115 are lepidopteræ, 32 beetles, 20 aphides, and 16 others belonging to different families. Of these I will mention a few of the more important or destructive, with the view of directing attention to the fact that their successful destruction can only be effected by proceeding against them by intelligent and scientific methods. Haphazard raids are mostly useless and attended by failure, while passive and indolent indifference is but too plainly evident in many a neglected old garden or orchard. Scientific research is frequently sneered at by the practical man, but until the habits and life histories of some particular foes are thoroughly investigated there can be no intelligent or effectual attack made upon them.

The Apple grub (Carpocapsa pomonana) is the larva of a small moth which lays its eggs in the calyx of the young and growing Apple in the month of June or July, according to the season. The larva when hatched is white with a black head and neck, and four rows of black spots. It gnaws its way down the fruit, keeping clear of the core till it reaches the rind, which is pierced to permit the escape of its excreta. When nearly full grown, it sometimes pierces the core and feeds upon the pips, generally causing a great number of the fruits to fall prematurely. Soon after this it leaves the fruit, and finding a secure retreat in crevices of the bark or other hiding-place, commences to spin itself a cocoon, and after resting a time becomes transformed into a chrysalis state, which it retains till spring. Soon after completing their development, the moths pair, and egg-laying commences as formerly.

The grubs may be trapped in great numbers by tying bands of hay or straw round the trunks of the trees, so as to afford the grubs a place of shelter in which to form their cocoon. Collect the bands in autumn and burn them. All fallen Apples should be assiduously collected and given to pigs or destroyed. The codlin grub trap is a special structure, consisting of several boards of a convenient length fastened in the middle, and the respective pieces kept apart by means of thin laths. The grubs readily take to this, and from 400 to 800 traps can be examined by a man per day, and the grubs collected in a vessel.

The American Blight is the work of Schizoneura lanigera, an insect closely allied to the aphis or green-fly of gardens, but differing in the absence of the "honey-dew" secreting glands possessed by the latter. When plentiful it proves very destructive, causing swellings of the external tissues resembling cankerous wounds. The insects take up their abode in the crevices of the bark, from which they are difficult to eradicate. Soft soap, Gishurst Compound, or, better still, petroleum, will effect a cure if rubbed into the crevices of the bark every time the insects make their appearance during the course of the season. Petroleum is the most effectual, and should be applied by means of a hard brush, such as is used by painters. The insect hibernates in the soil during winter if the trunk of the tree does not afford sufficient accommodation, and it may be destroyed by the application of quicklime a little beneath the surface. The Apple blossom Weevil (Anthonomus pomorum) is a beetle, the female of which lays her eggs in the bloom buds of both Apple and Pear trees, and the grub, when hatched, eats the stamens and pistil, rendering them completely useless. Egg-laying lasts two or three weeks, during which time great numbers of the weevil may be caught by shaking the tree, beneath which a white cloth has been spread, as they drop down on being alarmed. The weevil attains perfect development in a month's time from laying of the egg, and feeds on the foliage during the rest of summer. It hibernates in the same way as the American blight, and similar methods for its destruction may be employed. Bands of tarred cloth may also be put round the trunk of the trees affected to intercept and catch the females on their way from the ground to the trees, as they seldom fly.

The Apple Mussel Scale (Aspidiotus conchiformis) is allied to the true scale, and attacks the bark of Apple and Pear trees alike, affecting them in a similar way to that of the American Blight. The eggs are never laid, but hatched in the body of the mother, when she dies. The latter is wingless, while the male is minute and winged. If the scale is numerous the tree becomes unhealthy and unfruitful. The scale is brown, and in shape like the half of a mussel shell. Scrub the branches with a hard brush just kept moist with petroleum, and persevere for two, three, or more seasons, as the scale is difficult to eradicate when once it obtains a footing.

Gall Mites (Phytopus Pyri) are small acari about one-hundredth of an inch long by one five-hundredth of an inch broad, that produce blisters on Pear leaves. The tissues of the leaves are torn asunder, forming large cavities, the cells often forming strings holding on by their ends. There is a small opening on the under surface for the egress or ingress of the mites. My specimens of blistered leaves are from Kelso, the first record of gall mites in Scotland. I received them in August last. The mites hibernate in the buds of the tree in winter, and are most difficult of extermination. Collect all affected leaves in spring when the mites are still in them and burn them. When once badly affected the trees continue so from year to year, and unless they are valuable kinds should be grubbed up

and burnt to prevent the pest from spreading. Plant healthy trees in their place. I had specimens from another source affected with gall mites, mussel scale, and apparently canker as well.

Slug-worms are the grubs of certain sawflies, differing in colour and in the nature of the secretion covering their bodies; but the slug-worm proper is the grub of Eriocampa limacina (or the Selandria Cerasi of Miss Ormerod). It derives its name from the black slime covering its hairy body till the last moult, when the resinous dark coat is thrown off. The grubs have large heads, and in the earlier stages when slimy bear considerable resemblance to a black slug. Hence the derivation of the name slug-worm. I collected my specimens on Pear trees at Holwood, Kent, last season. Autumn is the time they make their appearance. They are very voracious, and eat away the upper surface of the leaves, which become brown and ultimately drop, causing the trees to become unhealthy. The fruit was affected with the fungus which causes cracking, were very much split, and entirely useless. The slug-worms under notice attack most of the fruit trees belonging to the natural order Rosaceæ. They may be destroyed with Hellebore powder mixed with water, and applied through the rose of a watering pot. As they hibernate in the first 3 ins. or 4 ins. of soil, that depth should be taken off and burnt. Both grubs and flies are extremely sluggish, and the latter may be shaken down on a white cloth and destroyed.

Birds.

The feathered enemies are more easy to deal with than any of the above; but, with the exception of the bullfinch and the sparrow, I would not advise the shooting of them. Even the latter has much to recommend him to mercy. If the birds are killed wholesale, we destroy the balance of nature, and get afflicted with a plague of insects far more difficult or impossible to exterminate. The gun should be employed during the ripening of the fruit to scare, not to kill. The warning cry has been heard from many an orchard in Kent during the past summer. Of the larger animals, rabbits and hares are the most destructive during severe weather. They soon destroy an orchard by barking the young trees. To prevent injury, protect the stems of the trees with branches of blackthorn or furze; but the most sure and effective plan is to use a guard of wire netting. Tar, grease, and oils should not be employed, as they are injurious by stopping up the air passages in the bark.

Vegetable Enemies.

These are of two kinds—namely, parasites and epiphytes. The former are the most to be dreaded, since they attack and destroy the living tissues of the host plants, by feeding on their substance. Parasites may again be divided into those of a fungoid nature and those that are green.

Mildew affecting the Apple is a white mould belonging to the family Erysiphaceæ, and in this, the early stage, it is referred to the genus Odium. It is one of the most easily destroyed of parasitic fungi, from the fact that it lives on the surface and does not penetrate its host. Sulphur alone, or various preparations containing sulphur, will completely destroy the fungus. Should a large number of trees in a garden or orchard become affected, the application of sulphur would be a tedious and costly operation; but if a few isolated trees only are attacked the remedy is more easily applicable.

Cracking is caused by Cladosporium dendriticum, a too widely prevalent fungus, that grows on the leaves, young shoots and flowers of the Apple, often preventing the formation of fruit. In severe cases the latter becomes partially or completely covered with blotches, crippling and preventing it from attaining full size, and in all cases the fungus reduces the market value of the produce by disfiguring or causing it to crack. The disease commences as black spots, branching from the centre like a small tree, while on fruit the patches soon become irregularly rounded, with a depressed black spot in the centre, surrounded by a white line, and that again by a black border. The Pear is attacked in the same way by a variety of Cladosporium dendriticum, generally known amongst fungologists under the name of Fusicladium pyrinum. No remedy is known, and means to prevent its spreading must be adopted by destroying badly affected trees and fruit. Here again good cultivation greatly tends to palliate the evil by encouraging a healthy vigorous growth of the trees. Marie Louise and Louise Bonne of Jersey Pears are very subject to it, and should not be planted in places infested with the disease.

Rust on the Pear is caused by Rœstelia cancellata, as well as some other parasitic fungi. The Rœstelia produces rugged swellings on the leaves, the blotches finally becoming red, and showing themselves on both surfaces of the leaves attacked. It is believed to be an early stage of Gymnosporangium Sabineæ, which completes its life cycle on Juniperus Sabina. As in the rust of Wheat, there is an alternation of generations on different host plants, and described as heteroicism. It is not common in England, is not, I believe, recorded from Scotland, but is very destructive on the Continent. Hand-picking the leaves as the spots make their appearance, and before the spores are shed, is the only remedy, and no Juniper bushes should be allowed to grow near them. On a large scale it is more profitable to uproot badly-affected specimens and plant afresh.

Mistleto in this country is the only chlorophyll-bearing parasite that need be noticed. It is very injurious to orchards in Herefordshire from its great prevalence, and prevents the branches infested by it from thickening properly below the union of the parasite with them, ultimately causing the trees to become stunted and unproductive. Cut down the Mistleto about Christmas, when a market will be found for it to defray the expenses of the operation.

Epiphytes, such as lichens and mosses, can be removed by scraping or scrubbing the bark of the trees, or they may be destroyed by sulphuric acid much diluted in water. The evil is but half remedied, however, and the lichens will soon grow again unless measures are taken to remove the cause by draining or otherwise ameliorating the land, as the case may require, and so induce a healthy, vigorous growth, thereby enabling the trees to thrive, increase in thickness, and throw off the old bark.—*J. Fraser.*

Gardening Notes from Ireland.

The Summer Show of the Royal Horticultural Society.

The summer show of this society was held on the 27th ult., under three large tents, in the grounds of Sir Edward Cecil Guinness, off Harcourt Street, Dublin. As regards these tents or marquees, I may remark that, owing to the want of ventilation, the work of staging the different plants was made almost unbearable, the heat being intense. But visitors fared far worse from the same cause, and those who entered the tents to enjoy the pleasing sight of the various exhibits, had to pass out as soon as possible to enjoy the outside air. I think in the interest of their visitors, if for no other reason, the managers of the society's business at these summer shows might contrive to give this matter of tent ventilation a little consideration. Of course the chief feature of attraction was the Roses, and if I except the new one of herbaceous collections, I think it might be described as a Rose show only. The different classes of Roses exhibited by private growers were, as a whole, of a poor description, but it is only just to say, for these growers, that what between the forcing nature of the season and the late time for holding the show, many of their best flowers were gone before the time arrived for gathering them.

For a box of twenty-four Roses Mr. Cabban, gardener to the Earl of Clancarty, Garbally, Ballinasloe, obtained first prize, and Mr. Gough, gardener to J. McCann, Esq., Simmonscourt Castle, Donnybrook, was second. Some idea of the poor appearance of the boxes of twelve Roses may be formed when it is stated that in the six classes staged the second prize in each case was withheld. For a basket of Roses, Miss Millner, of Cherbury, Booterstown, was awarded a first prize. The lot was very handsomely and tastefully arranged, and was very much admired by the lady visitors. For the society's special prizes for thirty-six Roses, eighteen varieties, two blooms of each, the cup fell to Mr. Cabban, and the second prize to Mr. Gough. In the nurserymen's classes for Roses the competition lay between Messrs. A. Dickson & Sons, Newtownards, and Mr. R. Hartland, of The Lough Nurseries, Cork. The stands put up in both cases were very fine, but for freshness, colour and substance of blooms nothing could exceed those staged by the first-named exhibitors. They were simply superb, and I think the judges could have had little difficulty in awarding the first prizes to the northern firm in all the classes.

For a box of forty-eight Roses, twelve distinct varieties, four of each, the Messrs. Dickson were first, and Mr. Hartland second. In the Messrs. Dickson's lot were some fine flowers of Her Majesty, Madame G. Luizet, Ulrich Brunner, Merveille de Lyon, La France, Alphonse Soupert, Lady Mary Fitzwilliam, and Lady Alice Fitzwilliam, the two latter being very fine and attractive. In Mr. Hartland's lot there were some fine blooms of Merveille de Lyon, Edouard Morren, Lady Mary Fitzwilliam, and François Levet. For a stand of new Roses sent out since 1886, and to consist of twelve varieties, two blooms of each, the Messrs. Dickson were first. This class contained some Roses raised by the exhibitors, for three of which they have been lately awarded First Class Certificates, and at this show the Certificate of the society was recommended to be given. These are T. W. Girdlestone, Miss Jenny Dickson, and the Countess of Dufferin. They are all very fine Roses, and will no doubt attract the attention of lovers of large, finely-formed blooms. In this box I noticed for the first time two flowers of Duchess of Albany, which, on first view, I set down as being La France, and unless the plant possesses some superior qualities to the latter, there is hardly distinctness enough in the Duchess of Albany blooms to have them regarded by the ordinary observer as other than La France. Another remarkably fine Rose in this collection was one called Lady Arthur Hill, and one, if I am not mistaken, of the fine kinds recently raised by the Messrs. Dickson.

For a stand of twenty-four light and dark Roses, twelve of each colour, Messrs. Dickson were first, and Mr. R. Hartland second, and for a stand of twelve Tea Roses, each different, the same places were maintained; this stand was remarkable for one bloom of the new Tea-scented Rose Lady Castlereagh, and which is regarded by Messrs. Dickson as one of the best Roses recently raised by them. The society's Cup, which was offered for the best stand of forty-eight Roses, each different, was also won by Messrs. Dickson, so that, as was remarked by an observer, "they made a clean sweep" of all the first prizes in the nurserymen's Rose classes.

The only other point worth noticing was the exhibition of herbaceous cut flowers, the prizes for which brought out a pretty good competition. For the past few years Lady Headfort has been offering £2 as a first prize, and 15*s.* as a second award for cut herbaceous flowers, but the inducements do not appear to be attractive; at least, the competition has been of a very meagre description, so that her ladyship's collections have hitherto taken the main portion of the prizes. At the late show her collection was again first, the second being awarded to Mr. Taylor, gardener to J. L. W. Naper, Esq., Loughcrew. The Drummond prizes of £15, to be won for three successive years, and an annual one of £5, excited a little more competition than has hitherto been the case; but from some of the stands put up it is plain that the owners have not yet a full conception of what they have to do if they mean to win. For the first time, at all events, Mr. McLeod, gardener to Lady Headfort, was the winner, and it will take a little more care than the usual random sort of treatment given to herbaceous plants to beat him. However, Mr. Hamilton Drummond has set the ball rolling, and it is to be hoped that his action in this matter will be the means of drawing increased attention to this useful and interesting class of plants.

It would be a useless task to go into the subject of the almost complete absence of stove and greenhouse plants, but no doubt the absence of the sinews of war is the prime cause, and the last few years of the society's existence evidently points that way. Equally absent in a competitive sense were some of the more important classes of fruits. No Grapes, with the exception of a few bunches from one exhibitor; the Silver-gilt and Bronze Medals, with their munificent accompaniments (?) of £1 and 10*s.* respectively, going begging. This, let it be remembered, is for six bunches of Grapes, which must show the highest point of perfect cultivation. So with other fruits; the stingy prizes are frightening away exhibitors, and it is not at all unlikely that the usefulness of Ireland's only Royal Horticultural Society will be reduced in future to a Rose show in summer and a Chrysanthemum show in winter. There were no vegetables, if I except one fine tray sent in by Mr. Mahoney, gardener to Mrs. Jury, Greenfield, Donnybrook, but "not for competition." A very nice collection of hardy herbaceous and bulbous flowering plants was staged by Mr. Smith, of the Daisy Hill Nurseries, Newry, among them being specimens of rare and well-grown plants. The Messrs. Henderson, of Templeogue Nurseries, also contributed a fine lot of well-grown plants in pots, the most conspicuous points about them being their extreme good health, dwarfness of character, and profusion of bloom. Mr. Hartland, of Cork, also sent in stands of choice Tea Roses and Pelargoniums. As usual, a fine collection of Palms, and a large quantity of other decorative and flowering plants were sent in from the Glasnevin Botanical Gardens, and from the gardens of Sir Edward Cecil Guinness.—*D.*

FLORICULTURE.

Pinks at the Royal Botanical Gardens, Manchester.

At the Rose show to be held in the above gardens on Saturday, July 20th, special prizes will be given for Pinks if they are exhibited in good form. The arrangement of prizes does not appear in the schedule, and I would suggest that each exhibitor should show a collection. The exhibitor of a small collection of well-grown and nicely-marked varieties need not be afraid of being overshadowed by a larger exhibition, more numerous in flowers, but of inferior quality. The Pinks will be judged by competent men, and quality, with dissimilarity, will be the first consideration in making the awards.

The Pink, like the Tulip, has suffered much from the almost total cessation of exhibits by local societies. This is much to be deplored, but at the present time it is not easy to suggest a practical remedy; it is easy to say, "rehabilitate these societies," but who is to do it? A knot of men like our enthusiastic Reading florists, can do in their locality almost anything. Thirty to forty years ago there were scores of such localities kept alive by hundreds of enthusiastic florists. In 1850 *The Midland Florist* records the meetings of nineteen Pink and thirty-three Tulip societies. Where are they now? Is enthusiasm dead, or only latent?

However this may be, it is most earnestly to be hoped that all who love the Pink, and wish its restoration to its old place in the esteem and affection of florists and the public, will do everything possible to make the exhibition of Pinks at the Botanical Gardens on July 20th as extensive in quantity and as fine in quality as possible.—*S. Barlow, Stakehill House, July 1st.*

THE GIANT AROID.

During the growth and before the expansion of the huge spathe of Amorphophallus Titanum at Kew, we gave a description of it as it then appeared, with the recorded description of other authors as to what it should be like when in full bloom. At p. 673 we stated that the spadix was pale green, but "should ultimately become of a blackish purple." Whether or not this was a mistake on the part of those describing the plant in its native habitats is not quite clear, but now that it has matured and faded it is evident that the Kew plant has not a purple spadix. It remained of a pale green colour until the spathe was about to expand, when it suddenly changed to a pale or chrome-yellow, and remained so till it shrivelled and assumed a dusky yellow hue.

On the 14th of June the whole inflorescence, together with its peduncle, stood exactly 5 ft. above the surface of the soil; on the 20th it measured 6 ft. 5 ins.; and on the morning of the day on which the spathe expanded the spadix was 6 ft. 7 ins. above the soil. It ultimately reached 6 ft. 9 ins.; so that although we have not kept a regular record the above figures will give an idea of the rate of growth. The spadix alone measured 5 ft. in length, leaving 1 ft. 9 ins. for the peduncle, and the thickness of the attachment of the basal and fleshy part of the spathe to the floral axis. The base of the spadix was somewhat swollen and bulb-like, and measured about 10 ins. in diameter there; then it suddenly became thinner and tapered gradually to a blunt point. A day or two before the expansion of the spathe it shrunk at the sides considerably, showing unmistakeably the soft spongy tissue of which it was composed.

On the morning of expansion a quantity of some liquid oozed out from the base of the spathe, but if of the nature of nectar it was not sweet. The base of the spathe externally was pale green; the upper part fading almost to white. This was strongly plaited and folded to accommodate itself to the spadix which it surrounded, resembling a huge closed umbrella. It commenced to expand about 10 a.m. or a little earlier on Friday 21st, and kept opening till 7 p.m. of the same day, when it might be described as in full bloom. The total length of the spathe was then 3 ft., and was funnel-shaped, with a spreading mouth and recurved edges, measuring 4 ft. in expanse. The interior of the upper portion was of a rich claret-purple, with a velvety bloom, and might be described as handsome; the lower portion was greenish white, slightly tinted in places with purple, and as it began to fade away became more deeply stained with that colour.

During the afternoon of its expansion it stank horribly, and the smell might be compared to that of sewer gas greatly intensified, or, as the *Saturday Review* described it, "a stink such as all the fish condemned at Billingsgate on a summer day raise at noon on the morrow." Very few people, however, were annoyed with it in this condition, and few witnessed it when fully expanded, as it commenced to close again soon after 6 a.m. on the morning of the 22nd when we examined it. By this time the smell was much less offensive. It therefore remained less than twenty-four hours in full bloom. On Saturday last (29th June) the greater part of the spathe had still retained its colours, though somewhat faded. The lower portion was still quite rigid, but all the thinner portions of the upper edge were flabby, shrivelled, and hanging down loosely over the firmer portion. The spadix had shrivelled and fallen on one side.

The male flowers occupied a small portion of the axis, forming a ring just beneath, and sheltered by the bulb-like basal portion of the spadix, and consisted of small yellow bodies opening by a pore at the apex, from which the pollen was ejected plentifully in thread-like strings, and dropped on the stigmas beneath. The female flowers are far more numerous, forming a broader ring on the axis beneath the stamens. The little bulb-like ovaries tapered into styles about 1 in. in length, the whole resembling a densely-packed pin-cushion. Whether the plant will develop and mature seeds remains to be seen.

BEES AND FERTILISATION.

The bees have surely been stinging some people that we find such a crusade made against them lately, and if they have it is not the fault of the bees, poor things, but rather the treatment they have been receiving. Much, no doubt, will be said for and against the usefulness of the bee as a means of fertilisation, and its profitable management, but if such tend to make their utility and management better understood amongst the masses, and among gardeners in particular, a good point will have been gained by this discussion. Without doubt many failures will be brought forward to prove that they are useless both for profit and as aids to fertilisation. But let us consider the matter fairly. If we saw a mechanic leave the work he had been used to all his life and take to gardening, should we wonder if he failed to be successful, and because of such failure should we believe that gardening did not pay? Certainly not. Yet this is much the ease with respect to bee-keeping, which is taken to by people who know little or nothing about them, except what they may have read or heard a so-called bee expert say, or what they have seen him do with bees in a manipulating tent at some exhibition. Such lecturing has done more harm than good to bee-keeping. It has been the means of inducing bee-keepers to handle their bees far too much, and wherever we find this continual handling and examining of the hives going on we are sure there will not be much honey stored away.

That bee-keeping can be made a profitable speculation is proved by the case recorded by Mr. Osborne (p. 673), and plenty of similar instances could be given. The first hive of bees I purchased I paid £1 2*s.* for, and the next season I sold £3 worth of honey, and then had the stock to go on with. I have now a stock which was a late swarm about the end of July last year. It has ten bar-frames well filled with brood and honey, and about 40 lbs. of honey in supers, and for feeding it has not cost me more than about 3*s.* There may be this connected with bee farming—there may be more bees in the neighbourhood than there is food for, and so be a failure from that cause. Bees require to be near their food, and given every convenience for storing when it is plentiful.

I trust that you, Mr. Editor, may yet see that you erred in joining in the cry raised by the few who got their fingers burnt in the bee craze, and that you may yet be the means of spreading useful information through the columns of The Gardening World among the bee-keepers who are readers of the paper, as by so doing I am sure you will do more to earn the thanks of the readers than in trying to expose the fallacies of bee-keepers, which do not exist except in the minds of those who have mismanaged them or attempted to keep them in some part of the country unsuitable for them.

It is not often that we find such an able writer as "A. D." (p. 609), committing himself to such a statement as the following:—"What I am certain of is that Nature has not done her work so imperfectly that it is needful to call in the help of bees or other fortuitous aids in the shape of insects to perfect her operations." Does it not occur to "A. D." that the bees, insects, flowers, wind, &c., are all part and parcel of nature, working harmoniously together for man's good? If we take man as the highest form of animal life, and the most perfect, what would he be without the other parts of nature? It is as a whole that we can admire nature; no part is complete without the other; the one depends on the other for assistance to make a harmonious whole.

Referring now to bees and fertilisation, let me briefly allude to the flowers themselves. We may divide these into two great classes, first, those having male and female organs in different flowers, such for example as the Oak, Cucumber, Melon, Hazel, Poplar, Aucuba, &c. Self fertilisation in these plants would be impossible, and here the aid of the wind or insect agency is necessary to fertilisation. Secondly, male and female organs (stamens and pistils) produced in the same flowers, the stamens reaching maturity before the pistil, or, in some cases, the pistil maturing before the stamens. Here again wind or insect agency is necessary. It is to this class that most of our spring-flowering fruits belong, such as the Apple, Pear, Peach, Plum, and Cherry. The stamens being longer than the pistil, are well adapted for wind fertilisation as well as by insect agency. May we not look to the absence of wind this spring, when the fruit trees were in flower, as well as to the scarcity of insect life, as the cause of the failure of the fruit to set, instead of always having recourse to the old story of unripened wood from the previous year?

Can any of your readers say whether the stamens in the flowers of the Scarlet Nonpareil Apple are shorter than the pistil? I have found it set very badly indeed, only a few fruits on three trees, although they were covered with blossom. The second class may again be divided into those where the stamens and pistil both reach maturity at the same time. Such cases would be most favourable for self-fertilisation, but they form the exception to the rule.

Will "A. D." say to what agency he attributes the fertilising of all diclinous plants if not to wind and insect agency? The Orchids, with few exceptions, would form a large class where insect agency was necessary to fertilisation. We have all heard of the Moth and Angræcum sesquipedale, and Darwin's opinion thereon, and I think most Orchid growers who are familiar with the curious construction of the organs of the flower will favour the idea of fertilisation by insect agency.—*A. Wright, The Gardens, Devonhurst, Chiswick.*

PROPAGATING STRAWBERRIES.

It is an old adage that "'tis an ill wind which blows nobody good," and it seems that the wet summer of last year has so built up the Strawberry plants to justify the adage, as the crop certainly is prodigious, and the bright dry weather that we are now having is favourable to ripening, especially so to young vigorous beds, that have something under them for the roots to work in. Probably those having old worn out beds find their plants flagging, and would gladly welcome a nice rain to swell up the later fruits. The abundant crop will probaby act as an inducement to increase the stock, and where it is desirable to do so, no time should be lost in getting in the runners, whether for pot plants for forcing or planting in beds.

There are various methods in vogue for raising a stock of young plants, perhaps the most universal being to fill a number of 60-sized pots, carry them out to the bed, standing them wherever convenieut to layer a runner on the pot, keeping such in position by a stone or peg; but at this busy season, when the water-pot is incessantly going, it takes some time to water the runners, especially where thousands are required. It is also difficult to keep the pots upright, and such a plan is awkward for gathering fruit from the beds, for be as careful as you may some are sure to get upset. Others again prefer layering them in their fruiting pots, but with such a body of soil for them to start rooting iuto they stand a very good chance of getting soddened and soured by too much water ere the young plants have formed sufficient roots in the soil, and I cannot say that such a plan is to be recommended; for keeping plants in a healthy state I am no believer in the one-shift system.

The plan of raising Strawberry runners that I prefer, and which I have successfully practised for some few years, I will endeavour to describe, though I do so with some little diffidence, because when writing on the subject a few years ago in *The Garden* I was taken to task by a correspondent whom I looked upon as an excellent cultivator, but he did not grasp the idea, probably owing to his being more pleasantly situated

as regards labour, &c. I am not bigoted, and do not claim that my system of raising runners is the best, but I do know that it was attended with good results, for some years ago we grew some of the finest "Paxtons" in 6-in. pots that I ever saw; some of the fruit carried the palm at the Tunbridge Wells show, and those of your readers who know anything of that exhibition will agree with me that the competition was very keen.

In those days we only allowed our Strawberry beds to fruit three seasons, doing away with a portion annually, and planting, to keep up the stock, on heavily-manured ground, putting out the later-forced plants when ready. From beds so cultivated, strong and vigorous runners were plentiful, which is the main point in procuring a strong healthy batch of plants for forcing. About this time, or even earlier where the runners could be procured, we went over the bed, cutting as many as we desired of three varieties, viz., Keen's Seedling, Vicomtesse Héricart de Thury, and Sir Joseph Paxton, which we forced in the order named. I cut them ready for potting with about an inch of stalk before and after the runner, potting them singly in 60's, using soil composed of good loam and leaf-soil in equal proportions. After potting they were placed in a three-light box, given a good watering, well shaded from sunshine, and dewed overhead morning and evening with the syringe. In three weeks they were fit to transfer into their fruiting pots, 32's. Of course they were not stood in the frame too thickly, neither was shading applied a day longer than was necessary; air was given as soon as they were rooted, and they were gradually inured to having the lights off altogether before they received their final shift.

The soil for potting was composed of rather heavy fibrous loam, a third part well-decayed manure, and a sprinkling of soot, the soil being rammed very firm. After potting they were stood in a good open position on an ash bottom, receiving a good soaking of water, and they were sprinkled overhead with a rose water-pot every evening, when not requiring water at the root, which should be very carefully applied until active root formation takes place. As they grew and required more room they received it, pinching off all runners as they appeared. In the autumn when sunshine was less, they were stood in single rows at the sides of the kitchen-garden paths, placing boards under them if worms were likely to be troublesome, occasionally giving the plants a little clear lime water to dislodge any that had obtained ingress. When continuous rains set in they were laid on their sides to prevent them getting saturated. I think that the old system of stacking pot Strawberries during the winter is fast becoming obsolete. It is better to stand them in frames, plunging the pots in ashes or some material as a protection against frost, and if severe weather sets in the lights can be covered with litter, giving them light and air on all favourable occasions.—*Geo. Potts, Jun., Northiam.*

Gardening Engagements.—Mr. H. Rodman as gardener to W. E. Budgett, Esq., Stoke Lodge, Bristol; and Mr. Charles Stewart as gardener at Haynes Park, Bedfordshire.

VERONICA FAIRFIELDIENSIS.

The parentage of this plant, which is said to be a new hybrid, is not exactly known at present, but Mr. George Thomson, of Knap Hill, Woking, to whom we are indebted for the specimen from which the accompanying illustration was prepared, believes it to be between V. Lyalli and V. cataractæ. The latter we should say, however, has had nothing to do with it, because its leaves are ovate-oblong or narrowly lanceolate, and narrowed to a point, while its flowers are borne in axillary racemes. It is more probable that the seed parent was V. Hulkeana pollinated with V. Lyalli. The flowers of V. Fairfieldiensis are borne in terminal panicles like those of V. Hulkeana, and are crowded in dense clusters terminating the main and side branches of the inflorescence; they are also larger and more conspicuous than those of the last-named species, and white or tinted with pale pink in the throat similar to those of V. Lyalli.

Veronica Fairfieldiensis.

The branches of the inflorescence being much shorter than is the case in V. Hulkeana, renders the whole plant more effective and showy. The leaves are roundly ovate, crenate, petiolate, broad and blunt at the apex, deep green, and somewhat leathery. The stems are shrubby at present, about 18 ins. high, and the plant has been growing in the open border at Woking during the last two winters. It was raised from seed about three years ago. The hybrid was raised by Mr. Wm. Martin, Fairfield, Dunedin, Otago, New Zealand. Some specimens were exhibited by Mr. Thomson at the Temple Show, held on the 30th and 31st May, when the Floral Committee of the Royal Horticultural Society awarded it a First Class Certificate.

THE TULIP TREE.

Amongst the numerous forest trees appertaining to the new world the Tulip tree is not one of the least important. Its native habitat is chiefly in the United States of North America, but it is in the Western States where it seems to find its natural home, and where the finest and most luxuriant trees are seen. It is also found in a small portion of Canada, but not in any abundance. H. B. Small, in his work on *Canadian Forests, &c., Montreal*, 1884, says "that the tree is by no means common, and annually becoming scarcer; it seems to be confined, with the exception of a straggler here and there, to that portion of Ontario bordering on Lake Erie and the Niagara district." Its beautiful foliage and flowers, the regular symmetry of its wide-spreading branches, and the perfect straightness and uniform diameter of its trunk for upwards of 40 ft. entitles it to be considered one of the most magnificent trees of the temperate zones. Trustworthy authorities in describing this tree in its home give the average height at from 70 ft. to 100 ft., and the diameter of the trunk as varying from 18 ins. to 3 ft. In Kentucky, trees have been found the trunks of which were from 15 ft. to 16 ft. in circumference, and at three and a half miles from Louisville, a tree at 5 ft. from the ground measured 22 ft. 6 ins. in circumference, its height being from 120 ft. to 140 ft. Catesby, in his *Natural History of Carolina*, says there are some trees in America which are 30 ft. in circumference. Until the tree is about 7 ins. or 8 ins. in diameter the bark is smooth and even, but as it increases in size it begins to crack and becomes more and more rugged according to its age. When old, the tree is deeply furrowed longitudinally, giving it the appearance almost of a fluted column.

Loudon mentions three varieties of the Tulip tree, viz., Liriodendron tulipifera obtusiloba, obtuse-lobed, yellow wood or yellow Poplar; L. t. acutifolia, smaller leaves; and L. t. flava, with its common names, such as the Poplar; the Whitewood, from the colour of its timber; Canoewood, from the use to which it was applied by native Indians; Tulip tree, from its Tulip-like flowers; and Saddle tree, from the form of its leaves. There is also a golden variety, called Amœna in British catalogues. The flowers are large and brilliant, with a very pleasant odour, and are produced at the ends of the branches, the petals—of which there are six, three within and three without—being of different shades of colour, green, yellow, and orange—yellow predominating. These with their foilage produce a fine effect, and in their season are gathered and sold in the streets of New York by women and children. Its date of introduction into Europe is rather uncertain. Evelyn, speaking of it, says:—"They have a Poplar in Virginia of a very peculiar-shaped leaf, which grows well with the curious

amongst us to a considerable stature. I conceive it was first brought over by John Tradescant, under the name of the Tulip tree, from the likeness of its flower; but it is not that I find taken notice of in our herbals. I wish we had more of them, but they are difficult to elevate at first." It was cultivated by Bishop Compton, at Fulham, in 1688. According to Millar, Mr. Darley, of Hoxton, and Mr. Fairchild were the first who raised any quantity from seed, and it is probable that from these nurseries the numerous large trees which exist all over the country were largely produced.

The first Tulip tree which flowered in England was in the gardens of the Earl of Peterborough, at Parsons Green, near Fulham, and it is also stated to be the first one planted out of doors; previous to this it had been grown in pots or tubs. This convinced gardeners of their error, and led to a great many trees being planted out in all parts of the country, those which were planted in moist rich soil speedily attaining large dimensions. There are now many fine trees in the British Isles, they being valued, and deservedly so, as highly ornamental specimens. Not so many have been planted of late years, Conifers having apparently been more fancied in parks and pleasure grounds, yet Tulip trees in quantity might with advantage be introduced here and there in many parts, in clumps or as single specimens, as future ornamental additions to the landscape. I am given to understand that the South Eastern Railway Company a few years ago planted several upon their property. When planted out under favourable conditions as to soil and situation it grows very rapidly, and as we have Tulip trees in most parts of the country, in more or less quantity, it can easily be seen which localities suit them best. In its native country it delights in deep rich loamy soil, on the banks of rivers, in alluvial plains, or on the borders of swamps sheltered from high winds, but sufficiently exposed to light and air to ripen off the wood, without which it cannot resist the intense frost.

Eminent authorities, both British and American, speak highly of its value as a timber tree. According to them it has only one inconvenience, there is no wood which expands or contracts so much when exposed to weather; when cut into large boards it is liable to shrink and warp with the alternations of heat and moisture, but in small pieces it is used for many purposes. It is light, close grained, strong, easily worked, and is largely used for indoor work, carriage panels, the fine fittings of cabinet work, such as drawers and fancy articles, &c. When perfectly dry it will take paint, and admits of a brilliant polish. Being easily bent, it is in demand for all kinds of curved work, for portions of machinery, &c. Where it abounds it is used in the interior of houses for joists and rafters, for which it is peculiarly adapted, on account of its strength and durability. In some parts shingles of it, about 15 ins. long, are used for covering houses, and are said to be preferred for their durability and non-liability to split from the effects of severe frost or strong sunshine. It was also used by the Indians of the Western States for making canoes, the trunks being hollowed out for that purpose. The species is too valuable with us at present as an ornamental tree to be used in manufactures, although there are many specimens which, if cut down, would be excellent for such a purpose, but I imagine the description of land that would be necessary for its cultivation would pay better in other respects.

If it is desired to grow it for straight clean timber it is advisable to plant closely, one plant thus drawing up the other, or amongst other trees, which should be thinned out from time to time. Like the Magnolia, to which family it belongs, it is very impatient of the knife, and will not bear much pruning. Instances are recorded where seeds have been ripened and plants grown from them in England, but this is not frequent. Seeds are imported from America, where they ripen more freely. They may be sown in nicely-prepared beds in either autumn or spring, autumn being considered the better season, as they come up the following spring, whereas those sown at the latter period would probably not germinate until the next year. The trees should be shifted frequently until finally planted where they are intended to remain, or it would be better, if possible, to transplant them after a year's growth to their permanent positions, as, not being fibrous-rooted, they will not bear transplanting so well as many forest trees.—*Alfred Gaut.*

Canna Petit Jean.—The leaves of this plant are narrow, lanceolate and glaucous. The flowers are borne in a short terminal cyme, and are rather attractive in appearance, owing to the segments being scarlet and margined with yellow. They are only of medium size. A plant was exhibited by Messrs. Paul & Son, Cheshunt, at the recent show of the Royal Botanic Society, when they received a Floricultural Certificate for it.

The Amateurs' Garden.

Propagating Pansies and Pinks.

In the southern counties it is expedient to propagate Pansies and Violas during the month of July, because, in dry seasons especially, the plants run to flower, and if they do not produce young suckers from the base, they often perish before the advent of the autumn rains. At all events, then, in the south it is safest to take cuttings while they are yet to be had. Prepare them in the usual way, and prick them firmly into soil, with which a good quantity of sand and leaf-soil has been incorporated. After the operation has been completed give a good watering through a moderately fine-rosed pot, so as to settle the soil about them. Pinks may be treated in the same way, but in this case a good quantity of sand should be used so as to render the soil porous and open. A handlight or frame should be placed over them, and kept close till the cuttings begin to root, after which a gradually increasing amount of air may be given. It will be requisite to shade during all bright weather to prevent flagging till the plants begin to root, after which it had better be dispensed with altogether.

Roses and Green-fly.

At various times during the course of the season the young shoots of Roses are liable to get infested with green-fly, which seriously cripples both the young stems and leaves if allowed to increase without check. In the case of many kinds of plants, green-fly can be greatly checked by pinching off the tips of the young shoots infested; but if Roses are treated in this way, the flowers will, in many cases, be removed also, and some other means must be devised for destroying the pest. Frequent syringing with clean water is wonderfully effective, but the fly may be more certainly destroyed by syringing with tobacco-water or a solution of soft-soap. The two combined are certainly even more destructive. The plants should be syringed with clean water an hour or two afterwards.

Dahlias.

Comparatively little growth will be made by these during the prevalence of dry weather, unless they are frequently watered. Liquid manure, which can easily be obtained by steeping some cow-manure in a tub or barrel, should be given to them in a liquid state—say, once or twice a week. This will urge them into growth much faster than if left to their own resources. Carefully tie the main stem and two side ones to the stakes as growth proceeds. Unless more than one stake is used, three shoots will be plenty to train up. All the other side shoots should be pruned away, and this in itself will cause those left to grow rapidly.

Primulas, Cinerarias and Calceolarias.

Many amateurs try their hand at one or more of these showy and useful subjects. They are more difficult to deal with at present than at any other time, on account of the heat, which renders them liable to damp or die off suddenly. A cold frame with a northen aspect is very good for them, or, in the absence of that, shading must be given them during the brighter parts of the day. They must not be allowed to become dry, especially if grown in small pots. A light syringing may be given on the afternoons of bright days just when the frames are being closed. On dull days no syringing will be required.

The Greenhouse.

The most generally useful plants now in flower in the greenhouse or conservatory are tuberous Begonias, Fuchsias, zonal Pelargoniums, Petunias, Balsams, and Hydrangeas. Rhodanthe Manglesii and its white variety are now very extensively grown in many gardens, and are very effective either for the decoration of the greenhouse or as cut flowers, both in the fresh or dried state, because it is one of the so-called everlasting flowers that may be kept for years when dried and properly taken care of. Fuchsias trained pyramidal fashion will require tying in occasionally, so as to fill up any gaps that may occur. Other shoots may have their tips nipped off if inclined to grow in a straggling fashion, spoiling the symmetry of the plants. Supply them with liquid manure in a diluted state, two or three times a week, and syringe heavily on bright days before the house is closed. A little top air should, however, be left on all night.

Caterpillars on Currants and Gooseberries.

The larvæ or caterpillars of a sawfly named Nematus Ribesii often do considerable damage to the bushes of Gooseberries, red and white Currants, stripping them of their foliage, after which even if the fruits are of large size they either do not ripen or are perfectly tasteless and useless. When the insects are very numerous, hand-picking is a tedious operation, but certain in its effects. Tobacco-powder dusted over the plants while they are wet either destroys the caterpillars or causes them to drop, when they may be killed or picked up, carried away, and destroyed. White Hellebore powder dusted on the bushes in the same way will also most certainly destroy the enemy. Before dusting the bushes they may be syringed, to cause the powder to remain for some little time. At the end of a week the powder should be thoroughly washed off with clean water.

COCOS NUCIFERA.

The Cocoa Nut Palm is indigenous in the East, and is now largely cultivated on the coasts of India and Ceylon, and in the islands of the Eastern Archipelago. There are also as many as 20,000,000 in the south-west of Ceylon. The Palm frequently grows wild in distant and isolated islands, whither the germ has been borne by the sea, the thick fibrous padding around the nut protecting it from the action of the water. So we constantly see that coral reefs, as soon as they make their appearance above the surface of the water, are taken possession of by these trees. The seashore is the home of the Palm; it grows quite down at the water's edge, and is in many cases constantly washed by the waves. Thus, along the Brazilian coast for a distance of nearly 280 miles, from the river San Francisco to the bar of Mamanguape, these trees extend. We also, however, find them far inland, and at the height of several thousand feet above the level of the sea. At Bangalore they flourish and produce fruit in abundance at a height of 3,000 ft. above the sea level. From a dietetical and economical point of view the Cocoa Nut Palm is a most valuable plant; sugar, starch, oil, wax, wine, resin, astringent matters, and edible fruits are its gifts to man.

An alluvial or loamy soil is the most suitable for planting it, and no more than eighty plants an acre should be planted to get the maximum amount of fruit possible. Nuts obtainable from trees of from fifteen to thirty years old are the best for planting. There are numerous varieties of this tree, there being as many as thirty in Travancore alone. One dwarf variety bears fruit when it is only 2 ft. in height. Toddy is the sap of the Cocoa Nut Palm, and when the toddy-drawer wishes to get out the sap of the tree, he binds the flower spathe tightly with fibres of the tree, and beats it twice a day for three or four days with a short stick. The top is then sliced, and as soon as the sap begins to flow, a vessel, either earthen or made of bamboo, is tied to the spathe to receive the sap. The spathe is kept bleeding by making a fresh wound in it each day. The fluid, when fresh, has a pleasant taste, and is slightly aperient. When kept for a few hours it ferments and becomes somewhat intoxicating, and it may be distilled into spirits or vinegar. With bakers it takes the place of yeast.

The quantity of toddy taken out varies with the age and locality of the spathe, but the average quantity obtained for two or three weeks is three or four quarts every twenty-four hours. The liquid is also boiled down into a coarse kind of sugar called jaggery, which is either converted into molasses, or refined before fermentation sets in into white or brown sugar. In some places the occupation of toddy-drawer is an hereditary one. Their mode of work is very simple, but is extremely dangerous. A thong made of bullock or buffalo hide, from 3 ins. to 6 ins. in width, and long enough to surround the tree and the body of the climber, is fastened with a peculiar kind of knot. The worker then stretches the thong to its utmost by throwing his whole weight on it, and draws up his legs. He has a ring of rope of Palmyra fibres around his insteps, which allows him to grasp the tree between his heels. While his left hand is pressed against the trunk, he shifts the thong up the tree with his right, and draws his body up with it.

"Cocoa Nut Day" is celebrated in most parts of India during the full moon in August. On that day numbers of nuts are thrown into the sea as an offering to the Hindu gods. Occasionally one meets with deformed nuts, consisting of the husks with small deformed nuts having no kernel inside. The natives attribute this blighting of the fruit to the tree frog, which, by smelling the flower, can prevent the fruit from coming to maturity. The kernel of the nut is frequently made into ornaments for the hair, or necklaces. The plants, Dr. Short says, are subject to

disease from two opposite causes: first, from too much moisture, as in swampy soils, where the fronds are usually small and ill-formed, and the fruit scarce; secondly, from lack of moisture, where the soil is hard and dry, the sap-bearing vessels shrink and the plant perishes. Amongst the insects and animals destructive to the Palm may be mentioned the Cocoa Nut weevil, which eats its way into the heart of the tree, and forms its cocoon there; the Cocoa Nut beetle, the flying squirrel, the common striped Palm squirrel, the flying fox, and the tree dog. The rat family is very destructive, particularly in the Laccadives. It is exceedingly difficult to get at these rats—they make to themselves so many hiding places amongst the trees. Rat hunts are, however, occasionally got up, and to these all the inhabitants turn out with sticks and poles. While some of the hunters climb the trees and drive out the rats, the rest surround the trunks and kill the animals as they rush down.—*From "A Monograph on the Cocoa Nut Palm," by Dr. J. Short.*

GARDENING MISCELLANY.

The Giant Bellflower.

SUCH would be a not inappropriate designation for Ostrowskya magnifica, a plant closely allied to Campanula. The stems rise to a height of 2 ft., bearing a solitary widely funnel-shaped flower of great dimensions. Later on it spreads out till it is openly or flatly campanulate, disclosing the large club-shaped style. The colour seems to vary slightly from pink to lilac in different individuals, and the corolla is shallowly seven to eight-lobed. The leaves are arranged along the stem in fours at rather distant intervals, and are ovate and dark green in colour. The species is a native of Afghan, and if it prove perfectly hardy, will form an acquisition to the hardy plant border. It apparently increases but slowly at the root, and would therefore not be out of place on the rockery, as we noted it at Kew the other day.

Gentiana Weschniakowi.

THE radical leaves of this species are linear-lanceolate, and from 3 ins. to 6 ins. long. Those borne on the stem are, on the contrary, lanceolate and remarkably short if compared with other species of similar habit. The slender stems rise to a height of 12 ins. or 15 ins., and bear deep blue purple-tinted flowers in a terminal raceme or cyme. The individual blooms are ventricose—that is, they are narrowed upwards, and do not expand widely like those of G. verna or G. acaulis. In this respect the species resembles the North American G. Andrewsi, though it is otherwise totally distinct. It is a native of Turkestan, in Central Asia, from whence Regel has introduced many choice garden subjects. A specimen may now be seen flowering on the rockery at Kew.

Crinum longifolium.

CONSIDERING the hardiness of this plant, it is a matter for surprise that specimens are so seldom met with in gardens. One drawback to the plant possibly is the space it requires; but there are few gardens of any extent to which it would not prove a decided ornament and well occupy the space devoted to it. The bulbs are 3 ins. or 4 ins. in diameter, and if these are covered with a few inches of soil, they pass the winter safely without other protection. The soil should be well drained, and if a good quantity of sand is incorporated with it so much the better for the bulbs. In cold and exposed localities a small quantity of dried leaves placed round the neck of the bulbs as the foliage dies away will ward off the rain, and at the same time protect from frost. The plants, in gardens where they are grown, are now finely in flower, and will continue so for the greater part of the summer months. The tube of the flower is 3 ins. or 4 ins. long, and the segments as much more. The latter are striped with red down the back, rarely pure white. The species is usually known under the name of C. capense, and has several other names, such as C. riparium, Amaryllis capensis and A. bulbisperma, the latter appellation being given from its large seeds.

The Eastern Thorn.

THE Thorns are beautiful little trees, valuable alike for their profusion of bloom or their equally or even more showy fruit. The Eastern Thorn (Cratægus orientalis) is one of the latest to come into bloom—usually about the middle of June, and continuing almost to the end of the month. They are white, similar to those of the common Hawthorn, but rather smaller, and produced in small umbels in great profusion. The haws are large, pale coral-red or yellowish, pleasing to the eye, agreeable to the taste, and ripen during August and September, and adorn the trees for many weeks, sometimes even after the fall of the leaf. We noted a tree of it a short time ago at The Grange, Wallington, when it was in full bloom, emitting a very agreeable odour from the flowers. There is a variety of it in cultivation (if it has not been lost) under the name of C. o. sanguinea, with deep purplish red fruits. It may readily be recognised by its cuneate, three-lobed, hoary leaves, and its fruit, which differs from that of C. tanacetifolia in the absence of bracts subtending the fruit of the latter.

The Blue Poppy.

A FEW healthy plants of Meconopsis Wallichi have a fine effect in some cool recess of the garden or rockery when they come into bloom about midsummer. There is something very striking and unusual about the long deeply-pinnatifid leaves, which are shaggy, with long rusty yellow hairs. The stems rise to the height of from 3 ft. to 6 ft., according to the favourable nature of the circumstances, and bear a panicled inflorescence at the top. The individual flowers are of great size and typically pale blue, but have a rather short endurance, which is compensated for by the number of blooms produced in succession from the branches. There is a brownish purple variety which sometimes makes its appearance in cultivation, but the typical pale blue form is the best. Although perennial, it is rather short-lived, and does best when treated as a biennial in the same way as Meconopsis nepalensis, which also comes from the Himalayas.

Lilium concolor pulchellum.

ALTHOUGH introduced as long ago as 1834 from Mongolia, this beautiful variety is rarely seen in cultivation. It is usually simply named L. pulchellum in gardens, but it is inseparable from L. concolor as far as botanical characters go. In a wild state the flowers are solitary, or mostly so; but cultivated specimens bear from four to six blooms, which are erect, broadly bell-shaped, and bright scarlet, marked all over with small black spots. The stems are slender, 6 ins. to 12 ins. high, bearing from eighteen to thirty sessile irregularly scattered leaves, and the bulbs are very small, generally about the size of a hazel nut, while those of the type, as well as the stems, are larger.

Viola cornuta alba.

THE white variety of the horned Viola is so floriferous when planted in open, well-exposed positions, that the smallness of the flowers, compared with those of the improved bedding kinds, need not prevent the plant from being more extensively cultivated than it is. The flowering will be the more continuous if the soil in which the plants are grown is rich and naturally moist rather than otherwise. Wonderful improvements have been effected in the blue-flowered, typical form, both with regard to the size of the flowers and the intensity of their colour. The same may be said, to a smaller extent, of V. lutea, a variety or sub-species of V. tricolor, having yellow flowers. Seeing that a good white bedding Viola is so much in request, V. cornuta alba should be improved in size by cross-breeding or hybridisation, till the desired size and breadth of petal is obtained.

The Common Lime.

As far as British or European trees generally are concerned, the Limes are remarkable in flowering so late in the year. Tilia vulgaris, the species under notice, flowers at the latter end of June and in July in the southern counties; but away farther north it is very much later. As an avenue tree, or in the pleasure grounds, it is strikingly handsome, owing to the long drooping habit of its branches, and the beauty of its ample obliquely heart-shaped leaves. The flowers are most abundantly produced, and if not very conspicuous by their want of bright colours, they make their presence felt by the delicious odour that pervades the atmosphere for a considerable distance around, and especially to the leeward of the wind. They are pale yellow, and borne in clusters attached to a large and singular-looking bract, and they produce a large amount of honey, which is eagerly sought after by bees.

A Showy Annual.

THE yellow Composites are so plentiful, especially at certain seasons, that they are held in disrepute in some gardens; but there is a number even of the yellow kinds that are undoubtedly popular. Coreopsis Drummondi, the subject of this note, although not so popular as it ought to be, is an old plant—an annual species introduced from Texas in 1834, and is undeniably very showy when well grown, on account of the large size of the flower-heads, which have long golden yellow rays, with a rich velvety blotch at the base of each. In this respect it may be compared with C. lanceolata, which is a much better known and decidedly popular perennial herbaceous species. The flower-heads of the latter are golden yellow, without spots, and this is frequently the case in perennial species. The annuals, on the other hand—often grown in gardens under the name of Calliopsis—have mostly spotted rays. The most frequently grown annual species is C. tinctoria, which has finely-cut leaves. Those of C. Drummondi are broad, little divided, and of a soft pleasing green colour.

Philadelphus grandiflorus.

THE hardy species of Philadelphus or Mock Orange are now exceedingly showy in the shrubberies everywhere. A number of species have been introduced from time to time, but many of them got rooted up to make room for bedding plants when the craze for that style of gardening was at its height. One of the showiest is P. grandiflorus, which has flowers of great size, in addition to which they are fragrant, whereas those of P. Gordonianus, another strong-growing species with large and showy flowers, are not fragrant. The leaves are broadly or roundly ovate, sometimes pointed, and irregularly toothed. The shrub forms a large strong-growing bush, 6 ft. to 10 ft. in height, and although a native of the Southern United States is hardy in this country.

New Zealand Bluebell.

THE above appellation has not inappropriately been given to Wahlenbergia saxicola, or the rock-loving Wahlenbergia, because in habit it greatly resembles a miniature Harebell (Campanula rotundifolia), which is the Bluebell of Scotland. The plant under notice is, however, much dwarfer than S. rotundifolia, and bears a single erect bloom on the top of its short leafless flower stalk. The corolla is bell-shaped and usually pale blue or lilac; but seedlings vary considerably in the colour of their flowers, just as many other members of the order Campanulaceæ are liable to do, especially the Campanulas themselves. Some blooms of Wahlenbergia saxicola are white with blue veins, and we may presently get a pure white form, if it is not already in existence. The plant is so nearly hardy that it will live through several successive winters in the open border, or better on the rockery in the south of England, and flowers freely in summer. A reserve stock should, however, be kept in a cold frame, or even in an unheated hardy plant house.

Rehmannia glutinosa.

As a hardy or sub-hardy plant, this is certainly distinct from the general run of flowers grown out of doors. It belongs to the Scrophularia family, and although widely distinct, may be compared to a species of Digitalis in habit. The greater number of the leaves are radical, oval, or oblong, deeply and coarsely toothed. The flower stems rise to a height of 12 ins. or 18 ins., and bear numerous flowers in the axils of the upper leaves in a racemose manner. The blooms individually are of rather large size, tubular, and dingy or lurid purple, with a paler and pinkish, oblique, five-lobed limb. Although not particularly attractive as far as the colours are concerned, yet a flowering plant has a distinct and interesting appearance. It is sufficiently hardy to outlive our winters at least, if planted in a sheltered and rather dry border, while it grows freely and comes into flower in June or even earlier, and lasts through July. A flowering specimen may be seen in a border at Kew under the name of R. chinensis. It is a native of northern China. Only one other species is known, and is a native of Japan.

Nuphar advenum.

IN ponds and ornamental water this may readily be recognised by its forming masses of leaves standing clear out of the water, whereas those of the native species, N. luteum and N. pumilum, have oblong or sub-orbicular leaves that float on the surface, except when large old plants get crowded, their leaves then rising out of the water a little way. The allied plants have round or terete petioles, while those of N. advenum are flattened on the upper side. The oblong heart-shaped blade of aërial leaves have the basal leaves widely diverging, not contiguous or closed, as in floating leaves. The flowers are yellow, like those of N. luteum, but the stamens are of a deep red, giving an additional attraction to the flower, and in good varieties the interior of the otherwise yellow sepals is also heavily tinged with red. The rhizomes should be planted in shallow ponds not exceeding 12 ins. or 18 ins. in depth, because the plants are less vigorous in deep water. An open sunny position is most favourable to the production of flowers.

ORCHID NOTES AND GLEANINGS.

THE ORCHID GROWERS' CALENDAR.

A GOOD plant of Oncidium splendidum was considered a rarity a few years ago, and comparatively few persons had seen it in bloom, but the recent importations have made it tolerably plentiful, and most collections of Orchids contain plants of it at the present time. It flowers in early spring, and lasts two months in beauty if kept tolerably dry. Then after flowering it should be kept in a light position where it can enjoy the sun along with Oncidium tigrinum and Odontoglossum grande while at rest, being shaded only during the hottest part of the day. The young growths are just pushing up, and will soon require a good deal of moisture at the roots, and the plants should always be kept as near the glass as possible to ensure the growths forming solid bronzy bulbs which will not fail to flower. It succeeds admirably on a piece of board (½ in. deal) if made secure with copper wire at the start, or it will do equally well in pots filled with clean crocks, with just a layer of peat and sphagnum on the top.

Now that the plants are being thoroughly cleansed it is a good opportunity to attend to any that do not seem happy in their surroundings, for frequently a plant may be re-invigorated by removing it from the pot, or off the block or basket, washing the old stuff away from the roots, and placing it in a smaller pot than before. Any that are insecure should be firmly fixed, as they cannot thrive while unstable, and if young roots are pushing out, the rocking about of the plants soon makes short work of them. Any plants of Cattleya Mendelii which require re-potting will soon be fit, as well as C. Lawrenceana, C. Mossiæ, and C. Wagneri, for which nothing equals good brown fibrous peat. The pots should be first filled three parts full of crocks, with a layer on the top to make the drainage secure.

Trichopilias having flowered are now commencing growth, and appear to do better in pans or baskets where they can be hung up near the glass, as the flowers can be seen to more advantage than when grown in pots. They should be elevated well above the rim of the pan to allow the flower spikes to come from the base of the bulbs without any hindrance. T. suavis, T. s. alba, T. crispa, T. c. marginata and T. lepida are the best.

Cœlogynes of the cristata section will now take an abundance of water, and C. barbata will derive benefit by being stood over a water tank or pan of water, as it resents being kept dry at any time of the year, and it requires copious waterings daily at this season, shade and moisture being also necessary to grow it well.

Miltonia vexillaria may be moved into a cool house as they go out of flower, and when they start growing again may be re-potted. Bearing a heavy crop of flowers for five or six weeks takes a lot of strength out of them, but if they have been kept free from thrips they are well able to bear the strain, and will break away again shortly. A good dip in weak tobacco-water fortnightly now that they are out of flower will keep them clean and healthy.

Now is a good time to order Orchid peat, as it will be new and dry, and it will be ready for use in the autumn if not required before.

THE TEMPERATURES FOR JULY are:—East Indian house, 75° to 80° by day, 70° to 75° at night. Cattleya house, 70° to 75° by day, 65° to 70° at night. Odontoglossum or cool house, 60° to 65° by day, 60° at night.—*W. P.*

ORCHIDS AT LOWFIELDS, BURTON-IN-LONSDALE.

AMONGST Auricula and Tulip growers the Rev. F. D. Horner's name is familiar as a household word, but it is not generally known that he is also an enthusiastic Orchidist. The notes appended, however, will serve to show that he stands in the foremost rank as a successful cultivator. It is only a few years since Mr. Horner turned his attention to this interesting class of plants, and the results have been most gratifying to him. If there is one thing more than another to which his success is due, it is the pure air from off the Yorkshire hills, though cleanliness is also an important factor. It is only those who have grown Orchids in the metropolis who really know what a dense fog is, with its attendant evils. Method is the order of the day at Lowfields, and a diary is kept of all the species and varieties as they come into bloom, with the length of time they remain in flower, and also whether they are good varieties or not. This system cannot be too extensively adopted; every plant then has its history, which tends to increase the possessor's interest and pleasure in the things he grows. The range of Orchid houses at Lowfields is small, being about 40 ft. long and 9 ft. wide; but as will be seen from the record of plants in flower during the past six months, the display has been a gorgeous one. In January, thirty-six species flowered; February, forty-five species; March, fifty-six species; April, fifty-eight species; May, sixty species; June, sixty-one species; and in many cases there were six plants of the same species in flower together. I noted a few fine things at present in bloom—viz., Cœlogyne Massangeana, a good specimen, with three racemes; Stanhopea tigrina superba, carrying two extra fine blooms; Nanodes Medusæ, with numerous flowers, a fine healthy piece; Cattleya Trianæ Schroderæ, C. Acklandiæ, and Masdevallia Chimæra; also many others too numerous to mention. It is needless to say that Orchids, as well as Tulips and Auriculas, find a happy home at Lowfields.—*J. McNab.*

ÆRANTHUS GRANDIFLORUS.

THE two known species of this genus are epiphytical Orchids from Madagascar, closely allied to Angræcum, but separable by the articulated lip. The flowers are usually described as green or greenish yellow; but a specimen now flowering at Kew is white, slightly tinted with yellow. The blooms are produced singly at the apex of long, slender, pendent scapes, and are singularly curious in structure. The sepals are ovate and drawn out into long narrow tails, and the petals are similarly elongated; but the broad portion suddenly becomes contracted, ending in a few teeth with the middle portion only continued into a tail. The lip is ovate, acuminate, auricled at the base, and prolonged behind and beneath into a large spur, curiously thickened at the tip. The leaves are arranged in a two-ranked manner. Angræcum sesquipedale is sometimes classed under Æranthus.

BULBOPHYLLUM (SARCOPODIUM) DEAREI.

So closely is the group of plants (of which the above is a type) allied to Dendrobium on the one hand and to Bulbophyllum on the other, that the species are sometimes classed under the name of Bulbophyllum, occasionally under Sarcopodium, and again under the latter name as a section of Dendrobium. The plants are more or less creeping in habit, with pseudo-bulbs arising at intervals from the rhizomes. The flowers are large and produced singly on the scapes. One of their chief characteristics is the peculiar form of the lip, which is attached by a moveable hinge to the long, curved foot of the column. The species under notice has a large upper sepal heavily reticulated with tawny orange on a straw-yellow ground; the lateral sepals are mottled with purple on a yellow ground. The petals are reflexed and reticulated with pale orange on a yellow ground. The lateral lobes of the curious lip are pubescent and purple. There is a flowering specimen at Kew.

CIRRHÆA SACCATA.

THE species of this genus are seldom seen in cultivation, for although they may be regarded as pretty they can hardly be described as showy. The species under notice is now flowering at Kew in the cool division of the Orchid house. The pseudo-bulbs are short, while the leaves are somewhat similar to those of a Stanhopea. The plant is grown in a basket and suspended from the roof, while the long racemes of flowers are pendent and purple. The sepals are of a dull brownish colour, while the uppermost one is closely reflexed over the ovary. The spathulate petals and three-lobed lip are yellow; the lateral lobes of the lateral organ are erect, and the disk is concave or saccate, possibly suggesting the specific name. In habit the plant may be compared to a species of Gongora.

VARIABILITY OF STANHOPEA WARDII.

BESIDES what may be termed the typical form of this species, there are at least three named varieties, differing chiefly or almost solely in colour and markings. S. W. graveolens is a form with dirty white flowers, passing into yellow in the centre. S. W. aurea is a fine variety of a golden yellow, deepening in the centre; and S. W. venusta is another, but less beautiful unicolorous-flowered form. The type is characterised by the large number of pale purple, star-shaped blotches on the sepals and petals, and a greater profusion of deeper purple dots all over the greater part of the labellum. On the sides of the large fleshy cavity at the base of the labellum are usually two large blackish purple blotches, like eye spots. In some instances these blotches are entirely absent, just as we have also seen in the case of S. oculata itself, while in other cases the spots are enlarged. A very striking form was recently sent us, having the two typical blotches present, and in addition a large horse-shoe-shaped or almost orbicular blotch of the same colour in a central position at the very base of the lip. All these markings are notably conspicuous, but unfortunately are not constant.

THE GARDENERS' CALENDAR.

THE STOVE.

ANTHURIUMS.—As soon as the spathes of Anthurium Scherzerianum become too shabby to be of any decorative value, they should be removed, and the plants put into stove heat, in order to develop young foliage in preparation for next year's display. The plants will start into growth readily if they have previously been kept in a cool house. The atmosphere of the latter should be kept in a tolerably moist condition while the leaves are young, and at this stage the house should be shaded during bright sunshine.

GARDENIAS. — The batches intended for early flowering should be encouraged to make their growth, so that they may become ripened off and set for flowering. Young plants that require shifting on may be potted now. It will be greatly to their advantage that the young shoots should be hardened somewhat in a cooler and more freely ventilated house after the completion of their growth in length. When again introduced to heat, they start away more readily after this preparatory process, and flower more freely than it is possible for them to do from soft immature wood.

IXORAS.—When the first crop of bloom has been removed, the plants need not be stood aside, because if kept growing strongly in stove heat, and especially should the pots be plunged in fibre with bottom heat, they will continue to throw up flowering side shoots for weeks or even months to come. As a class of hard-wooded subjects they enjoy more heat perhaps than is generally afforded them.

THE GREENHOUSE.

ROSES IN POTS.—Plants intended for forcing should now be overhauled and re-potted in the case of those requiring it. H. P's enjoy a larger amonnt of root room than Tea-scented kinds. Should it be undesirable to increase the size of pots for large plants, the ball of soil may be reduced, and the same sized pots used again. Some growers will, perhaps, prefer to grow on batches of young plants to take the place of the old ones, except when large specimens, of course, are desired. This, however, will seldom be the case where plants are grown for forcing. If considered necessary, shading may be given for a day or two after this operation; but after becoming established, they may be fully exposed to the sun in the open air, till required for forcing.

VALLOTAS.—These, in many instances, are throwing up their flower-spikes, according to the temperature in which the plants are grown, and when this is the case weak doses of liquid manure may be given two or three times a week. The strength of the flower-spike and the size of the blooms will be greatly increased by this practice. Being evergreen the plants should always be exposed to light, but more so when making growth than at any other time. While they last in bloom the flowers of Vallota certainly constitute one of the leading features of the greenhouse.

THE FORCING HOUSES.

VINERIES.—As the crops in the earlier houses get cut, the ventilators should be thrown open as previously advised. In the earliest house the laterals should now be firm and of a clear brown colour, and when such is the case no more artificial heat will be required until the houses are again closed for forcing. During the present bright and dry weather keep the syringe or garden engine freely playing upon those Vines from which the crop has been cut in order to destroy red-spider, which often increases with such rapidity at this season as to cause the leaves to drop. Black Grapes now in a ripe state should be kept as much shaded as possible by means of their own leaves. In some cases it has been found necessary to shade them artificially, so as to retain the bloom in the best possible condition. The case is different with white Grapes, which take on their delicate tints better if fully exposed to light.

TOMATOS. — A sowing of Hackwood Park and Nisbett's Victoria, if done now, will come into bearing in the autumn, and keep up a succession till Christmas. After the seedlings have become established in small pots, they may be stood out of doors until room can be found for them in the autumn in some Melon or Cucumber pit, or they should be taken indoors at least before there is danger from frost.

THE KITCHEN GARDEN.

PEACHES.—Trees on the open wall have now reached the critical period when their energies are taxed in forming the stone of the fruit. Little or no thinning will be required this year in most places, and except in particular cases, no fruit should be removed until after the stoning process is over. Tie in all necessary wood, and keep the trees thoroughly clean by frequent syringing, or by the use of the garden engine. The water so given, if not allowed to run off the borders, will be found most serviceable to the trees.

HOEING AND WATERING.—During the prevalence of the present dry weather, it will be found expedient to water young and growing crops abundantly. The soil between the plants should be hoed the day after watering, so as to prevent the ground baking.

HORTICULTURAL SOCIETIES.

Richmond Horticultural.—*June 26th.*

A VERY fine show and most beautiful weather favoured this suburban society on the above date. The Duchess of Teck and her daughter, the Princess Victoria, paid an early visit to the show, and inspected it with exceeding interest. Roses were the great feature this year, the early date of the show enabling growers to crowd in flowers liberally, some 360 trebles being shown in the two trade classes, the majority of which were very fine fresh blooms. Mr. B. R. Cant, Colchester; Messrs. Paul & Son, Cheshunt; and Mr. Frank Cant, Colchester, took the prizes in the order named in the class for thirty-six trebles; and Mr. Frank Cant, Mr. B. R. Cant, and Messrs. Paul & Son were successful in their order in the class for twenty-four trebles. We shall be giving such a wealth of these names that it is not worth while in this case to particularise sorts; but we may add that Bennett's Her Majesty was shown in fine form by several exhibitors, and specially was superb in a grand lot of flowers from Messss. Veitch & Sons, Chelsea. The leading amateur exhibitors of Roses were the Rev. J. W. Pemberton, Havering, Essex, and Mr. R. E. West, of Reigate. Two prize bouquets from Messrs. Perkins & Son, Coventry, were greatly admired. Mr. R. Chard had the three best table stands, but these, with all sorts of cut flower classes at Richmond, were legion. Messrs. Barr & Son, and Messrs. Collins & Gabriel showed hardy cut flowers in large quantities.

Of plants some of the most attractive were the fine groups arranged by Messrs. Laing & Sons, Forest Hill, including many of their fine Begonias; Messrs. Puttock & Shepherd, Kingston; Mr. Chambers, Hounslow, whose charming white Viola, Snowflake, was very striking; Mr. W. Gordon, of Twickenham, who had a large group of Lilies; and not least, a fine collection of superb Orchids from Mr. Henry Little, which included Cattleyas, Oncidiums, and Odontoglossums in profusion. Mr. Little was also an exhibitor of specimen Orchids, having fine clumps of Cattleyas Mendelii and Mossiæ, Lælia purpurata, and Cypripediums Veitchii, barbatum superbum, and Lawrenceanum. Mr. James, of Norwood, was second in this class.

Of decorative groups, very elegant arrangements were set up by Mr. A. Brown, of Richmond; Messrs. Fromow & Sons, Chiswick; and Mr. James, these taking the prizes in the order given. In a smaller class some pretty groups were arranged by local gardeners. Mr. Finch, gardener to G. Marriott, Esq., Coventry, had the best six stove and greenhouse plants in bloom, in Erica Cavendishii, Ixora Williamsii, Darwinia fuchsoides, Cattleya Gaskelliana, &c., all fine plants; Mr. James coming second, and Mr. Bates, Poulett Lodge, third. Mr. Bates was, however, first with six plants in the local class. Pelargoniums were a brilliant feature, Mr. C. Farmer being to the fore with six large-flowered, six fancies, and a large group, all beautifully flowered. Mr. Little also had a fine group, and Mr. Clay, of Kingston, set up a collection chiefly of show varieties not for competition. Mr. Little had six fine Ivy-leaved plants. Zonals were well done, the best six coming from Mr. Coombs, gardener to W. Furze, Esq., Teddington, medium-sized, finely-flowered plants. Mr. Little and Mr. Barnes (gardener to W. S. Graham, Esq.), had some fine plants also. Begonias were fair. Gloxinias from the Messrs. White, Redlees Gardens, Isleworth, and Mr. Coombs and Mr. Waite, of Esher, were well done. Of Palms and Ferns, which make up useful packing, there was nothing of special merit.

Fruit was very fair, the best six dishes coming from Mr. Cakebread (gardener to Sir P. Rose, Bucks), whose Grosse Mignonne Peaches and Lord Napier Nectarines merited special notice. Mr. Osman, gardener to L. J. Baker, Esq., Petersham Park, was second, but was first with three bunches of black Grapes, having good Hamburghs; Mr. Thompson, gardener to Messrs. W. & E. Wells, Hounslow, coming second with Madresfield Court. Mr. Osman had the best whites in Muscat of Alexandria; Mr. Bates had the best three blacks in the local class; and Mr. Munro, gardener to E. D. Paul, Esq., Twickenham, the best whites, in Buckland Sweetwater. Mr. Waite was, as usual, strong with vegetables, taking first places with twelve dishes, nine dishes for Messrs. Carter & Co.'s prizes, and a collection of sixteen dishes for the Native Guano Company's prizes. Vegetables were very plentiful, but hardly up to the best mark yet.

LAW NOTES.

SCOTT *v.* IRELAND & THOMSON.—In this action, which was tried in the Court of Session, Edinburgh, before Lord Trayner, on June 12th and 13th, Mr. Charles Walker Scott, Woodbank, Dumfries, sued Messrs. Ireland & Thomson, nurserymen, Edinburgh, for £60, the price of forty Azaleas alleged to have been sold to them by the plaintiff in January last. The plaintiff in proof of his claim said that he had large greenhouses at Woodbank, but as his lease had expired, he was disposing of these and their contents; and that the forty Azaleas in question were sold to Messrs. Ireland & Thomson, the preliminary communications being conducted between his gardener, Mr. George H. Cole, and Mr. Thomson. On January 10th Mr. Cole showed him a telegram from the firm to this effect, "We are offered £50 nett cash for your Azaleas. If Mr. Scott will accept wire on receipt. Party waits." By his instructions Mr. Cole wired in reply, "Not a penny less than £60 nett cash, and they are very cheap. They are under offer in Yorkshire at much higher prices." To that telegram the following reply was received, "Will give the £60. Keep plants for us. Will write to-morrow. Thomson." The plants were accordingly despatched by rail on the 15th of January to an address sent by Messrs. Ireland & Thomson. A letter was afterwards received stating that Mr. Watson, of Earnock, Hamilton, to whom the plants had been sent, refused to receive them. Witness telegraphed, and afterwards wrote repudiating all connection with Mr. Watson; it was to Messrs. Ireland & Thomson he had sold the plants. He was aware that on January 4th, Cole wrote to the defendant a letter in which he said, "There are forty very fine plants, all in good condition, and covered with bud. Mr. Scott will take £60 for the forty plants. . . . They are all first-class varieties." He thought that was a true description of the plants, and while they were in his possession he did not observe them to be infested with mealy-bug or thrip.

For the defence it was urged that Messrs. Ireland & Thomson simply acted as agents in the matter, and that the plants did not conform to the representations made regarding them, and for that reason were rejected by Mr. Watson. In proof of this contention evidence was given by Mr. David Thomson, Mr. David P. Laird, Mr. David Mitchell, Mr. R. Wilson (gardener at Earnock), Mr. Lindsay (curator Edinburgh Botanic Gardens), Mr. John Lamont, Mr. John Paterson, Millbank, Mr. J. Whitton, Glamis Castle, and Mr. W. Thomson, Clovenfords. His lordship took time to consider the matter, and on June 26th stated that he was of opinion that the plaintiff had failed to prove that the plants were of the description guaranteed, and therefore he found for the defendants, with costs.

THE WEATHER.

AT the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending June 29th was 29·90 ins.; the lowest reading was 29·83 ins. on Thursday afternoon, and the highest 30·10 ins. at the end of the week. The mean temperature of the air was 64·1°, and 2·3° above the average in the corresponding weeks of the twenty years ending 1868. The mean was below the average on Sunday and Monday, but showed a considerable excess on each of the other days of the week. The general direction of the wind was N.E. and E., and the horizontal movement of the air averaged 5·2 miles per hour, which was 5·0 miles below the average in the corresponding weeks of sixteen years. Rain fell on Monday to the amount of 0·02 of an inch. The duration of registered bright sunshine in the week was 54·1 hours, against 54·2 hours at Glynde Place, Lewes.

NOTICE TO CORRESPONDENTS.

SPECIAL attention is paid in the columns of THE GARDENING WORLD to the answering of questions on all subjects connected with practical horticulture, and the naming of Plants (other than Florists' Flowers) and Fruits, in which department the Editor is assisted by gardeners and specialists of great experience.

Correspondents who may require their communications, if not accepted, to be returned, must in all cases enclose stamps for the return postage. The name and address of every writer must be given, not necessarily for publication, if that is not desired, but simply as a guarantee of the writer's *bonâ fides*. No notice whatever will be taken of anonymous letters.

It is particularly requested that correspondents will favour us with their communications as early in the week as possible, and that they address them only to "THE EDITOR."

When sending Flowers or Fruits for identification it is requested that not more than six be sent at one time, that the specimens be good ones, and all legibly numbered.

QUESTIONS AND ANSWERS.

BRITISH ORCHIDS.—*F. E.*: Many thanks. They were indeed very beautiful, but did not include the one we specially asked for—the O. maculata with the undivided lip.

ECHIUM CANDICANS.—*Constant Reader*: It is a greenhouse perennial from Madeira, and not a likely plant to be kept in stock by many nurserymen. You may possibly get seeds from Mr. W. Thompson, Tavern Street, Ipswich.

LILIUM.—*F. C.*: The specimen you sent us was a flower of Lilium davuricum, a plant which is closely allied to L. bulbiferum, L croceum and L. elegans. According to your statement, it is readily distinguishable from L. elegans by its stature and its greater number of flowers. The latter is very dwarf and usually one-flowered, but may bear two or three. It differs from L. croceum in colour, and from L bulbiferum in the absence of bulbils from the axils of the upper leaves. L. davuricum again is one of the commonest of the above-named species in cultivation. Another time please send a greater length of stem with leaves than you did on this occasion.

NAMES OF PLANTS.—*W. J. D.*: 1, Tanacetum vulgare crispum, the crisped-leaved Tansy; 2, Galega officinalis. *W. H. R.*: Dendrobiums transparens. *Heely*: Oncidium Harrisianum. *J. McPhail*: Clematis recta

ODONTOGLOSSUMS.—*T. Wheeler*: The early morning sun will do no harm, on the contrary, if what you call tanning the leaves has the usual meaning, *i.e.*, giving them a healthy bronzy hue, it is doing them good. The plants themselves should tell you when they are ripening up, by their bulbs assuming a plump and shiny appearance and by the leaves becoming firm and leathery in texture.

ROSE W. F. BENNETT.—*Amateur*: We know of no reason why this should not be suitable for out-door culture in your climate, but its great merit is as a pot Rose for winter flowering, and as such we should prefer to treat it.

COMMUNICATIONS RECEIVED.—W. B.—R. B.—K. & S.—L. & B.—Dr. M.—W. K.—J. C. A.—T. S.—W. Scott—S. & Co.—A. P.—C. B. G.—C. F.—F. H.—S. & S.—Fig tree (we will give what you want in our next number).—R. J. H.—W. J. M.

TRADE CATALOGUES RECEIVED.

ANTOINE VAN VELSEN & Co., Haarlem.—Bulbs and Tuberous Roots.

R. GILBERT, High Park Gardens, Stamford.—Choice Strawberries.

LONDON SEED TRADE.

July 1st.

MESSRS. HURST & SON, 152, Houndsditch, report business very dull at Mark Lane. There is nothing moving in Clover Seeds or Rye Grass. Rape and Mustard quiet. Bird Seeds unchanged.

COVENT GARDEN MARKET.

July 3rd.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Grapes .....per lb.	2 0	3 6	Strawberries.. per lb.	0 2	0 8
Pine-apples, Eng., lb.	1 0	1 6			

Canadian and Nova Scotia Apples, per barrel, 7*s.* to 17*s.*

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus ....per 100	3 0	8 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ..per dozen	1	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages .... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	8 0	Radishes ..per dozen	1 6	
			Small salading, punnet	0 4	
Celery ....per bundle	2 6		Spinach, per strike ..	2 0	
Cucumbers ....each	0 4	0 10	Tomatos ....per lb.	1 0	1 6
Endive, French, doz.	2 6	3 6	Turnips ....per bun.	0 6	

POTATOS.—Kent Regents, 80*s.* to 100*s.* per ton; Kent Kidneys, 80*s.* to 100*s.* per ton; Champions, 70*s.* per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.
Arum Lilies, 12 blms..	2 0	4 0
Asters, French, per bunch	1 6	2 6
Bonvardias, per bun.	0 6	1 0
Carnations, 12 blooms	1 0	2 0
Carnations, 12 bnchs.	3 0	6 0
Cornflower, 12 bnchs.	1 0	3 0
Delphinium, 12 bun.	3 0	6 0
Eschscholtzia, 12bchs.	2 0	4 0
Eucharis ..per dozen	3 0	6 0
Forget-me-nots.....	1 6	4 0
Gardenias, 12 blooms.	2 0	5 0
Gladioli ..12 bunches	1 6	9 0
Heliotropes, 12 sprays	0 3	0 9
Iris .....12 bunches	6 0	12 0
Lapageria, 12 blooms	1 0	2 0
Lilium longiflorum, 12 blooms	2 0	4 0
MaidenhairFern, 12bns.	4 0	9 0
Marguerites, 12 bnn.	3 0	6 0
Mignonette, 12 bun.	3 0	6 0
Moss Roses 12 bnchs.	4 0	9 0
Pansies ..12 bunches	1 0	2 0
Pelargoniums, 12 spys.	0 6	1 0
— scarlet ..12 sprays	0 4	0 6
Pinks ....12 bunches	2 0	4 0
Primula, double, bun.	0 6	1 0
Pyrethrum. 12 buchs.	2 0	6 0
Roses, Tea, per dozen	0 6	1 0
— Red .....per doz.	0 3	1 0
— Saffrano ..per doz.	0 6	1 0
Spiræa ..12 bunches	4 0	6 0
Stephanotis, 12 sprays	2 0	4 0
Sweet Sultan, 12 bun.	3 0	5 0
— Peas.....12 ,,	3 0	6 0
Tuberoses, per dozen.	0 6	1 0
White Lilac, French, per bun.	3 0	5 0

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.
Aralia Sieboldi ..doz.	5 0	12 0
Arum Lilies..per doz.	6 0	12 0
Bedding plants, in var., per doz.	1 0	3 0
Calceolaria ..per doz.	4 0	8 0
Cyperns, ..per dozen	4 0	12 0
Dracæna term., doz.	30 0	60 0
—viridis, per dozen	12 0	24 0
Erica, varions ..doz.	9 0	24 0
Evergreens, in var. ,,	6 0	24 0
Ferns, in var., per doz.	4 0	18 0
Ficns elastica ..each	1 6	7 0
Foliage Plants..each	2 0	10 0
Fuchsia.....per doz.	4 0	12 0
Heliotrope ..per doz.	4 0	8 0
Hydrangeas..per doz.	6 0	15 0
Lilium auratum, doz.	24 0	36 0
—longiflorum per doz.	18 0	30 0
Lobelia .... per doz.	3 0	6 0
Marguerites per doz.	6 0	12 0
Mignonette, doz. pots	3 0	6 0
Musk ..... per doz.	2 0	4 0
Nasturtiums ....doz.	3 0	5 0
Palms in variety, each	2 6	21 0
Pelargoniums, scarlet,	2 0	6 0
Pelargoniums, per doz	6 0	18 0
Rhodanthe ..per doz.	3 0	6 0
Roses, H.P., per doz.	12 0	24 0
Roses, Fairy, per doz.	6 0	8 0
Saxifraga, various, doz.	6 0	18 0
Spiræa .....per doz.	9 0	12 0
Stocks ..... per doz.	2 6	4 0

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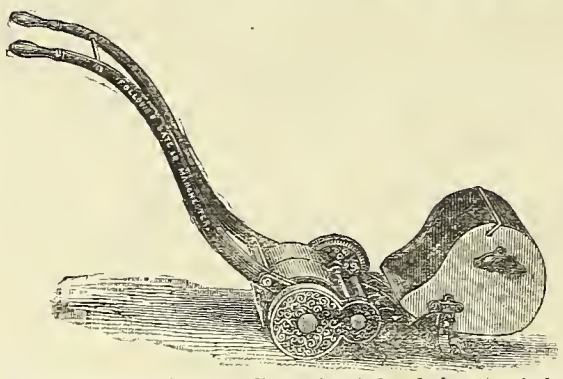

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THE GARDENERS' ORPHAN FUND.

NOTICE.

THE ANNUAL GENERAL MEETING of the SUBSCRIBERS to this FUND will be held at the CANNON STREET HOTEL, on FRIDAY, JULY 19th NEXT, for the purpose of receiving the Report of the Committee and the Accounts of the Fund for 1888-9, Electing Officers for the ensuing year, Amending Rule XII, and for the Election of Five Children to the benefits of the Fund. The Chair will be taken at Two o'Clock precisely, and the Ballot will close at Four o'Clock.

THE ANNUAL DINNER

Will be held the same evening at Five o'Clock. Tickets, 5*s.* each.

A. F. BARRON,
Honorary Secretary.

Royal Horticultural Society's Gardens,
Chiswick, London, W.

July, 1889.

P.S.—The Voting Papers have all been issued; any Subscriber not having received one, is requested to communicate with the Secretary.

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Next Week's Engagements.

MONDAY, July 15th.—Royal Botanic Society's Floral Parade from 2 p.m. to 7 p.m.

TUESDAY, July 16th.—Rose Show at Birkenhead and Carlton-in-Lindrick.

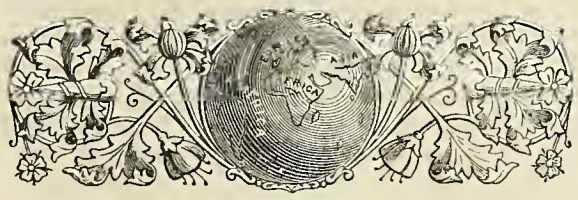
WEDNESDAY, July 17th.—Bedford Rose Show.

THURSDAY, July 18th.—National Rose Society's Show at Sheffield. Salterhebble Rose Show.

FRIDAY, July 19th.—Gardeners' Orphan Fund; Annual Meeting at the Cannon Street Hotel, at 2 p.m.; Annual Dinner at 5 p.m. Ulverston Rose Show. Sale of Orchids at Protheroe & Morris's Rooms.

SATURDAY, July 20th.—Manchester Rose Show.

For Index to Contents & Advertisements, see p. 730.



"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JULY 13, 1889.

CURRENT TOPICS.

GARDEN ROSES AS SHOW FLOWERS.—The recent Rose exhibition at Chiswick has had one good result. It has effectually settled the cry for the conversion of garden Roses into show flowers. Charming and beautiful on bushes, walls, or pillars, as most of these Cabbage, Moss, Provence, Rugosa, and other varieties are, they have no fitness for exhibition purposes; and at the Rose conference, although the first day was for the season singularly cool and cloudy, yet by the afternoon very many of the single and semi-double blooms had collapsed utterly, whilst the beautiful Hybrid Perpetuals, Teas, and even the Bourbons—a rare class now—were still fresh and pleasing on the second day.

Whatever fuss we may make over garden Roses, so called, and they are very fairly well so described, they have no affinity for the exhibition table, and the less it is attempted to introduce them into places so uncongenial for them the better. Without doubt all loose-growing Roses have their peculiar charms, whether seen in masses, on bushes, or climbing over walls or the stems of trees, or on arbours or arches, and for the short time they are in existence they are very beautiful in all and every way. But even when uncut the flowers have a very fugitive existence, and when cut that existence is indeed limited. Compare, on the other hand, the massiveness and solidity of the blooms of good Teas and Hybrid Perpetuals, how boldly they set themselves erect, how rich and varied their hues, how delicious the perfume emitted, and often how enduring, and then let anyone ask why these should be forsaken for the fleeting beauty found in common varieties.

Happily, there is no probability whatever that any such grave error of judgment will be committed. If enthusiasts and faddists choose to go wild over certain Roses just because they are old fashioned, at least the general public will not forsake their cherished home flowers, which have been so brilliantly beautiful this season, and we trust will yet prove to be not less so as the summer wanes.

DUST.—Although we have had but some three weeks to a month of absolutely hot, dry weather, yet because of the continued prevalence of wind, the dust everywhere has been unusually distressing; even the inhabitants of towns, where the streets are supposed to be frequently watered, not escaping the plague. Indeed, in towns the roads become so hard and non-porous that they dry more rapidly than they do in the country, and the effects of an early-morning watering all too soon disappears. In the neighbourhood of roads where there is large traffic, and there is no watering but such as nature bestows, the dust has proved to be a perfect terror, rendering life hardly endurable, and so coating trees, shrubs, and other plants near as to render them hardly recognisable.

A correspondent mentions that dust has been to him more efficacious as shading to glass houses than Summer Cloud or whitening, for a dense sediment of grit, of the very lightest particles, has settled all over the roofs, and toned the glare of the hot sunshine effectually. To have washed it off would have been but to make matters worse, it being better to wait until the rain, so much needed, came and washed everything else, thus settling the dust effectually. Whit-Monday last will long be remembered as a wretchedly wet day, and yet how grateful should we all be that such rain fell, as, but for that, having regard to the unusual tropical heat which has since prevailed, vegetation might have grievously suffered.

So far vegetation in many districts now must need washing. A few hours of steady rain would be indeed a boon. A fairly good soaking would, now that we are between the hay and corn harvests, prove to be a veritable god-send. In some parts of the country the drought is causing suffering, but we trust it is very limited in its effects. So far the season has been a grand one, and we hope it will so continue.

THE GIANT AROID AT KEW.—We were, a few days since, favoured with a view of a very superior photograph of this giant Aroid, taken, late on the day of its chief expansion, by Mr. Henry Little, of Twickenham. The picture of this curious and exceedingly evanescent plant is enlarged to some 15 ins. or 18 ins. high, and presents a far more life-like aspect of the Giant Aroid than any other we have seen. Mr. Little is an amateur photographer, but a very able one all the same, and it is satisfactory to learn that through his kindness the Kew authorities are now in possession of an admirable illustration of their recent wonder, which but for Mr. Little's activity they would not have possessed.

Every one is familiar with the lords and ladies of the hedgerows, but still can hardly realise one so monstrous as to be some 7 ft. in height, the sheath or spathes opening round the enclosed spadix to a width of 4 ft., then gradually closing in, as was the case when Mr. Little's picture was taken, to 2 ft., until, next morning, having been on view about twenty-four hours, the spadix fell over and collapsed. Like most of the Aroids, this huge fellow emitted a horrid perfume, therefore we may be thankful that their lives are so short, as had the plant and smell endured, Kew might have come under the ban of the local sanitary authorities. The bulb of the plant had been at Kew ten years, therefore, though a striking curiosity no doubt, its evanescent florescence hardly repaid for its long idle existence.

Perhaps the photographic incident to which we have referred will induce the Kew authorities to make photography one of their accomplishments. We should have imagined that it would long have been one of the first objects to secure good pictures of rarities of this kind for the museum, and but for Mr. Little's action no such picture might have been possessed. If two or three of the numerous employés at Kew were to go through a course of photographic instruction, no doubt the gardens could soon be made independent of all external aid.

THE GARDENERS' ORPHAN FUND.—We venture again to remind the supporters of this charity that the annual meeting takes place at the Cannon Street Hotel, on Friday next, July 19th, at 2 p.m., when we trust, in the true interest of an institution which the craft have assisted so nobly in establishing, there will be a large attendance of subscribers, and especially of practical gardeners, to whom the management of the fund in all its details should be a matter of great interest and importance. The statement of accounts to be presented is of the most gratifying character, showing an increase in the receipts from all sources of revenue. We believe, too, that the report of the executive committee will show that it has in all things acted discreetly, and for the best, having one interest only at heart—the true welfare of the fund.

The infant grows apace; it has a sound constitution, and is in the hands of careful nurses; it lives now in a vigorous bracing atmosphere, but if it is to continue in this happy and prosperous state, the nurses must be looked after. Nothing tends to keep an institution of any kind in a sound condition, or to spur the executive on to greater efforts so much as a good attendance at the annual meeting, and active interest taken in its affairs by those who provide the funds. We hope, therefore, there will be no falling off in the attendance, and further, that those who can be present to take part in the business proceedings will make it convenient to stay for the annual dinner, at 5 o'clock, over which the genial president, Sir Julian Goldsmid, Bart., M.P., will preside.

Last year this proved to be the most successful social gathering of gardeners recorded in the horticultural calendar. For the coming dinner the committee have made preparations of such a character as are hoped will give pleasure to everyone, and all that is wanted to insure success is a good attendance of subscribers and friends. The committee urgently appeals to the craft for support, and we sincerely hope it will be cordially responded to. Mr. Barron or any members of the committee will be glad to hear from anyone requiring tickets before Thursday morning next.

Mr. Dodwell's Carnations.—We learn from Oxford that the high temperatures prevailing have brought the plants forward with unusual rapidity, and that Mr. Dodwell expects his collection to be in bloom at the end of the current week. He will be happy to receive the visit of any fellow-lover of the flower.

A Century of Medals.—We understand that the medal awarded to Messrs. Carter & Co. for their charming group of Emperor Petunias and ornamental grasses at the recent evening fête of the Royal Botanic Society makes the hundredth medal gained by that firm for seeds and plants grown from seeds. Has this record been beaten?

The "R. A. S." at Windsor.—The following letter has been received by Messrs. Sutton & Sons:—Sir Henry Ponsonby is commanded by the Queen to thank Messrs. Sutton for the floral decorations and miniature garden surrounding the pavilion, which they have had the kindness to present to Her Majesty.

The Ludlow Horticultural Society's Show will be held on Thursday, August 29th.

United Horticultural Benefit and Provident Society.—At the quarterly meeting of this society, held at the Caledonian Hotel, Adelphi, on Monday evening, Mr. E. Berry presiding, four new members were elected. It was also announced that the society had lost a member by the death of Mr. A. Barker, of Hindlip, and that the amount standing to his credit on the books had, in accordance with the rules, been paid to his widow.

The late Mr. William Court.—We learn from the *American Florist* that a committee has been formed in America—where he had many friends—to solicit contributions to a fund for the purpose of erecting a suitable monument over the grave of the late Mr. William Court. Any surplus over the amount needed for this purpose will be handed over to Mr. Court's family. Mr. Robt. Craig, 49th and Market Streets, Philadelphia, is chairman; and Mr. A. D. Cowan, 114, Chambers Street, New York, is treasurer of the committee.

East Lothian Stocks from Cuttings.—"Rusticus" writes:—"It may not be generally known that Stocks can be struck from cuttings, and with remarkable success; but when recently looking round the well-kept gardens at Yester, in East Lothian, Mr. Green, the gardener, drew my attention to some grand specimens in 48-sized pots which had been propagated in this way. The plants were dwarf and compact, with from twelve to fifteen spikes of flowers on each—beautiful objects for general decorative work. They were struck in February, and the practice is well worth recommending."

The Begonia in America.—A young English gardener, who went out to New Jersey about two years ago, writes:—"I am doing my best to see what can be done with the Begonia in this country. Last season I got some seeds from Forest Hill, but could not do much with the plants put outside, as the sun seemed to be too strong for them. Some which I grew on in shaded frames till autumn, and then planted out in a nice little house, gave me a good crop of seed. I sowed this early in January, and raised a fine lot, which have been planted outside, and are now (June 24th) just coming into bloom and standing the weather well."

Presentation to Mr. H. W. Williams, of Salisbury.—On Monday evening last there was an interesting gathering in the Banqueting Hall of the Council House, Salisbury, for the purpose of making a presentation to Mr. H. W. Williams (Keynes, Williams & Co.), hon. secretary to the Wilts Horticultural Society, in commemoration of his forthcoming marriage, of a splendid cottage piano, of novel shape, on the front of which was a silver plate bearing the following inscription:—"Presented to Mr. H. W. Williams, Hon. Secretary to the Wilts Horticultural Society, by the committee, exhibitors, and friends, upon the occasion of his marriage. July, 1889." The Mayor of Salisbury presided, and Dr. F. W. Coates made the presentation on behalf of the subscribers. "Auld Lang Syne" was played upon the piano, and Mr. Williams, in returning thanks in a neat, happy speech, expressed his thorough appreciation—apart from the gift itself—of the good-will that prompted its presentation.

The Rose Fair at Croydon.—The committee of the Croydon Horticultural Society, at their annual exhibition last week, provided a tent for the holding of a Rose Fair in aid of the Gardeners' Orphan Fund. The management of the fair was taken in hand by Mrs. Dark and Mrs. Gunner, who had also the assistance of several young ladies. A number of the exhibitors kindly gave their spare blooms; gentlemen in the neighbourhood also sent contributions, and valuable assistance of the same kind was rendered by Mr. J. Walker, of Whitton; Messrs. Keynes, Williams & Co., of Salisbury; Messrs. Cheal, of Crawley; and Messrs. Laing, of Forest Hill. The flowers were tastefully arranged in order to tempt buyers, and were eagerly bought by the visitors, the total amount raised being over £12.

Floral Decorations at Henley.—Concerning the floral and other decorations of the house-boats at the recent aquatic carnival at Henley, a correspondent of the *Daily News* writes:—"A Reading florist, who has had a marquee near the river, and whose boats have plied to and fro, tells me that it is only within the past three or four years that any special trade has been done with house-boats. Some few came with a small display from their own gardens or conservatories. Three or four years ago, however, he saw there was an opening, and came over from Reading, and now there is hardly a boat which has not its floral display. The cost per boat may be taken, he says, to be £5, £6, or £7, but some of them run up to £15 or £16. In addition to the flowers, there are, of course, flags and other things by day, and in most cases oil lamps and lanterns and electric light by night. Some of the illuminations have each night been very elaborate and extremely pretty, and combined with Ferns, Palms, and flowers, have made some of the decks and saloons veritable fairy lands. Not only in this, but in every respect the way in which Henley Regatta has developed of late years is very remarkable. Fifteen or sixteen years ago there were only some half-dozen house-boats on the course, and they had little or nothing of decoration. Where the Isthmian Club now has its large marquees and its large and brilliant gathering—right in the heart of the Regatta—anybody could encamp. The lighting up at night is as recent as the floral decoration, and the fire-work display on the closing night is another addition to the attractions of Henley."

A NOTABLE OLD GARDENER.

THERE are so few of the old school left that it will be an interesting fact to the gardeners of the country to know that at Haywards Heath resides an old gentleman, Mr. J. W. Thomson, who was a gardener in the service of George IV., and eventually became head gardener to the Duke of Northumberland, when the Duchess of Northumberland was preceptress to Her Majesty Queen Victoria. Mr. Thomson is a native of Shropshire, and is now eighty-five years of age, but his wits are still keen, his recollection bright, and his activity wonderful after so many years' work as a gardener. [He was born at Attingham Hall, near Shrewsbury (where his father was gardener to the Earl of Berwick, as his grandfather had been before him), and was educated at Shrewsbury School, under Dr. Butler, having for companions on the same form, the late Charles Darwin, and the late Lord Godolphin.] Mr. Thomson is still a nurseryman in active business; what might be termed an "evergreen." He left Attingham for London in 1819, and was placed by Mr. Aiton under Mr. Nitchell at the Royal Lodge Gardens, Windsor, then the scene of great improvements and alterations. With Mr. Nitchell he had the cultivation of plants and charge of the great conservatory adjoining the Royal Lodge, where the private band of the King, under the direction of Cramer, used to perform. At the same time he had charge of the Orange trees presented, about 1824, to King George IV. by the French King, Louis XIV., which collection now furnishes the famous orangery at Windsor Castle.

About 1826-27 he was deputed by Mr. Aiton to make a selection and attend the sale of the splendid collection of American plants of the Duke of Buckingham, at Whiteknights, near Reading (Mr. Jones then being gardener there), and he superintended the removal of the plants to Windsor Castle, to be planted there after the restoration of the Castle. Visitors to Virginia Water, the royal picnicing domain, well know the fishing temple and the well-grouped series of Corinthian columns. These were erected in the reign of George IV., and our veteran gardener marked the first tree to be removed in the preparation of the site of the fishing temple, and planted the first subjects on the now world-famed ruins, generally superintending the work that was going on. The king, with his favourite Marchioness of Conyngham, took great interest in the work about Virginia Water, and one day, while young Thomson was stumping out some alterations in the roads, the King and the Marchioness drove up and became interested spectators.

There is no need here to refer to the intrigues and tender incidents in the relations between the King and the Marchioness of Conyngham. The gardeners saw much of it. The lady was especially fond of the Neapolitan Violet, and Thomson was selected to cultivate that sweet-scented flower especially for the King and the Marchioness. Almost daily he cut a quantity of those flowers for the King and his lady-fair, and to decorate the King's apartments in the Royal Lodge. When Thomson had charge of the Orange House at Cumberland Lodge the King was presented with a giraffe, then a curiosity in England, and it was located in a coach-house there, together with the Arabs, its companions, and it fell to the gardener's duty to select the leaves for the feeding of this then curiosity of the animal world. After his employment in the Royal Gardens about Windsor, Thomson was sent to Kew Botanic Gardens, and remained there until appointed head gardener to his Grace the Duke of Northumberland at Sion House, Isleworth. The Duchess was then governess to the young Queen, and Thomson had the honour of making up bouquets and baskets of flowers for the Duchess to take with her almost daily when going to Kensington Palace to fulfil her duties. It is interesting, if not exactly pleasing, to chronicle the fact that all the young men then employed in the Royal Gardens received the princely wages of 12*s.* a week.

Mr. (afterwards Sir Joseph) Paxton worked in the Horticultural Society's Gardens at Chiswick up to 1827, when he went as gardener to the Duke of Devonshire, and the men there were quite envied in having 14*s.* a week. In spite of these low wages, however, some of the gardeners rose to positions of affluence. Mr. Joseph Knight, who for many years was proprietor of the Exotic Nursery at Chelsea, now belonging to Messrs. Veitch, worked in Messrs. Lee's nursery at Hammersmith in 1799, the year of the Irish Rebellion, at 10*s.* per week and a quartern loaf, then worth 2*s.* When Mr. Knight died he was supposed to be worth from £80,000 to £100,000. A recent paragraph in the columns of this journal mentioned that "when

George IV. was King" it was a penal offence to carry a bundle in Hyde Park, and no one was suffered to saunter in Kensington Gardens unless he was dressed in a white tie and had white gloves. It might also be stated that dogs and livery servants especially were not allowed to enter the select domain, and at the gates, in those days, were always to be seen crowds of gorgeously-adorned lackeys waiting for the ladies who were taking their airing in the Park. The long gardening life of Mr. Thomson, of Haywards Heath, has been but briefly sketched, but sufficient has been said to indicate the interest that lies in the career of a veteran among gardeners.—*Sussex Daily News.*

BEGONIA, ROSEBUD.

Anyone who has marked the progress made by double varieties of tuberous Begonias must have noted the ragged appearance of the first forms, the improvements upon which were lumpy flowers with a dense mass of petals. As time went on the seedlings selected were notable for the increasing size of the blooms, the various types of which represented a truss of a double Pelargonium, a double Hollyhock, a Camellia, and so on. The tendency now is to get moderately large flowers with broad petals, not too densely or confusedly arranged. Some of these represent Camellias, Hollyhocks, or Roses, as the case may be, and to the last type belongs Rosebud, exhibited for the first time by Messrs. H. Cannell & Sons, Swanley, Kent, at the Temple show of the Royal Horticultural Society, on the 30th and 31st June last. The whole flower forms a single rosette, with broad, rounded, and evenly overlapping petals of a soft rose colour and surpassing beauty. The accompanying illustration will serve to give an idea of its form, but the real flower must be seen to be properly appreciated.

Double Begonia, Rosebud.

THE FUCHSIA.*

It would be difficult to name a more generally useful decorative plant than the Fuchsia. It is a favourite with all classes, on account of the ease with which it can be grown in almost any kind of soil and situation. Its free-flowering habit, and the accommodating way in which it will flourish in any sized pot, renders it especially popular. It is useful for covering rafters and pillars in lofty conservatories, in which positions it is seen to the best advantage, for its flowers hang in the most natural and graceful manner. It is also useful for growing into specimen plants, the pyramidal form of training being the one generally adopted. It may also be grown in baskets hanging from the roof. It can be grown in beds and borders, and proves very effective in warmer districts than Sheffield. I have seen it out of doors forming an important feature, unsurpassable for its drooping habit and productiveness of bloom. I will, however, deal with the Fuchsia as a greenhouse plant, commencing the cultural details by describing the raising of varieties from seed.

If you wish for new and rare varieties you will have to carefully select the plants you intend to cross. The fertilised flowers must be guarded from winged insects, or they will render your labour different from what you expected. When the fleshy berries are ripe they should be placed on a warm shelf in a greenhouse exposed to the sun, and when shrivelled the seed may be taken out and dried. It is then ready for sowing at any time. Sow the seed in a well-drained pan or pot, the compost consisting of half yellow loam and half leaf-soil, with a good sprinkling of sand. Take care before sowing to have the surface of the soil level. When the seed is sown cover with fine soil, water gently, place in a heat of about 70°, and shade from the sun. Germination will quickly take place, and when the seedlings are large enough place them in small pots, keeping them in the same temperature for a time, but when they are well established they should be gradually hardened to a lower temperature, kept near the glass, and lightly shaded in bright weather. They may also be syringed morning and afternoon, and if properly attended to with water and ventilation will soon make good plants. During warm weather in summer the plants may be grown in cold frames, and taken into the greenhouse when showing flower.

I do not recommend stopping seedlings, but let them take their own way, so as to ascertain the natural habit of each variety—a matter of great importance, as some plants prove worthless on account of their straggling appearance, while others throw out regular shoots and form compact pyramids. No matter how fine the flowers may be, if the habit of the plant be bare and straggling it makes it worthless for pot culture. Most of the varieties will bloom the first season, but if not they will most certainly the following one, when they can be judged as to their qualities and merits.

Raising Fuchsias from cuttings is a much quicker method. Cuttings can be struck at almost any period of the year, but it is generally done in the spring. The plan usually adopted is to place old plants in a moist heat, where they will break into growth and supply plenty of cuttings. When the shoots are 3 ins. or 4 ins. long take them off, cutting level at a joint and insert them in a sandy mixture of loam and leaf-soil in a moist heat of 60°, where they will soon root and commence growing, when they may be potted singly. Where fine plants and exhibition pyramids are required, the best time is to strike cuttings about the end of July, keeping them growing through the winter. They should be rooted as before recommended in heat, then placed in small thumb pots, using the following compost:—Three parts good yellow loam, and the additional part made of leaf soil, horse and cow manure rubbed through a fine sieve, with a good sprinkling of sand to keep the whole porous. Place the plants for a few days in heat and moisture, shading them from the sun. When established they can be gradually hardened to a temperature of 55° and grown on, giving them a small shift in the autumn to carry them through the winter. Water carefully, and about the middle of March they may again be potted, raising the temperature to 60°, with sun heat a little higher, and air and shade if required. They will then begin to grow freely. It is not always wisdom to overpot them, as sometimes by careless watering the soil may get too wet, and then they will not grow satisfactorily.

When potting use the soil previously recommended, and in favourable weather syringe them morning and afternoon at closing time. I recommend stopping the leading shoots once or twice during the early stages, so as to make them bushy, but this can be regulated by the habit of the plant you are treating. A sharp look-out must be kept in stopping the side shoots, so as to keep a regular outline of foliage. Care should also be taken to keep the plants near the glass and not too crowded. Insects must also be carefully watched for, never letting them get a start, but should this occur means must be employed to get rid of them.

The plants will require shifting into larger pots during the early part of the summer, but the last potting should be in the middle of June or the beginning of July, and the last stopping of the shoots seven or eight weeks before the plants are required to bloom. If their wants have been attended to well, they will by that time be useful plants, well repaying the cultivator for his trouble.

The form of house best adapted for the Fuchsia is a span-roof greenhouse, where plenty of light and air necessary for their culture can be given. Liquid manure can be used with advantage for old plants, but it is seldom required for young plants that have had the treatment here recommended, except when they become root-bound, when they will be benefited by frequent applications of liquid manure or artificial manure applied as directed by the makers.

As soon as Fuchsias have flowered they may be placed out of doors to get the wood ripe, and remain until the appearance of frost, when they should be stored in their winter quarters. The Fuchsia is a very accommodating plant, and will keep alive in almost any place safe from frost. An old greenhouse or pit where a little heat can be afforded is a very suitable place. They may be kept moderately dry, but not too dry, or much dead wood will be the result, or perhaps the plants will die altogether.

About February the plants must be pruned into shape two or three joints longer than last year, a process which gradually increases the size of the plants year by year. After pruning the plants may be started in gentle heat, according to the time at which they are wanted to flower. They will break freely if syringed well, and when the shoots are about 1 in. long the plants may be shaken out of their pots carefully, reducing the ball, retaining all the fibrous roots, but cutting all gross and useless roots well back. Pot in the compost previously advised, and in most cases in a size less pot, but do not water until the roots begin to work freely in the fresh soil; syringe them, however, two or three times a day, and keep them in a moist heat. They can be grown in this manner for years. I have seen Fuchsias 12 ft. to 14 ft. high and one mass of flowers, making a grand display. I venture to say that good trained specimens are seldom met with now, even at our flower shows. I think the reason the Fuchsia is so neglected is because it grows with almost any kind of treatment, and is considered a common plant. At one time the Fuchsia stood high in the estimation of the public, but perhaps not so high as the Chrysanthemum does now. Well-trained specimens require both skill and careful management, and when well grown fully repay the cultivator. There is one good feature about the Fuchsia—namely, when once you have a well-trained specimen it is easy to keep it in this condition for years.

* A paper read by Mr. J. Farrow at a meeting of the Sheffield Floral and Horticultural Society.

NEW AND RARE PLANTS.

Cypripedium De Witt Smith.

In your issue of June 29th, when describing our new hybrid Cypripedium, Mr. Fraser has the parents reversed, namely, Lowii × Spicerianum. This should be Spicerianum × Lowii, the former being the seed-parent.—*Hugh Low & Co., Clapton.*

A RECENT VISIT TO MEXICO.

By Mr. C. T. Druery.*

The following notes were made during a recent visit to Northern Mexico, *viâ* New York:—Leaving England early in January, and arriving in New York only about a week later, nothing was to be expected there more than a possibly severer phase of winter. One is, however, struck at once by an absolute absence of all greenness in the woods which here and there fringe the Hudson River. Here, in Great Britain, even in the depth of winter, the Hollies, Ivies, and other evergreen growths contribute a certain amount of verdure to the landscape. In the American woods, however, on my line of route this feature was entirely absent, and the winter landscape is one of apparent death, the gaunt bare trunks and branches being absolutely unrelieved by any signs of life. This, I was informed, was due to the far greater intensity of the winters there, and it seems feasible that, on the principle of the survival of the fittest, trees minus leaves would have a better chance—say, in a blizzard—than those having anything in the shape of foliage. I noticed that even the few Conifers made hardly any show, being brown and thin in foliage.

The Winter in New York.

In New York the winter had been abnormally mild, but going up the Hudson the river gradually assumed a more and more arctic appearance, until near Albany it was covered with floes and hummocks of ice, though very little snow was visible until we reached Buffalo, near Niagara, where some inches were lying. Though so near the Falls, I decided to postpone a visit until my return. Stopping an hour or so in Chicago, and walking up the nearest principal street to the depôt, State Street, I was first struck by the enormous quantity of Bananas on sale in the streets. These were much larger than those usually sold here. I also noticed a red variety. So far I had noticed no Ferns, but some very fine specimens of Maidenhair were exhibited growing in one of the shop windows, where six handsomely dressed girls were standing combing their luxuriant locks, which extended in every case to their feet, advertising thus a celebrated hair restorer. Passers-by were invited to walk in and have a chat with these ladies as to "how it was done," but my native modesty prevented me from inspecting more closely these specimens of the true Capillus-Veneris. It struck me that this variety must be pretty hardy to stand the exposure they did.

From Chicago onwards for some 1,000 miles or so little that is botanically noteworthy is observable from the train, possibly partly due to the season of the year, but mainly to the flat monotonous nature of the country, the prairies extending in all directions flat as ocean itself. The next main point was Kansas City—forty-three hours without a break—a great centre of the pork trade, *àpropos* of which a gentleman in the train told me the following anecdote:—An expert in the pork trade was being conducted over one of the factories here, where a pig can be driven alive into one end of a machine, and five minutes later emerge as sausages. The object in this business is of course to avoid all waste and utilise every by-product, and in this special factory it was fondly assumed that perfection had been obtained in this respect, and absolutely nothing lost. The gentleman, however, conducting the expert was surprised at a certain reserve in his verdict on this point. Pressing for an explanation of what more could possibly be done, he received for reply, "Well, I reckon you do the thing pretty considerable slick, but there are two by-products you don't use worth a cent." "Two by-products," said his conductor, "you surprise me, I thought we had used everything." "No, you ain't; first of all you waste the squeal entirely, and you've quite forgotten to use up the stink." On the fourth day

The Green Prairies

began to be transformed into sandy desert plains, dotted with Yuccas of sundry species, with here and there a solitary Cactus, indicating a decided approach to the south, though icicles were hanging in profusion round the watertanks at every depôt, and snow was lying in many places. Arrived at Nogales, a small town on the frontier of Arizona, Mexico, where I had to stay some days, I devoted my spare time to exploring the country round in search of Ferns, but at first sight despaired *in toto* of seeing any of the family in so apparently arid and scorched a country. The landscape consists of a succession of low rolling hills exactly resembling heaps of reddish road metal, dotted here and there with Yuccas and Agaves sticking up like huge spherical bunches of radiating bayonets; beyond these hills were visible ranges of mountains some 4,000 to 6,900 ft. high, equally bare and unpromising. On my first walk, however, I was agreeably undeceived, for the first cañon or valley I turned into between two of the small hills yielded several very beautiful species of Ferns, among them some Cheilanthes and silvery Nothochlænas, which I found growing freely in the crevices of the rocks, and though small evidently quite at home. One of the most striking things to me was the fact that I found associated here, and thriving in each other's society, Ferns and Cacti, the representatives of inhabitants of at once the most humid and shady and the most arid and sunny habitats, and what was equally strange to me was that while all the species would be relegated here to a warm greenhouse and carefully protected from a single trace of frost, not only was snow lying in the chinks of the rock, but icicles 5 ft. long were depending from the tank in the depôt, and I was credibly informed, and could from my own sensations easily believe it, that 20° of frost had been registered there this winter.

Fern Hunting about Nogales.

In connection with this I should mention that Nogales stands 4,000 ft. above the sea level. Fern-hunting here is not without adventures. While going through a tuft of Cheilanthes on one side of a huge rock my companion informed me that there was a better specimen on his side, but that I had better come down and not get over the rock as I might have done, as I should get a better view that way. I followed his advice, and found the specimen to be a fine large rattlesnake basking on the rock and fast asleep. A revolver bullet through the neck closed his career somewhat unexpectedly, as he simply slid down all coiled as he was and without giving us the music of his rattle at all. This find was quite a surprise, as they are usually dormant until March or April, and this was the end of January only. Rambling over the hills some very beautiful Cacti were visible here and there in the more exposed situations. Some consisted of seven or eight perfectly round balls about 6 ins. in diameter and heaped together; others were oblong and solitary, with a pink ring near the apex; others were very much flattened and deeply corrugated, but all alike bristled with thorns. The Opuntias or Prickly Pears were represented by two species—one with long formidable-looking thorns, the other apparently almost devoid, but only apparently, for, like many of their brethren, besides these large and obvious weapons of defence, every bud produces numberless very minute thorns or spicules which come off on the slightest touch, and are only felt when they have got well beneath the skin, perhaps half an hour after one fondly imagines the foe is left behind.

Pursuing my Fern hunt I was gratified by finding that very pretty Fern, Pteris tenuifolia, of which two forms exist there—one with obtuse oval pinnules, the other with sharply pointed narrow ones, P. ornithopus. A fine crenate pinnate Nothochlæna, very much resembling in habit and growth our Ceterach officinarum, was also found. From this district I brought home fronds of Nothochlæna rufa, N. dealbata, N. Newberyi, N. sinuata, Gymnogramma hispida, Pteris ternifolia, P. ornithopus var. brachyptera, Pellæa marginata, P. pulchella, Cheilanthes elegans, and C. Eatoni (?). The trees of the locality are chiefly Walnut and Black Oak. On the former I observed a considerable quantity of Mistleto not very dissimilar to ours, but with much shorter and wider leaves.

Further South.

The next place I visited was Hermosillo, some 170 miles further south, and at a considerably lower elevation. The main part of my journey was made at night, but in the morning I found the train very slowly plodding along through a plain, bounded at some distance by a line of hills of decent height. The plain now was bristling with thorny vegetation of many species, but mainly Cacti, which formed huge clumps 10 to 12 ft. high, intermingled with confused spiky masses of other species, which seemed to replace the Brambles of this country, while the larger ones of the Cereus species took the place of trees; this growth continued until within about half a mile from Hermosillo, where the hills closed in, dotted all over with much larger specimens of the Cereus tribe, now some 15 ft. to 20 ft. high, each plant resembling nothing so much as some thirty or forty immense corrugated Cucumbers, springing perpendicularly from one point. Suddenly, however, as we entered the suburbs of Hermosillo we seemed to plunge at one leap into the tropics; groves of tall Palm trees were seen surrounded by a luxurious growth of Bamboos and Castor Oil Plants, mingled with Orange groves, and all basking in a temperature the first week in February of about 90° in the shade, and by contrast with Nogales apparently about 150° in the sun. The change was so sudden and so great that when I alighted at the depôt I half felt as if I had been dreaming, and was still in the land of visions. The sudden change is probably due to the effect of radiation of heat from the hills around, added to the protection they afford from wind. The houses here, as in all the cities of Northern Mexico, consist of one story only, the rooms and offices being built round a central square or oblong courtyard, with more or less pretension to be a garden, generally less. Leaving Hermosillo and the railway, my next trip was

Up the Sonora River,

The bed of which, from here to its source, forms one of the few so-called roads of the district—roads which are utterly at the mercy of the weather, a sudden attack of rain being liable to imprison travellers between impracticable fords, with only a possible option between taking to the hills or submitting to Mexican fare of tortillas and beans in one of the native villages until it pleases Jupiter Pluvius to open the road again. Here, as nearly everywhere, the hills were bristling with the huge Cucumber-like Cacti aforesaid, locally called Pitayos; every chink in the rock had its tenant, and many thousands were in view at once. Several species of Acacia (Mesquite), and a white ghost-like tree, called Palo Blanco, or the White-Stick, were intermingled with these Cacti, the Palo Blanco presenting a very curious, tortuous, drooping appearance, as if the upper half was dead. This I found was really the case, owing to a severe frost the previous year, which had cut them all half-way down. The pink Verbena of our gardens was a common weed here, as also was wild Tobacco. A small yellow Œnothera or Evening Primrose took the place of our Primula morning and evening, and Eschscholtzia californica replaced our Buttercups. Agaves, here called Mescal Plants, were plentiful, and every now and then donkeys laden with their huge Pine Apple-like roots were seen proceeding to the Mescal ranches, where the only spirit of the country is distilled. This spirit is very strong and intoxicating, but has the reputation of leaving no headache behind it; its taste is indescribable, and requires an apprenticeship before it can be appreciated. Three species of Œnothera I found in the district, one of which, Œ. taraxacifolia, is marvellously beautiful in its native habitats, the huge snow-white flowers, about 4 ins. in diameter, forming solid clumps 1 ft. across, gleaming like snow-heaps in the moonlight, but disappearing like all the family soon after sunrise. All three species were of the same habit and foliage—*i.e.*, *à la* Dandelion. The specific name of the largest, taraxacifolia, may do for all three. Some of the Acacias here (Mesquite) bore huge pendent bunches of two sorts of Mistleto, both quite different from ours, the leaves being almost entirely aborted, and the plants consisting solely of long, pendulous, jointed stalks and minute blossoms. I was told by one of the Mexicans that if these were dried and smoked as cigarettes—two or three whiffs sufficing, as the active principle was very strong—a powerful remedy was afforded for coughs. While camping out by the river, I explored some rocks close by, and found a species of Lastrea, not unlike L. thelypteris, but of different habit of growth—possibly L. nova boracensis.

The Yuccas and Cactuses.

During the latter part of my stay in Mexico the season had sufficiently advanced for many of the Yucca and Cactus tribes to be in blossom, and I can hardly imagine a finer sight than I had on one of my trips over the hills, when I came across a huge Yucca with some five or six immense spikes of its pure white Lily-like blooms just in perfection. There must have been several hundred blossoms, forming a dense bunch of white, some 4 ft. high by 2 ft. through. When I came up it was in absolute perfection, and constituted a really regal bouquet.

The common Prickly Pear Cactus (Opuntia), as large as a fair-sized Rhododendron, and smothered with large pale yellow blossoms, is also a sight to be seen. This plant is given a place in orchards for the sake of its fruits, and under cultivation assumes the dimensions of a good-sized tree, with a trunk a foot or more in diameter. It is curious in this case to see the transmutation of the first flat oval leaf or leaves into a thick wooden trunk. The skeletons of these old leaves are very beautiful in their lace-like design, and might, I

* Extracted from a paper read at the meeting of the Horticultural Club on June 11th.

think, be utilised well in cabinet work. It is noteworthy that these cultivated plants are nearly devoid of thorns, entirely so of the obvious large ones. As a curious contrast in habit of growth I may mention here that on my return journey I stopped at Little Rock, a city in Texas, for a few hours, and found there the Prickly Pear Cactus reduced to a few inches in height, quite decumbent, very prickly, and forming large flat masses, 5 ft. or 6 ft. across, in the grass of the fields, from which at a short distance it could hardly be discriminated.

THE GIANT CACTUS.

Cereus giganteus, which sometimes reaches, I am told, 60 ft. in height, I only saw in one place, which afforded a singular instance of restricted locality. I was shown some photographs of a certain mine which I was desired to visit, and in these photos I clearly recognised in the hills several specimens of this Cactus which I had vainly sought in my journey hitherto. The mines were some thirty miles distant across a breakneck country, only traversable on horseback, and I need hardly say that all the way I was on the look out for the Cacti in question, locally named Saguaros, yet singular to relate I found when I arrived at the mine that they were entirely confined in that region to the one hillside, where possibly some thirty or forty were scattered. On the way the country round for many miles could be seen, but here and there only were they to be found, yet the general conditions seemed identical all about. The hill in question, however, was distinguished from the others by containing a network of silver lead veins, which suggests the probability of the restriction of the Cactus being due to the existence solely in this spot of some essential elements in the soil. Some day the botanist may help the miner.

COLOURED RAIN.

AFTER the exceptionally warm weather of a few days ago a very curious phenomenon was reported from the neighbourhood of Cardiff, one which doubtless alarmed not a few of the more ignorant and superstitious residents, and perhaps also people at a distance who read the account of it. With the break up of the fine weather came showers of rain, and to the surprise, if not consternation, of those who witnessed the sight, the pools of water were found to have a very red appearance; it was, in fact, very much like blood, a phenomenon which in past ages, and to a more limited extent in the present day, has been relied upon as an augur of the approach of most terrible events in the shape of bloody and devastating wars, plagues and other evils which mean loss of life. We are glad to know, however, that the Welsh university town has not exhibited the fatuity which such an event would have occasioned not many years ago, or in a less enlightened locality. At first it does seem rather strange to find after a shower that the water has changed colour, and of course the first idea which suggests itself is that the rain must have been of this colour. Unfortunately the popular practice hitherto has been to allow the first impression to have sole weight, and the result is that in nearly all parts of the world there have been no end of instances in which nations have allowed themselves to be frightened by "showers of blood," or of some other curiously-tinged rain, in each case the worst possible construction being placed upon the circumstance. When ignorance ruled supreme such weakness is, perhaps, not to be wondered at, but now that in every civilised country the banner of education is hoisted high, it is to be hoped that all such superstitious beliefs will die out, and that they will only be looked back upon as evidence of the natural simplicity of the human mind during the intervening stage in the development from the inferior to the superior being.

The more we observe rain and snow, the more certain are we that, according to circumstances, it can be of any colour. The actual water is, of course, the crystal drop we usually see, but it may in its fall gather unto itself whatever foreign substances happen to be floating in the air, and it is not only by, as it were, washing the atmosphere that it becomes tinted, but the state of the ground at the time may lead to a change in its appearance, and this is probably the real explanation of the recent experience at Cardiff. Had a glass of the liquid been drawn, it would at once have been seen that the water was perfectly clean, but on the surface thousands of tiny red insects would be detected full of life and energy. A little consideration would show that during the dry weather these animaculæ had been bred in vast colonies along the sides of ponds, and the first sharp shower trickling down the banks would wash millions of them from terra firma, and the surface of the water would forthwith become red and blood-like. The whole process is perfectly natural, and anyone possessed of a microscope can examine the lively fleas, with their great branching horns, darting hither and thither. Individually they are almost too small to be seen by the naked eye, and yet it is such minute objects which have so frequently terrified whole nations. Early last year Cochin China witnessed one of these so-called blood showers, and the gravest fears were entertained by the inhabitants lest some dire calamity would befall their country in consequence.

Pulex arborescens, however, are not the only animate things which are thus brought to light so mysteriously. Near Edinburgh showers of herrings have been recorded with a gale of wind blowing inland from the sea; no doubt they were caught up with the spray, and the strong wind carried them some distance before they came to earth. French fishponds have been known to have both the water and most of the smaller fish whipped up in this way by a wind, and scattered over the surrounding country. In Italy the tiny fleas of which we have spoken are replaced by something more substantial. The dry weather drives toads and frogs into their hiding places, where they remain in a state of torpor until the rain comes, when they quickly hurry forth, and it is not a rare occurrence in Rome to see the streets alive with them after a shower. The Italians for centuries were convinced that they actually descended from the clouds, and there were not wanting those who asserted that they had seen them fall, and this, notwithstanding the correct opinion of such an ancient authority as Theophrastus. That the air we breathe is full of life no one disputes, but it clearly is not inhabited by toads, frogs, and fishes as if they were flies or birds. Dr. Frankland, who has been investigating the micro-organisms present in the atmosphere, found on June 9th, 1886, in the gardens of the Natural History Museum, at South Kensington, that 12 litres of air yielded 158 colonies of micro-organisms, but next day, after heavy rain, 11 litres in the same place contained only twenty colonies, so that the rain had effected a considerable clearance. These infinitesimal organisms, however, were neither toads nor the fleas already described.

Quite as curious and interesting as these lively objects, which do not come down from the clouds, are the various inanimate things, mineral and vegetable substances, which the rain brings down. About a fortnight before the red rain was observed at Cardiff it was reported that a shower of red mud had fallen at Nice, the leaves of trees and plants being covered with the substance. In the south of Europe this phenomenon is of comparatively frequent occurrence, and is explained generally as due to the reddish sand brought across the Mediterranean from the Sahara, or it may at times be due to the clouds of dust belched forth from the Italian volcanoes. Twenty-six years ago Scotland was visited on several days by black rains, and the inquiries which were then made led to the conclusion that the blackness was due to the dust from a recent eruption of Vesuvius. That volcanic dust is shot up very high into the air and travels far is abundantly testified by the Krakatao explosion of 1883, which spread a fine dust all round the globe. In the last days of March, 1875, over a large area of Scandinavia, from the Gulf of Bothnia to the west coast, and on ships out on the ocean, a rain of ashes was recorded. Professor Mohn discussed the whole question, and decided that the ashes had been carried by atmospheric currents all the way from the Icelandic volcano, Hecla. Instead of the red fleas in the ponds we sometimes find the water covered with a yellowish powder, which is nothing more than the dust from the Alder, Hazelnut, Beech, or other trees in the locality. In very woody districts the powder is, of course, more plentiful, and the phenomenon therefore more marked. Sixty-three years ago the country people in Friesland were startled to find it raining sulphur. Naturally it was supposed that the end of all things was at hand—that the tale of Sodom and Gomorrah was about to be repeated. The "sulphur" proved to be the pollen of trees and plants wafted thither by the wind. Wiltshire once had a miraculous shower of "Wheat," which caused no small alarm round the country-side until it was found that a gale of wind had blown great quantities of ripe ivy seed from their pods and distributed them far and near. Similar instances have been noted on the Continent, but in one case there was a fall of real Wheat. In 1804 a storm caught up the stock of Wheat from a Tetuan threshing floor, carried it across the Strait of Gibraltar, and deposited it in Andalusia to the wonder and delight of the Spaniards who profited by the visitation.

It is a common thing for vessels in the Atlantic, within from 600 to 1,000 miles of the African coast, to have their sails thickly covered with a reddish powder, and they are liable to meet with it over 1,000 miles of latitude. It is visible in the air as a thick haze. The particles of dust are only about one-thousandth of an inch square, and there is no question that it comes from the interior of Africa, the constant easterly and north-easterly winds keeping up an almost continual reddish haze along the coast.

Snow, like rain, is subject to change of colour through the presence of foreign matter, Arctic and mountain snow being sometimes tinged red, at other times green, the cause being a very small insect, of the same nature as the red fleas in warmer climates. The variation of colour is said to be very pleasing to the eye after a long continuance of a glistening white surface in all directions. During a thunderstorm the rain is sometimes highly electrified, with the result that the drops appear to be throwing out sparks of light, as if it were a rain of fire, something after the fashion of the Crystal Palace pyrotechnic displays.—*Daily Chronicle.*

NOTES FROM SCOTLAND.

Orchids at Nunfield, Dumfries.—A pretty display of Orchids combined with foliage and other flowering plants is now to be seen in the neat and well-kept gardens at Nunfield, which are under the practical charge of Mr. Rowe. I noted several well-flowered varieties of Cattleya gigas—nice plants, with two or three spikes, and some having four flowers on a spike. The plants are not large, but are evidently well done, and include C. Eldorado, C. superba, C. Mossiæ, C. Mendelii, Dendrobium Jamesianum, Bulbophyllum Lobbii, Odontoglossum citrosmum, O. Harryanum, many fine forms and well-flowered plants of Miltonia vexillaria, Cypripediums in variety, Lælia purpurata, &c. These are mixed with Caladiums, Ferns, Palms, Anthuriums, Ixoras, Gloxinias, &c. The edges of the stages are draped with Ficus repens, with Isolepis gracilis here and there, and dotted with Caladium argyrites. From the roof are suspended good baskets of Achimenes gloriously flowered. The artistic manner in which they are arranged produces a most pleasing effect. A house of well-coloured Crotons and Dracænas is also very attractive, amongst other foliage, with Nepenthes suspended from the roof in pleasing gracefulness.—*Rusticus.*

Grape-growing at Clovenfords.—Should any of your gardening friends find themselves in the district of Clovenfords, let me advise them to visit the vineyards of Messrs. W. Thomson & Sons. They have been famed for Grape-growing for many years, but never before, I believe, have their crops been so fine as they are this season. The cultivation of the Grape here is simply perfection, and the houses are worth going a long journey to see. In addition to the Vines, there is a smart collection of Orchids also in first-rate condition, and containing many novelties of sterling merit. A collection of zonal Pelargoniums and tuberous Begonias, grown in small pots and fed with their famous Vine Manure, shows the great benefit derived from the use of this stimulant.—*Rusticus.*

The Weather and Crops in Kincardineshire.—The drought is beginning to be very severely felt in some parts of Scotland, and Mr. A. Cruickshank, Glenbervie Gardens, Kincardineshire, writes to say that he has never seen the ground there in so dry a condition. The herbaceous plants are dying down, and the flowers drying up before expansion—a very unusual occurrence in that part of the country, where, being nearer the Grampian range of mountains, rain is usually too plentiful than otherwise. Oats and Barley are coming into full ear, and on light lands the crops will not exceed 9 ins. in height. In the garden likewise the warm dry weather has been the means of bringing on the crops earlier than usual in this district. He has been able to keep up a regular supply of Strawberries from the 24th of June, and had an abundance of Peas, Potatos and Cauliflower on the 1st of July. We understand that the Cauliflower was autumn-sown, and that the Peas and Potatos were from the open ground, as he does not usually, at all events, force these things. At present there is a good appearance of crops of all kinds, but the small fruits are most abundant. As has been the case in the south, green-fly has been very troublesome, and considerable pains have had to be taken to keep them from destroying the crops.

FLORICULTURE.

The Pink Show at Manchester.

All who intend exhibiting Pinks on the 20th July, at Manchester, should send their entries, and state the amount of space they will require, to Mr. Bruce Findlay, Royal Botanical Gardens, Manchester, not later than July 18th. The exceedingly hot weather of the last two months has affected the Pink as it has done the Carnation, and brought on the bloom much earlier than usual. Still, the Pink is not like the Tulip, a one-bloom plant only, and although we may not be able to show our largest flowers, yet the beauty, refinement, and loveliness of the Pink show well, even on a small scale, and if we cannot exhibit large flowers, we need not be ashamed of our small ones, if they possess quality. The delicious fragrance is ever there.

The following have bloomed with me in fine character, Boiard, Brown's Heavy Red, Harry Hooper, Frank Simonite (small but most refined), Mrs. Dark (more correctly laced than usual), and those three grand seedlings raised by Mr. Thurstan—George Hodginson, John Dorrington, and James Thurstan. The last-named is the finest Pink that ever I saw; I have had two blooms, and both of them were perfect. I believe the stock of James Thurstan consists of two plants only. I hope to see a good display of Pinks on the 20th at Manchester.—*S. Barlow, Stakehill, July 9th*, 1889.

Carnation Ruination.

This is not a new variety that I wish to bring to your notice, Mr. Editor, but it just spells out my feelings looking round my stock the first week in July. Here have I been nursing up a fine selection of all Mr. Turner's grand new yellow-grounds, and Mr. Dodwell's best seedlings, with a view to the show on the 23rd, and the whole "blooming" lot are already past their best. Do not think I am using strong language; there is no other word to describe the situation.

Pinks, Carnations, Picotees, out of doors and indoors, are all rapidly blooming themselves out of existence or not blooming at all. I hardly know which of my troubles is the worst. At least two-thirds of my Carnations and Picotees have been growing away in the most vigorous fashion, spindling for bloom up to a height of 2 ft. or more, and then throwing out side shoots for piping, but no flowers. The other third, at least those in pots, whether in a cool house or in the open, have all developed their leading buds, and I could easily have put up a respectable twenty-four on the first Tuesday in July.

As for the Pinks, they behaved ten times worse. Derby Day was in full bloom on the 1st of June; Harry Hooper, John Ball, and a score of other varieties ten days later. I have not a respectable side bloom now, and yet Mr. Barlow asks us to come up to the scratch on the 20th. Great Scott! I might be able to show a dozen pods of seed by that date, but as for flowers, there will not be a bloom to be seen in this latitude.

The art of keeping back in a hot season is evidently something that I, for one, have to acquire; and I look forward with some curiosity to see what kind of a show the veteran Carnation growers will make on the 23rd. Where the Oxford people will be in August I cannot for the life of me imagine, but I hope to be there to see. The number of seedlings and layers that have failed to bloom, puzzles me still more than the precocious bloomers. I had a nice lot of Mr. Dodwell's best seedlings, that did well all the winter and spring, and have continued to grow most vigorously, but not one has thrown a bud. Lamenting my ill luck to Mr. Dodwell, he writes me, with the good nature and kindly encouragement that he invariably extends to well-intentioned but unskilful amateurs, that it may possibly be attributed as much to the sunless character of last year, as to my bad management. Well, anyway, the present season ought to protect us against similar mishaps next year.

Nevertheless, although I am quite out of the hunt so far as showing is concerned, I am supremely happy as I walk round and worship the divine "coronation" flower. Turner's new yellow-grounds charm me immensely. Amber, Will Threlfall, Dorothy, Colonial Beauty, Agnes Chambers, Annie Douglas, Almina, Etna, Conqueror—how beautiful they are! I am very anxious to see how the Kilmurry strain will turn out this year. Yellow-grounds are only in their infancy as florists' flowers, and up to now I cannot say I have been greatly impressed in their favour; I never could keep one two years running. But I fully believe they have a great future.

Let us hope that the dear old Pink has also a future—a revival future—before it, and although we may not have done much towards promoting that revival this year, let us hope we may utilise the back end of the season for that purpose. When I suggested that we might unite the admirers of some other flower with us in our endeavour, and mentioned the Pansy, I did not mean that we should have a double exhibition on the same day, but rather after the fashion of the Auricula and Carnation Society—two exhibitions with a two or three months interval between. I still think with all deference that we might gain, by extended interest and increased funds, the end we all desire.—*E. Ranger Johnson, Kennington, S.E.*

LONG-POD AND BROAD BEANS.

I occasionally find writers in gardening papers recommending for a first early crop of Beans the Early Mazagan. Now I take two objections to this recommendation. In the first place, the Mazagan Bean is not worth growing as a garden crop, as it has greatly declined in cultivation, this being shown by the lessened demand for it, in consequence of better sorts being now obtainable; and secondly, through it not being an early variety. Beck's Dwarf Green Gem, the Seville Long-pod, and the Early Long-pod, all beat it in point of time of turning in. What gardeners should do is to sow the Seville Long-pod for a first crop, Beck's Dwarf Green Gem to succeed it, then a good strain of Johnson's Wonder Long-pod, or Broad Windsor, to follow. For exhibition purposes there is nothing to beat the Aquadulce, which may be regarded as an improved and rather later form of the Seville Long-pod, but to have fine pods both should be grown from imported seeds. The Aquadulce is taller in growth, has longer pods, and is a little later. Of the old Long-pod types Johnson's Wonder and Minster Giant are the best, but these are distanced by Bunyard's Exhibition Long-pod, which partakes of the character of the Old Hangdown Long-pod, its pods hanging with their points towards the ground instead of being erect. Bunyard's new variety produces very fine pods quite in the style of the Aquadulce, but all good. I think this will make a very fine garden, market, and exhibition variety. In the Seville, Aquadulce, and Bunyard's Exhibition we get the very cream of the Long-pod Beans.

Of the Windsor type or Broad Bean proper, the best hitherto grown is the Harlington Windsor. Still, our Broad Beans are not what we think they might be. We want a Windsor Bean that will produce five and six beans in a pod, and this is to be obtained by diligent and persistent selection. But something can be done by means of fertilisation. I recently saw a Windsor Bean that had been obtained from a cross between the Seville Long-pod and Broad Harlington Windsor. The progeny was mixed, but a few plants were of a very promising character, having very handsome pods well filled. If this Bean could be fixed it would be the exhibition Broad Windsor Bean *par excellence*. The seed in a dry state was of the character of the Broad Windsor Bean.—*R. D.*

THE ROSEMARY.

Poor old Rosemary! Its "glory has departed." Once upon a time it occupied a proud position, not only in the gardens of the rich and noble, but also in those of the more humble and lowly cottage homes. Now it is mostly consigned to some dreary nook or out-of-the-way place, where the long, lean, scraggy specimens so generally met with seem to say, "We are only tolerated here. No one cares for us—no one takes any notice of us now; our day has gone by." Poets and minstrels wrote and sang of its praises and many virtues—historians and novelists have recorded its uses; but now all seems forgotten even in our garden journals, and while we speak in rapturous accents or lose ourselves in ecstasies over the merits and charms of many of our old-fashioned garden favourites, we do not even deign to give the Rosemary so much as a passing notice.

It was formerly used as a symbol of fidelity between lovers, and for the same reason was woven in the garland of the bride. Now only the costlier Orchids, Orange blossoms, or rarer exotics are tolerated. As a token of remembrance it was used at funerals, to signify that the dear departed ones would not be forgotten. Now we are satisfied only with the costliest wreaths and crosses. It is mentioned in many of the old continental songs of the troubadours as emblematic of that constancy and devotion to the fair sex which was so characteristic of the days of chivalry; and interwoven with the Myrtle and Laurel, chaplets were formed and worn on the heads of the principal persons in fêtes, but these were only in the "good old days" long, long ago.

There were formerly several curious superstitions in connection with the Rosemary, and perhaps may still exist in some parts, amongst which the *Treasury of Botany* is responsible for the following:—"A vulgar belief in Gloucestershire and other counties is that Rosemary will not grow well unless the mistress is master, and so touchy are some of the 'lords of creation' upon this point, that we have more than once had reason to suspect them of privately injuring a growing Rosemary, in order to destroy the evidence of the want of authority." As a medicinal plant and for perfumes it is even now highly valued, but not so much, perhaps, as formerly. A decoction of its leaves and tops is said to relieve headache and to strengthen the memory, and made into tea it is useful as a nervous tonic, while as a hair-wash it is said to strengthen the hair and prevent baldness, and many other properties are ascribed to it. It yields an essential oil which is largely used in the manufacture of scents and pomatums; it is one of the ingredients in Eau de Cologne, and to Hungary Water it imparts its fragrance.

The Rosemary is a native of the south of France, Italy, Spain, and Asia Minor, and in some parts it is so abundant that in spring, when the plants are in flower, the air is perfumed with odour to a great distance. It is said to be found wild in the Great Desert, and in allusion to this and its use at funerals the poet Moore says—

"The humble Rosemary,
Whose sweets so thankfully are shed
To scent the desert and the dead."

It is very attractive to bees, and for this reason is partly cultivated in those countries of which it is a native. It is said that in Narbon this plant is so abundant, partly from being indigenous and used extensively as hedges to gardens, that it communicates its flavour to the honey obtained there, which is considered to be the finest in France.—*Alfred Gaut.*

OLD-FASHIONED AND SINGLE ROSES.

One of the most practical, as well as the most valuable results of the Rose Conference at Chiswick has been the bringing into prominence of many old-fashioned garden Roses that for many years have been shamefully neglected or almost ignored. Since the introduction of R. indica in 1789 a great impulse has been given to Rose growing, and for some years past the hybrids that have arisen between this species and R. gallica (the French Rose) have so much occupied the attention of gardeners, and the latter have been so encouraged through the instrumentality of exhibitions, that all other kinds, excepting hybrid perpetuals and Tea Roses, have been comparatively neglected. On these two kinds, therefore, the chief attention of horticulturists is centred.

The conference has been the means, however, of bringing out the original types and the old-fashioned garden Roses first obtained from them, and which in many cases may be considered the ancestors of those now chiefly in vogue. The Damask Roses were not particularly plentiful, but amongst them we noted the striped Damask, rose and purple; crimson Damask, crimson; and the true York and Lancaster, a small pale rose and white variety. The Cabbage or Provence Roses were more numerous in several distinct forms or races. For instance, Rosa Mundi, purple and white striped, is oftener grown under the name of the York and Lancaster than the true one itself, so that the latter must really be very scarce.

The Moss Roses (R. centifolia muscosa) are merely a race of the Cabbage Rose. They are exceedingly beautiful in the bud stage, but should not be allowed to open beyond a half-expanded bud state before they are cut, if wanted for that purpose. Amongst those shown were the common Moss, Purpurea rubra, Blairii No. 2, rose; Angelique Quetier, rose; Lanei, rose; Reine Blanche, white; White Bath, Perpetual White, large quantities of the Crested Moss, and others. The latter takes its name from the very much crested condition of the sepals.

Many old garden representatives of R. gallica, one of the parents of the hybrid perpetuals, were exhibited, including Rosa Mundi, already notified. Perle des Panachées is akin to the latter variety, and Pride of Reigate seems to have had the same origin, although we have not examined it botanically. The flowers are mottled, striped and variegated with purple, crimson,

rose, pink, and white. A deep rose-red variety named Ohl reminds us of the old-fashioned kinds grown in cottage gardens, as well as in those of professional gardeners many years ago, and in some even yet. In the same gardens were double varieties of the sweet-scented white Rose (R. alba).

Great interest attaches to the Indian or China Rose (R. indica) in its numerous forms or races, such as the dwarf forms spoken of as Monthly Roses, Fairy Roses, Noisette, Tea-scented, Bourbon, and other Roses, according to the other parent and the particular races of R. indica, which have been hybridised or intermingled with one another. The Tea-scented varieties have been derived from R. i. odoratissima, named by the French, Rose à Odeur de Thé. A single white form of R. indica was shown, but the type should be pale rose. Semi-double and double varieties were shown under the names of Crimson China, Cramoisie Superieure, crimson; Belle de Florence, Purple China, deep rose; Blush, Mrs. Bosanquet, blush; Little Pet, white; and Viridiflora, green. The Noisette Roses also belong here, and have been derived from R. i. Noisettiana, which was raised in North America from an accidental cross between R. indica and R. moschata, and the plants being acquired by Philip Noisette, the hybrid was named in compliment to him. At the conference the Noisettes were represented by W. Allen Richardson, orange; Soisette, blush; Madame François Pittett, white; Celine Forestier, pale yellow, L'Ideale, rosy salmon; Bouquet d'Or, deep yellow; Maréchal Niel, golden yellow; and others.

The Musk Rose (R. moschata) is a species of strong, climbing or rambling habit, and in a wild state extends in one form or other from Madeira, through the north of Africa to Egypt, and from thence to the Himalayas, whence it has been introduced and described under the name of R. Brunonii, or Brown's Rose. There are many wild forms, some of which have been introduced and described, including R. m. nivea, a white or delicate blush, and a very beautiful kind. The latter, as well as Garland, blush or white; Rivers' Musk, rose; Fringed Musk, blush; and Princesse de Nassau were brought up to the conference in attractive condition.

A considerable number of the Briars were shown, including our native one, the Sweet Briar or Eglantine. Doubtless more of the yellow Briars would have been exhibited had not the long spell of hot dry weather caused them to pass quickly out of bloom. As it was, R. lutea, the Yellow Eglantine Rose or Austrian Briar, was shown, as well as the double Persian Yellow. The Banksian Roses were very sparingly if at all represented. They do not succeed well as a rule in the London district. Very few of the Scotch Roses (R. spinosissima) were shown.

A considerable number of species of Roses were exhibited, the largest collections coming from the Royal Gardens, Kew; from Mr. R. J. Lynch, The Botanic Gardens, Cambridge; from Messrs. Paul & Son, Cheshunt; from T. W. Girdlestone, Esq., Sunningdale, Berks; and from Mr. F. Ross, gardener to Sir George Macleay, Pendell Court, Bletchingley. The collection from Kew was the largest, and included about fifty species or thereabout. Comparatively few were in bloom in any of the collections, but amongst those we noted were many of the wild forms of the above-mentioned Roses, together with R. anserinifolia, R. rugosa, R. r. alba, R. pisocarpa, the beautiful R. lucida (a double form of which, shown in another collection, was exceedingly pretty), R. macrophylla, R. gallica, R. Webberiana, R. cinnamomea, R. alpina, &c. The largest collection from a private source was that of T. W. Girdlestone, and we must not omit the beautiful white R. Beggeriana, nor R. berberifolia Hardii, a hybrid between R. berberifolia and R. involucrata. It has yellow flowers, with a crimson or scarlet blotch at the base of the petals, and more resembles a Cistus than a Rose. R. berberifolia has small flowers, but similarly coloured, and is one of the most distinct species in the genus. On the Continent this species is separated from Rosa altogether. The leaves consist of one leaflet only, and greatly resemble those of a Barberry, hence the name.

Climbing Roses belong to several widely distinct species, including many of the forms of R. indica already mentioned; but a number of very fine kinds, and which still give promise for further improvement, come under the group of which our native Field Rose (R. arvensis) is a type. The Ayrshire Roses have been derived from a variety of the latter named R. a. ayreshirea or R. capreolata. All are exceedingly appropriate for covering walls, and some varieties were exhibited under the names of Virginian Rambler, blush; Dundee Rambler, white; and Felicité Perpetuel. R. sempervirens was represented by Flora, a blush variety. The Polyantha Roses are very variable in size, habit and climbing propensities, even in a state of nature, one type being named R. polyantha, while the tall-growing forms have long been known under the name of R. multiflora. The quantity of bloom produced on a large plant of the latter is something enormous, numbering hundreds or even thousands. R. polyantha is considered the typical wild form, and is a low straggling bush, bearing bunches of small white flowers with four or five petals, resembling to all intents and purposes a large-flowering Bramble rather than a Rose. Very beautiful little Roses belonging to this species are Perle d'Or, orange, but varying almost to white under different treatment, and according to age or exposure; Gloire de Polyantha, rose-pink; Pacquerette, white; Mignonette, blush; and others with double flowers resembling buttons as to size. Perle d'Or is a gem for button-hole work. De la Grifferaie is a strong-growing rose-coloured variety, classed under R. multiflora by nurserymen.

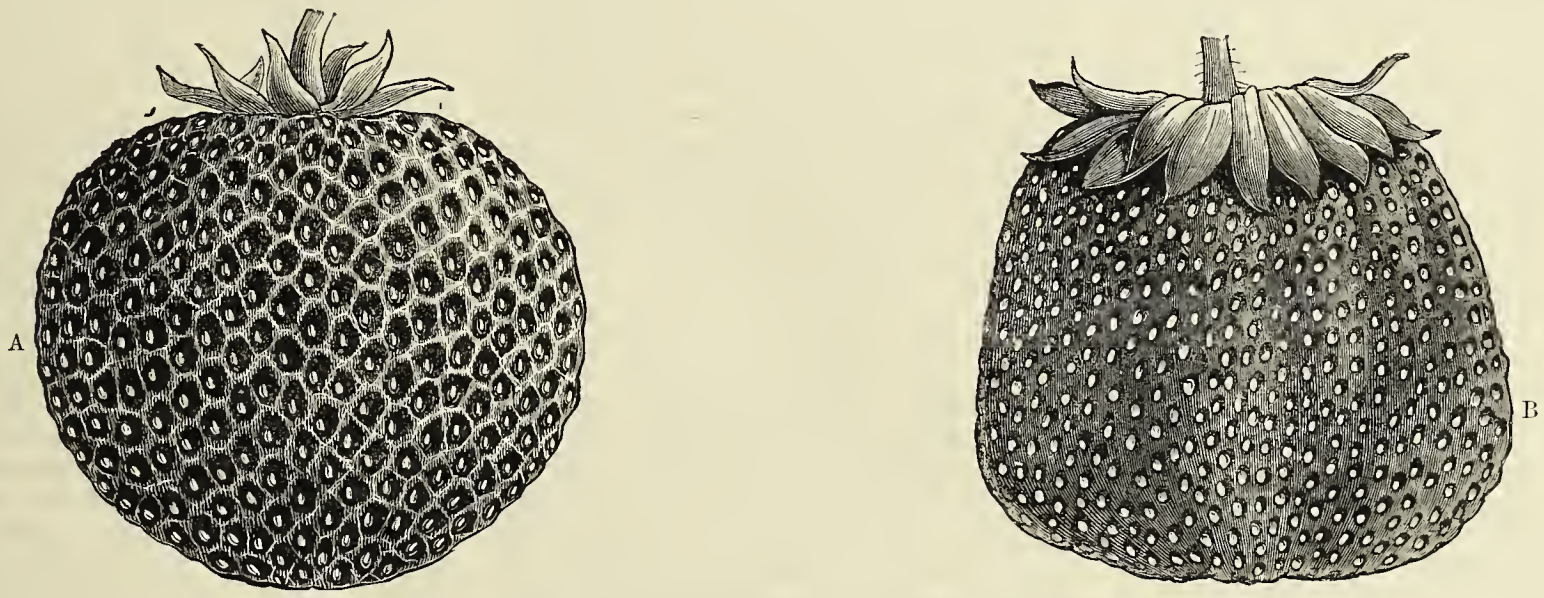
LAXTON'S STRAWBERRIES.

Noble and Latest of All.

In 1885, Mr. Thomas Laxton, of Bedford, the raiser of the now popular Strawberry, Noble, possessed only three plants of it. He put it into commerce in 1887, and since then it has made remarkable progress all over the country, so much so, that large breadths of it are now in cultivation both in this country and on the Continent. It has already become a standard variety amongst market-growers in Kent, Middlesex, and other southern counties. Earliness, size, beauty, fertility, fair quality, and vigour of constitution, are the qualifications that recommend it to the attention of gardeners in private establishments, as well as of market growers, whether situated in the north or south.

As an early Strawberry it has certainly no equal for size and beauty, and must lead to the discarding of many of the small-fruiting and early old kinds, except where small fruit is required for a particular purpose. By reference to the accompanying illustration, for which we are indebted to Mr. Laxton, an idea of the size and shape of the fruit may be conceived, without going into a detailed description. Ripe fruits, single and in bunches, have frequently come under our notice this season; we have also seen it growing, and can speak in high terms of it as an early variety that must soon find its way into every garden.

The counterpart of this early variety is another one named Latest of All. It is a seedling from British Queen crossed with Helene Gloede, and resembles the former very closely. The firm white flesh and luscious flavour is said to resemble those of the seed parent very closely. The most important characteristic of the variety, however, is its habit of ripening late. It comes into season ten to fourteen days later than British Queen, and fruit may be gathered from it, on good Strawberry land, three weeks after all other kinds are over. The plant is of dwarf habit but vigorous, with leathery, hairy leaves said to resist the attacks of mildew. The accompanying illustration gives an idea of the typical form of the fruit.



Laxton's New Strawberries: A, Noble; B, Latest of All.

BEES AND FERTILISATION.

Since Darwin has pointed out that bees very probably in some cases would be aids to fertilisation, a goodly few lesser lights and less observant disciples arose to take up the thread of the modest philosopher's postulate, and weave therefrom an endless web of the most fanciful suppositions. The bee to those hypothetical *savants* apparently is equally essential with the organs of reproduction in the economy of the preservation of the species. They maintain that colour is the power which attracts the insect to the flower, and consequently they argue that it naturally follows such flowers have every chance of being brought to full development.

Few persons who have given any little diligence to the habits of the bee will be disposed to bear out that colour is the guiding instinct. The evidence points to the very opposite—at least, we suppose we are perfectly entitled to infer, from the fact that the bee will be found to frequent Trifolium repens, Tilea europea, and Reseda odorata in preference to Foxglove, Roses, Delphiniums, &c., that it is the sense of smell that attracts it to the flower. Most rational people will readily support this view from the mere fact of the attraction the fruit shops have for bees, wasps and flies. Any work done by the bee in the sphere of fertilisation of a necessity must be accidental, and we are aware that Nature does not consist of a bundle of haphazards;

nor can we see how she would design a system of organism in a plant entirely useless and unfitted for the ends it represented, without the interference of insects. The thing seems quite absurd that without the aid of the animal world the vegetable would cease to exist.

The fact of the matter is the difficulty of conceiving how the bee is capable of fertilising a flower at all. It does not look as if it were a rule of nature, that a bee, necessarily coated all over with a heterogenity of pollen, could effectually fertilise the organs of any plant it might by chance alight on. To myself this always stood out as a barrier against the freedom of insects to fertilise in a wholesale fashion; and I think it is consistent with reason to suppose that such is not only impossible, but thoroughly unnatural. If such looseness of principle were possible in nature, we should soon find no end of confusion arising from bee impregnations, which in a few short years, in all probability, would obliterate the general character and order we find in existing species. I would sooner believe, if Nature does require the transposition of the bee from its own sphere of labour to assist in the working out of a principle in another, that she does so to retard over-abundant self or wind-fertilisation.

We are, it would seem, at the present time passing through a portion of the world's history that leaps to premature conclusions without going to the bother of ascertaining their value; and not unlikely the value of insects in the regions of fertilisation has been in a universal degree accepted on the same footing. Gardeners especially, therefore, should endeavour to apply their powers of observation in testing how far the importance of the bee goes as a necessary aid to fertilisation, before they lay themselves open to every frivolous and fanciful assumption that wafts on every wind that blows.

As for bee-keeping being an industry of a profitable nature, ninety-five per cent. of gardeners, I am afraid, will not confirm such a statement. I have had abundant experience in this matter myself, to enable me to form what I think is a fair opinion. Some seasons could be said to be profitable, but the aggregate brought more failures than profits, so I fail to see where such a precarious industry can be attended with much wide-spread success. Exceptional circumstances, however, I am perfectly satisfied renders the keeping of bees profitable—warm and steady temperature, and an exposure favourably situated, not only from north and east winds, but from all winds. In the vicinity of such a place plenty of wild flowers should exist, to minimise the waste of time the bee takes seeking food at a further distance. This and other similar conditions tend to make bee-keeping a profitable speculation, but it will be observed that such conditions are more scarce than common.

The unpropitious seasons of the last decade have reduced bee-keeping in Scotland and parts of England to a very low proportion compared with that of preceding years. Where ten at that period kept bees, it may safely be said but one now bothers and fights away with them. They incur very little trouble and expense if they are placed in favourable circumstances and left alone, but if not, they are a most grievous source of vexation and anxiety, besides never giving satisfaction. That is my opinion, based on personal experience, and perhaps it has been as varied, geographically, as few others can claim. I look upon these geographical conditions as important in showing pretty accurately the commercial value of bee-keeping. These are, it may be stated, a county in the north Highlands, a county in the south-west of England, and a county almost equidistant from both, which circumstances I think fairly represents not only the industry of bee-keeping as succeeding under three of the most important climatic conditions of Great Britain, but many other interesting data in agriculture, forestry, and horticulture.

In the cases of the two extreme counties one was favourable as regards the crop of honey, and the other was good, but as this latter case had occurred in an earlier decade, perhaps it is not fair to place it side by side with the other two. The central case was a complete failure, and as they died out, hive after hive, several attempts were made by introducing new stock, to persevere in bee keeping. But no use; some died, some were stolen, and some took the wings of the morning to more congenial climes and pastures new, to the hearty disgust of all concerned. With the exception of a few solitary cases here and there, a person might journey a whole day in the locality, and not see the once familiar straw-thatched "skep" standing in the "kail yard." This surely points to the fact that they do not pay. There is a story told of a calf who once managed to eat his head off, and it is quite possible the bees have done the same. Yea, more, their tails, for comb-honey is as rare at present as icicles dangling from the eaves of the houses.—*Gamma, Edinburgh.*

The Amateurs' Garden.

Pelargoniums, Show and Fancy.

One of the greatest difficulties with which amateurs have to contend in the cultivation of Pelargoniums of this class is in the matter of pruning. This has to be done systematically every year after the flowering period is over. When this has taken place, remove the plants from the greenhouse or conservatory, as the case may be, and stand them in the open air in a sunny exposed position in order to ripen the wood. Water must at the same time be withheld, otherwise the wood will remain comparatively soft. After the shoots become brown in the lower parts, and the leaves partly withered, the stems should be cut back to a bud or two at the base of the young wood. Soon after this operation fresh buds will begin to push, and when this has taken place the plants may be shaken out and re-potted in fresh soil. The ball of large plants especially should be reduced in size in order to get it into a smaller pot, to be afterwards placed in a larger one when in full growth. The soil in which they are grown after this must not be allowed to become too dry at any time.

Propagating Phloxes.

Both the dwarf or procumbent and early-flowering species, such as Phlox subulata and P. amœna, as well as the taller-growing later kinds, generally called autumn-flowering Phloxes, may now be propagated; and although they are frequently rooted much later in the season, they make much finer plants by planting-out time in the following spring, if the operation be accomplished now. Take young shoots just getting moderately firm, and make a clean cut just below a joint; remove one or two of the lower pair of leaves and insert the cuttings firmly in light, very sandy soil in pots. Water down with a fine-rosed watering pot after a sufficient number have been inserted without crowding them; then stand the pots under a hand-light or in a frame kept close till the cuttings show signs of having rooted, after which they may be gradually hardened, and then placed in an open frame. Never neglect watering while roots are being formed, and shade from strong sunshine till that has taken place.

Budding Roses.

Those who cultivate and have a liking for Roses may try their hand at budding if they have not already done so. The operation is a simple one; and all that is wanted is a few Briar or Manetti stocks on which to operate, together with some fine kinds of Roses which it is desirable to propagate. The shoots on which the buds are to be inserted should be moderately firm, and the bark easily raised. Make a cross cut and a longitudinal one through the bark in the form of a T. Then get well-formed, plump and resting buds from some other kind, and cut them out with about half an inch of bark below the bud. Remove the woody portion of this with the point of a knife, taking care not to pick out the core or root, so to speak, of the bud. Then with the thin handle of a budding knife lift the edges of the bark where the T-shaped cut was made, and insert the prepared bud as quickly as possible. A little practice will enable the operator to do the work quickly, for the quicker it is done the more chance will there be of success. Bind up the whole with matting, worsted, or any kind of soft string. The blade of the leaf attached to the bud should be removed before inserting the latter, and if the stalk falls away of its own accord a week or so after its insertion, it will be a sure sign that the bud has taken.

Gardening Miscellany.

Eryngium Oliverianum.

In habit and general appearance, as well as height, this species may be compared to E. alpinum, the most widely disseminated species in British gardens, and which many years ago might have been seen in many a cottage garden, where it was known as the garden Thistle or the Blue Thistle. It was introduced in 1597, and is, therefore, a very old inhabitant of gardens in this country. E. Oliverianum, on the other hand, is a comparatively recent introduction from the Caucasus, and a bold and handsome species highly deserving of cultivation. The stems rise to a height of 3 ft., and are abundantly clothed with handsome foliage. The leaves are deeply tripartite, the lower ones, both radical and cauline, being again considerably lobed, and cut with acute divisions, and long stalks; the upper ones are more shortly petiolate and gradually less divided. The flower heads are oblong, and consist of densely packed small blue flowers, surrounded by a broad involucre of deeply lobed steel blue bracts, which constitute one of the most striking features of the species. It is admirably adapted for cultivation as a garden plant or for the back of a large rockery fully exposed to the sun.

Erodium trichomanefolium.

Of all the species of Heron's Bill none are more adapted for adorning the ledges of the rockery than that under notice. The flowers are not so large for instance as those of E. Manescavii, but the latter is an annual or biennial that requires frequent renewal, and from its habit of seeding all over the place is not so suitable for rockwork. E. trichomanefolium is a long-lived perennial with a woody rootstock, the branches of which, although of slow growth, will at length cover a considerable amount of space if left undisturbed. The leaves are twice divided, with narrow oblong-linear lobes, having in the aggregate a feathery appearance. The flowers are produced in fours, and are either flesh-coloured, rose or purple, lined with much darker veins. The species was introduced from Mount Lebanon, and proves quite hardy in this country, where its cultivation should be much more widely extended than it is at present. It ripens seeds and may be propagated in that way, or by cuttings which root freely under a hand-glass or frame during the summer months.

Spiræa palmata.

Seeing that this, the most handsome of all the Spiræas, was introduced as long ago as 1823, the wonder is that every collection of herbaceous plants should not contain it. The species is a native of Japan, and quite hardy some 200 miles north of the Tweed—a fact which should ensure it a wide distribution amongst the flower-loving public, or, at least, the flower-growing fraternity throughout the British Islands. Like most of the other herbaceous Spiræas, this Japanese species enjoys a liberal amount of moisture, and if the ground is naturally moist, even in summer, more satisfactory results will follow than where such is not the case. The banks of a lake, stream, or even a bog-bed, should be chosen for it, similar, in fact, to the positions in which we find our native S. Ulmaria growing under natural conditions; then plant not a tuft or little bit, but a mass or bed, and the result will be one of the most striking features in the garden during July.

A Three-ranked Antirrhinum.

A specimen of Antirrhinum majus has been sent us by Mr. Wm. Caudwell, The Ivies, Wantage, showing a freak of unusual occurrence. The flowers are arranged in three rows along the stem, instead of being scattered or opposite; they are also in evident whorls of three, although all the three are not exactly on the same level. The pedicels are slightly displaced right and left in succeeding whorls, but not so much as to make the latter alternate with one another, so as to produce six rows of flowers. The leaves on the specimen sent were also arranged in exactly the same way. These characters we occasionally meet with in some species of the closely allied genus Linaria, and L. triornithophora might be mentioned as an instance. The leaves and flowers in both Antirrhinum and Linaria are liable to variation in the above manner; but if a strain could be obtained, with the three-ranked character constant, it would prove a valuable one, and be much appreciated.

Convolvulus tricolor and varieties.

The old garden and seed-shop name of this plant is C. minor, while Ipomœa purpurea, a climbing subject, was known as Convolvulus major. Both have sported into numerous varieties, differing chiefly in the colour of the flowers, and some of them are exceedingly beautiful. C. tricolor likes sunshine, and may be seen at its best on bright days. Several very fine varieties may now be seen in the gardens of the Royal Horticultural Society, at Chiswick. The typical form has blue, white, and yellow flowers; but in a form named C. t. monstrosus, the broad blue margin is very much intensified. The applicability of the varietal name is not, however, very evident. C. t. striatus has the flowers striped, banded, and mottled longitudinally with blue on a white ground, and is certainly pretty. Rosy Queen, on the other hand, is marked transversely with an irregularly defined band of violet-purple on the middle of the flower, which is otherwise pure white, with the exception of the yellow eye. C. t. albus is pure white with a yellow eye, and being very floriferous, resembles at a short distance away a white Petunia.

Achillea Gerberi.

In general habit and appearance, this plant may be compared to A. tomentosa, which is well known wherever there is a good collection of hardy plants. The flower stems, however, would appear to be more leafy, but this habit would have to be confirmed after some years of growth. We noted a small specimen in the hardy plant house at Kew. It was grown in a pot, and the stems were about 1 ft. in height or less, bearing a number of small yellow flower-heads in a sort of umbel or corymb. The leaves are linear, twice divided into narrow segments, and have a hoary appearance from being covered with hairs. Should it prove hardy, it will be very suitable for the rock garden on account of its dwarf and compact habit.

Erysimum arkansanum.

The genus Erysimum includes about seventy species, a large proportion of which are weedy plants of no garden value. E. Peroffskianum has long been known in gardens as an exception on account of its deep orange flowers, which are plentifully produced on well-grown plants. Both this and E. arkansanum may now be seen in full bloom in the gardens of the Royal Horticultural Society at Chiswick. The latter species bears flowers several times the size of those of E. Peroffskianum, but are of a pale or bright yellow in different individuals. The blooms bear a strong resemblance to those of the well-known E. ochroleucum, better known under the erroneous name of Cheiranthus alpinus. The palest blooms of E. arkansanum are, however, several shades darker than those of E. ochroleucum, and have a bold and telling effect when well grown. The stems rise to a height of 12 ins. or 18 ins., and are well clothed with lanceolate, toothed, deep green leaves. Like E. Peroffskianum it is an annual.

Primula frutescens.

The so-called præmorse root of the Primula is merely the lower and older end of the stem, otherwise called a rootstock, which gradually dies away as the younger end keeps growing and lengthening. In some of the Alpine species, as well as the old plants of P. auricula or P. sinensis, the stem rises a little way above ground bearing a tuft of leaves at its apex. We meet with an extreme case of this in P. frutescens, a Californian species seldom seen in this country outside botanic gardens. We more seldom see it in flower, but noticed a pan of healthy flowering plants the other day in the hardy plant house in the herbaceous ground at Kew. The stems are smooth, pale green, rising to the height of 4 ins. or more above the soil, and are about twice or three times the thickness of a goose-quill. They are persistent, and if not particularly woody, have earned for the plant the specific name frutescens, which means shrubby. On the top of these are borne the spathulate, coarsely toothed leaves in rosettes. The scapes rise to the height of 6 ins. or thereby, and bear an umbel of rosy purple flowers, with a yellow eye. The blooms are much larger than we should have expected them.

Shallots and Garlic.

The dry weather will assist these in ripening much earlier than was the case last year, and as the leaves wither the bulbs should be pulled and laid in a dry sunny position to dry and complete the ripening process, after which they may be hung up in some cool airy position till required for use. Garlic, as a rule, requires longer to ripen than Shallots.

ORCHID NOTES AND GLEANINGS.

Habenaria fimbriata.

The species of Habenaria are terrestrial in habit, closely resembling an Orchis, and they enjoy a wide distribution over various parts of the world. That under notice is a native of North America, and being much more showy than our native species, which are in their way exceedingly interesting, should be widely cultivated, if not in the open garden, at least in frames and hardy plant houses. In habit and appearance at a little distance it may well be compared with Gymnadenia conopsea, the fragrant Orchis of our meadows and pastures. The flowers are borne in a long and close terminal spike, and are of a beautiful rosy or lilac-purple. The most striking feature of the bloom is the lip, which is deeply three-lobed, and the segments again finely fimbriated or fringed, hence the specific name. The petals are also more or less toothed at the margin, but not deeply. In pots the plants usually attain a height of 12 ins. or 15 ins.

THE GARDENERS' CALENDAR.

THE STOVE.

Damping and Ventilation.—It is the practice in many establishments to discontinue the use of artificial heat in the stoves during warm weather at midsummer, and where such is the case, a slightly different method of procedure should be adopted. Less damping down must be given, or none at all when the ventilators are closed in the evening, and it would be an advantage to leave a chink of air on, so that the superfluous moisture can escape during the night.

Insect Pests.—During the prevalence of dry weather, and the stress of work out of doors, a sharp outlook should be kept that plants of various kinds, including Dracænas, Crotons, Anthuriums, and Ixoras, do not become infested with red-spider, thrips, or other pests of a similar nature. A plentiful syringing and occasional sponging of the fine-foliaged plants during their most active period of growth will do much towards warding off the enemy, and keeping the plants in a healthy condition.

THE GREENHOUSE.

New Holland Plants.—As these go out of flower, no time should be lost in having the old blooms removed, so as to give the plants every incentive to make good growth. Pimelias, including P. spectabilis, P. decussata, and others, may be pretty hard pruned back after flowering, so as to keep them in shape. Dracophyllum gracile had best be pruned back to where the young growths are seen to be starting, and as Aphelexis throws out its buds close to the origin of the flowers, care should be taken in removing the latter that the young buds are not injured. Polygalas may be pretty hard cut back if they have outgrown the space at their command; but under such circumstances they cannot be expected to flower so freely next year. Re-pot into a size larger such as require it, using good fibrous peat and plenty of clean silver-sand. Broken charcoal will be found very advantageous if the peat is soft, fibreless, and apt to form a compact soddened mass. Keep the plants close for a short time until the roots have taken to the fresh soil.

Pelargoniums.—As the show and fancy kinds go out of bloom, stand them out of doors in some sunny and fully-exposed position, at the same time withholding water, to induce the wood to ripen, after which it may be pruned back in the usual way.

Cinerarias and Primulas.—The early batch of Cinerarias will now be of some considerable size, and should be shifted on before they get pot-bound or in any way stunted. Later batches, as well as Primulas, will also require close attention in the way of watering, potting, and favourable treatment generally, so as to get them into good form for flowering during autumn and winter. A cold frame is the best place for them now if they have not already been transferred there.

THE FRUIT HOUSES.

Vineries.—During the warm and dry weather we frequently experience in July, late Grapes, or those just about half grown or at the stoning period as it is called, are very liable to get scalded if proper attention is not paid to ventilation. If artificial heating is left off at night it is all the more necessary to use caution in damping down, and also in leaving air on all night, to prevent the accumulation of moisture upon the foliage and fruit. One of the leading points to secure is plenty of large, healthy, and leathery leaves, which can only be obtained by thorough exposure to light, giving at the same time a free ventilation when the sun is warm.

THE KITCHEN GARDEN.

Celery.—The first or earliest Celery may now have a little soil drawn up against them, being careful that no soil gets into the crown of the plant. Before this, however, the small outside leaves and any suckers that may have been thrown up from the crown should be removed to give due encouragement to the main crown of leaves. The latest batch of Celery should be planted in trenches in the usual way as soon as ground for the purpose can be cleared.

Parsley.—The winter supply of Parsley is often a serious matter with the gardener. With this object in view a sowing should be made about the middle of the month, either in some position where it is to remain for the winter, or in a bed if other ground cannot be spared. Provided the sowing is made at the proper time, the seedlings can afterwards be transplanted when there has been sufficient rain to properly moisten the soil.

HORTICULTURAL SOCIETIES.

The National Rose Show at the Crystal Palace.—*July 6th.*

The excessive heat and brilliant sunshine, which forced the blooms along at such a pace that had it continued much longer would have sadly marred the prospects of many a Rose society, happily moderated somewhat last week, and by steadying the rate of development, allowed of a grand lot being brought to the Palace on Saturday last. Most of the leading southern growers were able to cut at their best, and were consequently well represented, though in some cases they had hard work to hold their own against northern-grown blooms, the beauty of which throughout the show was one of its most striking features. The Yorkshiremen were indeed in rare form, making a bold bid for the leading honours, and securing the first and third awards in the champion class for seventy-two blooms. That the Messrs. Harkness should have been able to get in first, both faithfully indicates the character of the season, and bears eloquent testimony of their skill as growers. It was a great triumph, and well deserved. Another striking feature was the beauty and quality of the flowers sent by the Messrs. Cocker, Aberdeen, a plucky effort which brought the exhibitors a well-merited reward. The hot weather, too, had also a marked effect on the Tea Roses, which were most lovely, and no less so on some of the light coloured H.P.'s, as witness the splendid stands of Her Majesty, the best class in the show, Merveille de Lyon, &c. Owing to the special arrangements necessitated by the visit of the Shah, and the Prince and Princess of Wales and family, the show was held in two large tents at the east end of the Palace, which was unfortunate alike for the Roses and their admirers, as both felt the effects of the great heat and the restricted space for promenading. Mr. Head, however, did all that was possible to make things run smoothly, and succeeded much better than could have been anticipated under the circumstances.

Nurserymen's Classes.

There were six entries in the nurserymen's class for seventy-two distinct kinds, and the first honours were taken by Messrs. Harkness & Sons, Bedale, Yorkshire. Some of their best specimens of H.P.'s were Ulrich Brunner, Horace Vernet, Devienne Lamy, François Michelon, Duchesse de Morny, Etienne Levet, Mrs. Jowitt, Madame Montet, Heinrich Schultheis, Duc de Rohan, Harrison Weir, Benoit Comte, Merveille de Lyon, Pride of Waltham, Queen of Queens, La France, Countess of Rosebery, and Madame Hippolyte Jamain. Tea-scented varieties were not numerous in their stands, but included Niphetos, L'Etoile de Lyon, Amazone, Comtesse de Nadaillac, The Bride, and Madame Angele Jacquier. Mr. F. Cant, Braiswick, Colchester, took the second prize, and had fine samples of H.P.'s in La France, Her Majesty, Star of Waltham, Jean Soupert, Madame Eugène Verdier, and amongst Teas he had Jean Ducher, La Boule d'Or, Madame Caroline Kuster, Princess of Wales, Madame de Watteville, and others. Messrs. Robert Mack & Son, Catterick Bridge and Scorton, Yorkshire, took the third place with rather small but fresh specimens. They were fortunate, however, in securing the society's Silver Medal for the best H.P. in the nurserymen's classes with a handsome specimen of Ulrich Brunner. There were six entries in the class for forty-eight sorts, three blooms of each, and Messrs. Paul & Son, Cheshunt, led off with the first prize. They had fine samples of La Duchesse de Morny, S. Reynolds Hole, A. K. Williams, Her Majesty, Merveille de Lyon, Etienne Levet and Comtesse d'Oxford; while Teas were represented by Niphetos, Innocenti Pirola, The Bride, and Madame de Watteville. Mr. F. Cant took the second place, and Mr. B. R. Cant, Colchester, was third. The above two classes occupied a considerable amount of table space.

Messrs. Geo. Cooling & Sons, Bath, took the first place for forty-eight varieties in another division. Their leading H.P.'s were Her Majesty, Countess of Oxford, Pride of Waltham, Madame Marie Verdier, Magna Charta, François Michelon, Baroness Rothschild, and Marie Rady; while Teas included Catherine Mermet, Souvenir de Paul Néron, The Bride, and Souvenir d'Elise. Messrs. Keynes, Williams & Co., Salisbury, were second in this class; and Messrs. G. & W. H. Burch, Peterborough, came in third. For twenty-four varieties in the same division there were seven entries, and Mr. Geo. Prince, 14, Market Street, Oxford, took the leading award with fine samples of H.P.'s in Duke of Teck, Marie Rady, Baron Haussman, A. K. Williams, and Abel Carrière; while good Teas were

Niphetos, Comtesse de Nadaillac, Catherine Mermet, Madame de Watteville, Princess of Wales, and Alba rosea. Mr. John Walker, Thame, Oxon, took the second place. There were eight entries in the class for twenty-four varieties, three blooms of each, and the first award went to Messrs. G. & W. H. Burch, who had good samples of La France, Her Majesty, Queen of Queens, Maurice Bernardin, Ulrich Brunner, Star of Waltham, and Marie Baumann, together with the following Teas, namely, Madame de Watteville, Madame Cusin, Innocente Pirola, and Catherine Mermet. The second prize was taken by Messrs. Keynes, Williams, & Co. ; and the third by Messrs. J. Jefferies & Sons, Cirencester, each having good exhibits.

THE AMATEURS' CLASSES.

Numerous classes were set apart for amateurs, and in the class for forty-eight distinct blooms, Mr. W. J. Grant, Ledbury, led off with the first prize, and in the same class was awarded the society's Silver Medal for the best H.P. with Marie Baumann. Other fine blooms were Madame Susanne Rodocanachi, François Michelon, Dupuy Jamain, Her Majesty, Madame A. Lavallée, Duke of Edinburgh, Duke of Wellington, Xavier Olibo, Comte Raimbaud, Marie Rady, Louis Van Houtte, Reynolds Hole, and others. Most of them were H.P.'s, and very fine. The Rev. J. H. Pemberton took the second prize with smaller but very fresh specimens, cut with longer stalks and plenty of foliage. Some of his best samples were of Etienne Levet, Duchess of Bedford, Pride of Waltham, and Niphetos. Mr. W. J. Grant also carried off the first prize for twenty-four varieties, three blooms of each, having fine samples of Her Majesty, Louis Van Houtte, Ulrich Brunner, Merveille de Lyon, La France, Alfred Colomb, La Rosière, and others. The second prize was secured by Mr. S. P. Budd, of 8, Jay Street, Bath, who had Ulrich Brunner, Marie Verdier, and Dr. Andry especially in good condition. In a class for thirty-six varieties E. B. Lindsell, Esq , Bearton, Hitchin, Herts, was awarded the first prize. Amongst H.P.'s he had good samples of Victor Hugo and Marie Verdier, while his Teas were fresh and striking, and included Catherine Mermet, Viscountess Folkestone, Niphetos, and others. He was followed by Mr. J. Brown, gardener to Mrs. Waterlow, Great Doods, Reigate. E. B. Lindsell, Esq., was the only competitor with eighteen varieties, three blooms of each, but the exhibit was a very meritorious one, and well deserved the first prize. The best Tea Rose in the amateurs' class was Caroline Kuster, and occurred in the above exhibit, receiving the society's Silver Medal. Very fine also were Horace Vernet, Ulrich Brunner, Merveille de Lyon, and Her Majesty. There were nine entries in the class for twenty-four distinct varieties, and the first award went to Geo. Christy, Esq., Buckhurst Lodge, Westerham, who had fine blooms of Captain Christy, Ulrich Brunner, Jean Soupert, Merveille de Lyon, and Dr. Andry. He was followed by the Rev. A. Foster-Melliar, Sprougton Rectory, Ipswich. The same exhibitors observed a similar order of merit in the class for twelve varieties, three blooms of each. In the sixth division the Rev. L. Garnett, Christleton Rectory, Chester, was awarded the first prize for eighteen distinct blooms, Beauty of Waltham, Charles Lefebvre and Madame Marie Verdier being fine ; Mr. Edward Mawley, Rosebank, Berkhamstead, took the second prize in this class.

The best half-dozen Roses grown within eight miles of Charing Cross, came from Mr. J. Bateman, 72, Twisden Road, N.W. — a capital stand, containing Etienne Levet, François Michelon, Baroness Rothschild, Marquise de Castellane, Merveille de Lyon, and Ulrich Brunner. In the same section the Rev. J. H. Pemberton took the first prize for six new Roses with charming blooms of Her Majesty, Lady Helen Stewart (a fine crimson), Earl Dufferin, Viscountess Folkestone, Sir Rowland Hill, and Ethel Brownlow ; Mr. T. W. Girdlestone was second. For half-a-dozen blooms of an H.P. the Rev. J. H. Pemberton was first, with Earl Dufferin, Mr. G. Christy second with Marie Baumann, and Mr. E. Horne third with Captain Christy.

TEAS AND NOISETTES.

In the nurserymen's competition with eighteen varieties—a very good one—the premier award went to Messrs. Burrell & Co., Howe House, Cambridge, who in a fine stand had splendid blooms of Madame Cusin, Niphetos, Adam, Luciole, Marie van Houtte, Catherine Mermet, The Bride, Caroline Kuster, Comtesse de Nadaillac, and Francisca Kruger. Messrs. J. Jefferies & Son, Cirencester, came in second, and Messrs. G. Bunyard & Co., third. Mr. G. Prince, with a superb lot of Comtesse de Nadaillac, secured the highest award in the class for any variety except Maréchal Niel, Mr. F. Cant being second with the same variety, Mr. B. R. Cant third with Madame de Watteville, and Mr. J. Mattock fourth with Comtesse de Nadaillac. The best eighteen came from Mr. Frank Cant, in whose stand, besides some of the varieties previously mentioned, were admirable examples of Madame Lambard, Princess of Wales, Etoile de Lyon, Innocenti Pirola, Edith Gifford, and La Boule d'Or. In the amateurs' division Mr. W. J. Grant, Ledbury. secured the first prize for eighteen, the Rev. F. R. Burnside being second, the Rev. Hugh. A. Berners third, and the Rev. A. Foster-Melliar fourth. Mr. E. B. Lindsell, Hitchin, staged the best dozen, followed by Mr. Oswald G. Orpen and the Rev. J. H. Pemberton. The Rev. L. Garnett, Christleton, had the best nine, and Lieut. Col. F. Standish Horne the best half-dozen. The finest twelve triplets came from Mr. W. J. Grant ; and a good stand of Comtesse de Nadaillac, from the Rev. F. R. Burnside, was the best in a class for six blooms of any variety.

OPEN CLASSES.

These were all well contested and brought out quite the gems of the show. The class for twelve blooms of any white Rose, except Niphetos, brought out eight stands of Merveille de Lyon, the grandest lot of blooms of this variety ever seen together. The first prize stand, shown by Messrs. Harkness & Sons, of Bedale, was especially large, bright, and fresh. For the same number of blooms of any variety, except Marie Baumann and A. K. Williams, Messrs. G. Cooling & Sons, Bath, came in first with a superb lot of Alfred Colomb, grand in size and wonderfully bright in colour. The same variety claimed the second prize, Ulrich Brunner the third, and Reynolds Hole the fourth. For a dozen blooms of any dark velvety crimson variety, Messrs. Paul & Son came in first with Reynolds Hole, in superb form. The best stands of Marie Baumann came from Mr. G. Mount, Canterbury, Messrs. Paul, Cranston, and Bunyard in the order named ; and the largest and finest specimens of Lady Alice Fitzwilliam came from Messrs. Cocker & Son, of Aberdeen—a very remarkable exhibit considering the immense distance the flowers had travelled. Of A. K. Williams, a superb show Rose, but not seen in good form on this occasion, Messrs. Paul & Son had the best box. The Niphetos class was a very strong one, nine first-rate boxes being put up, and here Mr. Prince, usually so strong with Teas, suffered defeat at the hands of Mr. Frank Cant, Messrs. Paul & Son being third. The class for Her Majesty was by far the finest one in the show, there being seven entries and every stand a good one, the blooms like great Pæonies throughout, and all fresh and bright. Messrs. Paul & Son won the first prize with a grand lot—a trifle uneven perhaps, but the greater depth of colour seen in most of the blooms rightly carried the judges' verdict ; Mr. W. J. Grant was a good second, and Mr. Frank Cant a close third. Giving these all the credit due to them, they were still not the best examples in the exhibition—a better lot than any being shown by Mr. W. Taylor, of Hampton, not for competition. For a dozen blooms of any Rose not mentioned above, Mr. Frank Cant came in first with a lovely stand of Madame de Watteville ; Mr. W. J. Grant second with a striking box of Ulrich Brunner ; and Mr. G. Prince third with Comtesse de Nadaillac. In the competition for twelve trusses of any new Rose, except Her Majesty, a grand box of Lady Alice Fitzwilliam, shown by Messrs. Cocker & Son, Aberdeen, was placed first ; Mr. B. R. Cant coming in second with The Bride, and Messrs. Paul & Son third with Queen of Autumn, a very nice crimson.

In the new Rose class for a dozen varieties Mr. Frank Cant secured the premier award with Viscountess Folkestone, Madame Matt. Baron (?), Her Majesty, Earl of Dufferin, Sir Rowland Hill, Duchess of Leeds, Grand Mogul, Silver Queen, The Bride, Mrs. John Laing, Ye Primrose Dame, and Miss Ethel Brownlow. Messrs. Paul & Son were second, and Mr. B. R. Cant third. The classes for garden Roses and button-hole Roses were both well contested, and the former early in the day were very pretty, but soon lost their beauty through the excessive heat.

MISCELLANEOUS.

A few prizes were offered by the Messrs. Carter and Sutton, mainly for Peas, and some capital dishes were staged. For the Messrs. Carter's prizes there was a fair competition, and Mr. Coombs, gardener to the Earl of Fife, Sheen House, Mortlake, secured the highest award for Peas, with fine samples of Anticipation, Telephone, and Stratagem ; Mr. Gibson, Halstead Place, being second ; and Mr. C. J. Waite, third. The last named exhibitor was first with a Blenheim Orange Melon, Mr. Chuttlebnrgh, gardener, Worstead Hall, Norwich, coming in second. In the Messrs. Sutton's competition for a Melon, Mr. Chuttleburgh took first honours with Hero of Lockinge, Mr. Waite being next with the same kind. For two dishes of Peas Mr. Waite was first with Duke of Albany and The Duchess, Mr. J. A. Beckett and Mr. Gibson being second and third respectively. A group of fruit trees in pots was shown by Messrs. Geo. Bunyard & Co., Maidstone, consisting of Cherries, Plums, Pears, Peaches, and Nectarines. Pears and Plums were not ripe, but served to show what can be done in fruit culture under glass. On the opposite side of the tent was a similar exhibit by Messrs. J. Rivers & Son, Sawbridgeworth, Herts. Dr. Hogg Peach, Pine Apple Nectarine and the Czar Plum figured in both collections. Some gathered fruit was also shown by them, and extra prizes were awarde l for both exhibits. Extending along one side of the tent was a broad line of Tuberous Begonias, shown by Messrs. John Laing & Sons, Forest Hill. Fine varieties were Princess Louise, Delicata, Camellia, Duchess of Teck, Princess Christian, and Henshaw Russell. An extra prize was awarded. Stood about amongst the Begonias were Madame Desgranges and G. Wermig Chrysanthemums shown by Mr. W. E. Cass, Upper Norwood. On the opposite side was another fine exhibit of Tuberous Begonias, both single and double in many beautiful colours, from Messrs. H. Cannell & Sons, Swanley, who were also awarded an extra prize. They had also double Balsams, Cannas and Carnations. At the back of this exhibit were collections of Lilium auratum and Japan Irises from Mr. W. Gordon, Twickenham, who was awarded an extra prize.

Royal Horticultural.—*July 9th.*

THE Fruit and Floral Committees met at Chiswick on this occasion, and there was a good attendance of members, as well as a fair average, for the season, of subjects for adjudication. The Floral Committee first examined a capital exhibit of a good strain of Sweet Williams, sent by Mr. J. Walker, of Thame, to which an Award of Merit was voted. Messrs. James Veitch & Sons showed a nice young plant of Retinospora filifera aurea, with the young growing shoots of a bright golden yellow colour, to which a First Class Certificate was awarded ; cut flowers of the new Rhodanthe maculata flore pleno, rose, and a white double variety named alba—both annuals of great promise—to which Awards of Merit were voted ; and selections of a very fine strain of Campanula media calycanthema, which also received an Award of Merit. Mr. T. S. Ware received a similar award for a very fine flowering white border Carnation named Mrs. Frank Watts, and a First Class Certificate for a yellow ground variety of Lilium pardalinum. Mr. Frank Ross, gardener to Sir George Macleay, showed cut blooms of a grand new Iris Kæmpferi, imported direct from Yokohama, and named White Banner. The falls were pure white and of great length and breadth, the diameter of the flowers being about 10 ins. A First Class Certificate was awarded. Mr. J. Mortimer, nurseryman, Rowledge, Farnham, sent a nice batch of plants of a pretty little ornamental Capsicum named Ruby, a seedling from C. Prince of Wales. The plants were dwarf and bushy, 6 ins. to 7 ins. high, with a profusion of coral-red, conical-shaped berries. An Award of Merit was voted to it. Mr. T. Charlesworth, Heaton, Bradford, showed six very fine spikes of Oncidium crispum, cut from one plant, and Mr. Whillans, Blenheim, sent a beautiful white variety of Cattleya Mendelii named Duchess of Marlborough.

The committee also inspected the large and most interesting collection of annuals which Mr. Barron has grown this year, with a view to ascertaining what are suitable for general cultivation in London gardens. To those which were most approved the committee gave three marks, which is equivalent to a First Class Certificate. The subjects which received this distinction were the following kinds of Poppies : — Shirley, Hooker's Double, P. umbrosum, Danebrog, Mephisto, Steinforth, Rawson's Fringe (a double Danebrog), double Pæony, crimson and white ; Snowdrift, and double Pæony, white ; Silene pendula compacta fl. pl., Iberis Dunnettii, lilac and carmine-flowered varieties of I. umbellata, Campanula macrostyla, Bartonia aurea, Nolana atropurpurea, Limnanthes Douglasii, Kaulfussia amelloides atro-violacea, Asperula azurea setosa, Linum grandiflorum rubrum, Eutoca viscida, Laya glandulosa, Miguonette Covent Garden Favourite,

Gilia liniflora, Gypsophylla elegans, Viscaria cardinalis, all the Eschscholtzias, the Yellow Hawkweed (Crepis), all the Clarkias, Dobbie's new white Rocket Candytuft, Coreopsis coronata, the yellow Sweet Sultan, Hymenoxis californica, Platystemon californica, Erysimum Peroffskianum and E. arkansanum, Linaria reticulata aurea purpurea, all the annual Chrysanthemums, Lupinus nanus, L. albus and L. luteus, Calendula pluvialis and C. grandiflora, and all the Centaureas and dwarf and compact Nasturtiums.

The Fruit Committee had before them a very finely-flavoured white-fleshed Melon named Countess, sent by Mr. Goodacre, of Elvaston; several varieties of Cabbage Lettuce from Messrs. Veitch & Sons; and fine samples of several varieties of Strawberries from Mr. Allen, of Gunton, including Dr. Hogg, Amateur, Loxford Hall, John Powell, Crimson Queen, Unser Fritz, &c.

Chiswick Horticultural.—*July 9th.*

THE weather proved very favourable on Tuesday last, when the Chiswick Horticultural Society held their annual show in the gardens of the Royal Horticultural Society, in conjunction with the committee meetings of the latter body, which were held at Chiswick on this occasion. Three large tents, together with the big vinery, were occupied with the exhibits. The show on the whole was a good one, but the fruit and vegetables were the strongest features compared with the exhibits of former years. The severe competition, especially in the groups of plants, must have had a telling effect upon exhibitors, for they were fewer in number than they have been for some years past. The Jubilee Challenge Cup (value 26 guineas) and £4 were awarded to Mr. W. Brown, St. Mary's Grove, Richmond, for a group of plants not to exceed 100 sq. ft. It was tastefully arranged with Palms and Maidenhair Ferns, relieved with Lilium auratum, L. speciosum, Odontoglossums, Gloxinias, &c. Messrs. W. Fromow & Sons were a good second. For a group of plants not to exceed 75 sq. ft., E. H. Watts, Esq. (gardener, Mr. A. Wright), Devonhurst, Chiswick, was awarded the Veitch Memorial Medal and £5. It was made up of Palms, Crotons, Elæodendron orientale, Miltonia vexillaria, Gloxinias, Cypripedium Hookeræ, and others arranged on a groundwork of Maidenhair and Panicum variegatum. R. L. Cosh, Esq. (Mr. C. Padley, gardener), Rupert House, Chiswick, was second. The Silver Medal of the Royal Horticultural Society was awarded to J. S. Nicholson, Esq. (Mr. W. Bates, gardener), Poulett Lodge, Twickenham, for stove and greenhouse plants. The best specimens were Clerodendron Balfouri, Plumbago capensis, and Allamanda Hendersoni. E. H. Watts, Esq., was second; and H. G. Lake, Esq. (gardener, Mr. H. Davis), Fairlawn House, Chiswick, was third. E. H. Watts, Esq., took the first prizes for fine-foliaged plants, exotic Ferns, Fuchsias, and Lycopods; the Fuchsias were fine pyramidal well-flowered specimens. W. E. Tautz, Esq., Sutton Lodge, Chiswick (gardener, Mr. H. Harding), was the only competitor with Caladiums. The best Coleus were pyramidal, fairly well-coloured specimens, and were shown by R. L. Cosh, Esq.; E. H. Watts, Esq., was second. Tuberous-rooted Begonias are improving, and Henry Little, Esq. (gardener, Mr. G. Watts), took the first place; E. H. Watts, Esq., being second. The latter was, however, first for twelve Gloxinias. Colonel the Hon. W. P. Talbot (gardener, Mr. J. C. Waite), Glenhurst, Esher, had the best six Gloxinias, and the best plants for table decoration.

Cut flowers were shown in fair quantity, the bouquets and similar things being both numerous and often tastefully done. W. Langdon, Esq., 4, Castle Bar, Ealing, had the best twelve Roses, and J. Ayscough, Esq., Bedford Park, the best six. Mr. J. C. Cowley, gardener to F. G. Tautz, Esq., Sudbury House, Hammersmith, had the best twelve varieties of cut flowers, which were mostly Orchids, and very fine. Col. Talbot had the best twenty-four blooms of Gloxinias. H. Little, Esq. (gardener, Mr. G. Watts), had the best bunches of zonal and Ivy-leaved Pelargoniums. The best three bouquets were shown by Mr. R. J. Chard, Stoke Newington; the best bouquet by E. M. Nelson, Esq. (gardener, Mr. E. Chadwick), Hanger Hill, Ealing; and the best six button-holes by W. E. Tautz., Esq.

The exhibits of fruit and vegetables compared very favourably with those of former years. The first prizes for both black and white Grapes were taken by L. J. Baker, Esq. (gardener, Mr. T. Osman), Ottershaw Park, Chertsey. The best Strawberries were shown by F. Hume Dick, Esq. (gardener, Mr. W. Palmer), Thames Ditton House, Thames Ditton, as well as the best Melon. E. M. Nelson, Esq., had the best two dishes of Cherries, and the best dish of Strawberries. E. H. Watts, Esq., had the best Raspberries; J. T. Nicholson, Esq., the best Gooseberries; and A. B. Ward, Esq. (gardener, Mr. S. F. Kett), Watchfield, Sutton Court Road, the best Currants. The first prizes for vegetables, Potatos, Peas, Tomatos and Cucumbers were taken by Colonel Talbot; W. F. Hume Dick, Esq., was second for the collection. Tomatos, Peas, Cauliflowers, Onions and Globe Artichokes were very fine.

Many extra prizes were offered. Prizes for a collection of fruit were offered by Leopold de Rothschild, Esq., J. T. Nicholson, Esq., taking first, and L. J. Baker, Esq., the second prize. The first prize for three Orchids in flower was taken by H. Little, Esq. (gardener, Mr. A. Howard), his Cypripediums being very fine; F. G. Tautz, Esq. (gardener, Mr. J. C. Cowley), was second. E. H. Watts, Esq., took the first prize for nine tuberous Begonias. He offered prizes for a group of plants, and H. E. Lake, Esq., took the first; while B. Hardy, Esq., Gordon House, Chiswick, was second; and Mrs. Lloyd (gardener, Mr. J. Addison), Merton Lodge, Chiswick, was third. Prizes were offered by Messrs. Sutton & Sons, Reading, for Peas, and the first was taken by W. F. Hume Dick, Esq.; the second by Colonel Talbot; and the third by Mr. J. J. Stickler, High Road, Chiswick. Prizes were also offered by Messrs. J. Carter & Co., High Holborn, for a collection of vegetables: Colonel Talbot was first; Mr. J. Coombs, Sheen House, Mortlake, was second; and R. L. Cosby, Esq., came in third. Messrs. W. Fromow & Sons, Chiswick, offered prizes for six dishes of vegetables: E. M. Nelson, Esq., took the first; H. S. Lake, Esq., took second; and Mrs. Lloyd was third.

Numerous prizes offered for competition by cottagers brought out a good display, vegetables being specially well represented. The entries in the classes for the best arrangement of flowers on a plate, and also for the best-arranged bouquet of wild flowers, were exceedingly numerous.

Miscellaneous exhibits were few compared with those of former years. A beautiful group was shown by the Marquis of Bute (gardener, Mr. T. May), Chiswick House, Chiswick. It was made up of Palms, Humeas, Dracænas, Crotons, Vitis heterophylla variegata, and others, arranged with Maidenhair Fern. The group was highly commended, as was that of Mr. W. Gordon, Twickenham, who showed a fine lot of Lilium auratum, L. a. virginale, L. speciosum, and Japan Maples. Messrs. J. Veitch & Sons, Chelsea, had a fine bank of hardy flowers, including Shirley and Iceland Poppies, Campanula media calycanthema, Sweet Williams, Japan Irises, Phloxes, and Galtonia candicans.

Obituary.

WE regret to record the death, at 34, Brook Street, Grosvenor Square, W., on the 7th inst., of the Hon. and Reverend JOHN TOWNSHEND BOSCAWEN, in his sixty-ninth year. Mr. Boscawen, who was a brother of Lord Falmouth, and who had been Rector of Lamorran, Cornwall, since 1849, was for many years steward of the Bath and West of England Agricultural Society's horticultural department, for several years a member of the Council of the Royal Horticultural Society, and a vice-president of the National Rose Society. He was an ardent horticulturist, an enthusiastic lover of good plants, and no mean exponent of the art of landscape gardening, about which he was frequently consulted by persons of his own social position. A man of excellent taste and many good qualities, he might have occupied a very popular position in the horticultural world, but for an apparently incurable habit of making mischief between master and gardener almost everywhere he went, and for which, we fear, those who suffered at his hands seldom forgave him.

THE WEATHER.

AT the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending July 6th was 30·05 ins.; the highest reading was 30·22 ins. on Monday evening, and the lowest 29·70 ins. at the end of the week. The mean temperature of the air was 63·3°, and 1·7° above the average in the corresponding weeks of the twenty years ending 1868. The mean was below the average on Tuesday and Wednesday, whereas it exceeded the average on each of the other days of the week. The general direction of the wind was N.E. and the horizontal movement of the air averaged 8·3 miles per hour, which was 2·1 miles below the average in the corresponding weeks of sixteen years. No rain was measured during the week. The duration of registered bright sunshine in the week was 51·3 hours, against 56·1 hours at Glynde Place, Lewes.

QUESTIONS AND ANSWERS.

SPECIAL attention is paid in the columns of THE GARDENING WORLD to the answering of questions on all subjects connected with practical horticulture, and the naming of Plants (other than Florists' Flowers) and Fruits, in which department the Editor is assisted by gardeners and specialists of great experience.

FIGS AND PELARGONIUMS.—*Fig Tree:* The first crop of fruit appears on last year's wood just before the fresh growth bearing leaves makes a start in spring. The second crop of fruit is developed on the young wood of the current year. The earliest fruit to ripen, and which should be encouraged, is, of course that developed on the old wood. For cultural details, and the sorts best suited for your purpose, see next week's number. You may grow Tea Roses in a Fig house, but we should certainly not advise you to grow Pelargoniums in the same house, except for a time or to give them a start. The high temperature, and more especially the moisture needed for Figs under a good system of cultivation would certainly act prejudicially on the Pelargoniums, by drawing them up and causing them to damp on account of the moisture requisite for Figs. Neither would we advise you to grow Roses in a Fig house if it can be avoided. Should you intend to grow a few Figs only in pots, there is no reason why you may not attempt it; but if the Figs are to be made the most important in the house, then we should advise you to build or give them a separate structure.

FUNGUS ON ROSE.—*Thos. Murphy:* The leaves you sent us are very badly affected with Rose Rust (Uredo Rosæ), which is believed amongst fungologists to be merely an early stage of Phragmidium mucronatum, which is the telentospore or resting stage of the fungus. The Rust consists of small orange-coloured masses of spores, while the Rose Brand or telentospore condition, which will make its appearance later on, is brownish black, and its form, consisting of a several-celled spore, may be detected by the use of a simple magnifying lens. The spawn or mycelium lives in the tissues of the leaves, so that, unfortunately, no application can be given that would destroy the fungus without at the same time destroying the foliage of the Roses. Yours is a very bad case, and the fungus seldom proves so severe. All you can do is to pick off the affected leaves and burn them, to destroy or lessen the number of spores, and so mitigate the evil next year.

NAMES OF PLANTS.—*R. Twiss:* 1, Davallia elegans; 2, D. Tyermanni; 3, D. Novæ-zealandiæ; 4 & 5, Adiantum diaphanum, 7, Adiantum sp. (please send a larger and more characteristic specimen); 6, Adiantum pedatum; 8, Lomaria chilensis (not a true tree Fern); 9, Asplenium (Athyrium) Filix-fœmina var. Your Miltonia vexillaria is not dark enough for M. v. rubella; Odontoglossum Rossii is the small typical form, and flowering rather out of season, but we get some of them in bloom in every month of the year; the pseudo-bulb and leaf is that of a Cattleya or Lælia, but we cannot undertake to name without flowers. *William Little:* Lilium elegans var. *J. Parnell:* 1, Coreopsis sp. (unrecognised); 2, Coreopsis aurea; 3, Galactites tomentosa. *Flower Garden:* Centranthus ruber, a fine old herbaceous plant. *G. G. B. G.:* 1, Thalictrum flavum; 2, Chlorophytum elatum 3, Clematis integrifolia; 4, Davallia Tyermanni; 5, Iris sp. (flower shrivelled up and rotten, and the species could not be determined); 6, Helichrysum arenarium. *A. M. L.:* 1. Selaginella Martensi robusta; 2, S. Kraussiana; 3, S. K. aurea; 4, S. Brownii; 5, S. Martensi var. apparently, but no fruit present; 6, Adiantum Capillus-Veneris var.

REGAL AND DECORATIVE PELARGONIUMS.—*Pelargonium:* The soil best suited for Pelargoniums is a good fibrous loam, to which a small quantity of well-rotted cow-manure and sand has been added. First class regal Pelargoniums are: Madame Thibaut, white, marbled rose; President Harrison, rich carmine; Princess Teck, with carmine spots, white; Volonté Nationale alba, pure white; Maid of Kent, white, feathered on each petal; and Jubilee, china-pink, with a crimson maroon blotch on each petal. Decorative varieties have smooth and even petals, instead of being undulated, as in the case of the regal sorts. The following are good decorative kinds, namely: Sultana, deep chestnut-red, shaded purple; Lord Salisbury, maroon-crimson, shading into orange, carmine and pink; Venus, white, with a purple blotch on each petal, and early; Champion, blush, feathered with darker veins; Rose Queen, rose, with maroon blotches, and Mrs. John Stone, puce-coloured, with maroon veins.

COMMUNICATIONS RECEIVED.—G. W. C.—T. L.—D. P. L.—J. M.—J. W. B.—G. P., Junr.—W. E. G.—R. B.—W. H.—D. C.—G. D.

TRADE CATALOGUES RECEIVED.

THOMAS LAXTON, Bedford.—New Strawberries.

COVENT GARDEN MARKET.

July 10th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St.		
Grapes .....per lb.	2 0	3 6	Michaels.....each	2 0	7 0
Pine-apples, Eng., lb.	1 0	1 6	Strawberries.. per lb.	0 2	0 8

Canadian and Nova Scotia Apples, per barrel, 7s. to 17s.

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus ....per 100	3 0	8 0	Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	1 6		Lettuces ..per dozen	1	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages.... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English,			Radishes ..per dozen	1 6	
per dozen	3 0	8 0	Small salading, punnet	0 4	
Celery ....per bundle	2 6		Spinach, per strike ..	2 0	
Cucumbers ....each	0 4	0 10	Tomatos ....per lb.	1 0	1 6
Endive, French, doz.	2 6	3 6	Turnips ....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.
Arum Lilies, 12 blms..	2 0	4 0
Asters, French, per bunch	1 6	2 0
Bouvardias, per bun.	0 6	1 0
Carnations, 12 blooms	1 0	2 0
Carnations, 12 bnchs.	3 0	6 0
Cornflower, 12 bnchs.	1 0	3 0
Delphinium, 12 bun.	3 0	6 0
Eschscholtzia, 12bchs.	2 0	4 0
Eucharis ..per dozen	3 0	6 0
Forget-me-nots.....	1 6	4 0
Gardenias, 12 blooms.	2 0	5 0
Gladioli ..12 bunches	2 0	10 0
Heliotropes, 12 sprays	0 3	0 9
Iris .....12 bunches	6 0	12 0
Lapageria, 12 blooms	1 0	2 0
Lilium longiflorum, 12 blooms	2 0	4 0
MaidenhairFern, 12bns	4 0	9 0
Marguerites, 12 bnn.	3 0	6 0
Mignonette, 12 bun.	2 0	4 0
Moss Roses 12 bnchs.	4 0	9 0
Pansies ..12 bunches	1 0	2 0
Pelargoniums, 12spys.	0 6	1 0
— scarlet ..12sprays	0 4	0 6
Pinks ....12 bunches	2 0	4 0
Primula, double, bun.	0 6	1 0
Pyrethrum. 12 buchs.	2 0	6 0
Roses, Tea, per dozen	0 6	1 0
— Red .....per doz.	0 3	1 0
— Saffrano ..per doz.	0 6	1 0
Spiræa ..12 bunches	4 0	6 0
Stephanotis, 12 sprays	2 0	4 0
Sweet Sultan, 12 bun.	3 0	5 0
— Peas.....12 ,,	3 0	6 0
Tuberoses, per dozen.	0 6	1 0
White Lilac, French, per bun.	3 0	5 0

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.
Aralia Sieboldi ..doz.	5 0	12 0
Arum Lilies..per doz.	6 0	12 0
Bedding plants, in var., per doz.	1 0	3 0
Calceolaria ..per doz.	4 0	8 0
Cyperus, ..per dozen	4 0	12 0
Dracæna term., doz.	30 0	60 0
— viridis, per dozen	12 0	24 0
Erica, various ..doz.	9 0	24 0
Evergreens, in var. ,,	6 0	24 0
Ferns, in var., per doz.	4 0	18 0
Ficus elastica ..each	1 6	7 0
Foliage Plants..each	2 0	10 0
Fuchsia.....per doz.	4 0	12 0
Heliotrope ..per doz.	4 0	8 0
Hydrangeas..per doz.	6 0	15 0
Lilium auratum, doz.	24 0	36 0
— longiflorum per doz.	18 0	30 0
Lobelia .... per doz.	3 0	6 0
Marguerites per doz.	6 0	12 0
Mignonette, doz. pots	3 0	6 0
Musk ..... per doz.	2 0	4 0
Nasturtiums .... doz.	3 0	5 0
Palms in variety, each	2 6	21 0
Pelargoniums, scarlet,	2 0	6 0
Pelargoniums, per doz	6 0	18 0
Rhodanthe ..per doz.	3 0	6 0
Roses, H.P., per doz.	12 0	24 0
Roses, Fairy, per doz.	6 0	8 0
Saxifraga, various, doz.	6 0	18 0
Spiræa .....per doz.	9 0	12 0
Stocks ..... per doz.	2 6	4 0

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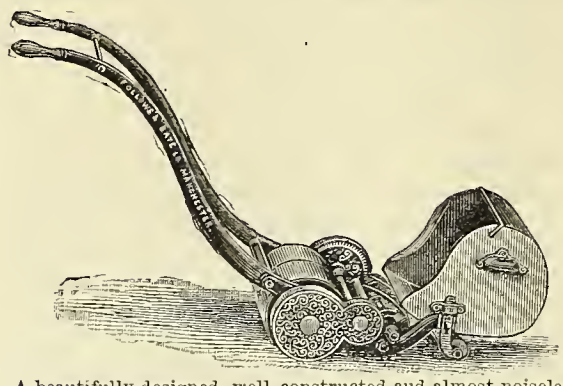

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Next Week's Engagements.

MONDAY, July 22nd.—

TUESDAY, July 23rd.—Royal Horticultural Society's Meeting of Fruit and Floral Committees at the Drill Hall. National Carnation and Picotee Society's Show at the same place. Christleton and Tibshelf Rose Shows.

WEDNESDAY, July 24th.—Luton Flower Show.

THURSDAY, July 25th.—Flower Shows at Castle Ashby, Trentham and Southwell.

FRIDAY, July 26th.—Wilmslow Rose Show. Sale of Orchids at Protheroe & Morris's Rooms.

SATURDAY, July 27th.—Crewe Flower Show.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JULY 20, 1889.

CURRENT TOPICS.

THE POTATO DISEASE.—There can be no doubt whatever that we have reached a critical time in the growth of our Potato crops. It may be something to be congratulatory over that the middle of July has come and there is no special evidence of the deadly disease; but somehow—and it has always remained a problem very difficult of solution—the Peronospora seldom makes its appearance in the plants until a certain stage of maturity has been reached. Every week which passes now without evidence of disease is a week saved to the crop, and having regard to the great heat which has prevailed, and the present admirable condition of the soil generally—moistened as it has been by recent warm rains—the tubers should be, indeed are swelling rapidly.

Doubtless the comparative absence of the disease so far is chiefly due to the prevalence of warmth, as the Potato is a heat-loving plant, and given sufficient moisture seems to revel like any exotic in warmth. There is now, consequent upon this warmth and the previous dryness of the soil, an undoubted excellence of quality in the tubers, unripe as they may be, which was not to be found in any stock last year. A continuation of the warmth would certainly ensure us tubers of the best quality this season.

But just at the moment of writing the skies are overcast with heavy clouds. They wear an appearance of gloom which is menacing, and although, generally, more rain may be beneficial to the soil, yet both Potatos and Corn will be the better if the sun shines out warmly, and there be little rainfall. A few days' continuous wet, and our present satisfaction with the appearance of the Potato breadths may be changed into gloom. May our fears not be realised!

THE ROSE, HER MAJESTY.—We have a vivid recollection of the sensation caused a few years since when at one of the gatherings of the National Rose Society, Mr. H. Bennett showed a box of his grand new Rose, Her Majesty, and secured with it the highest honours. Then, later, the Rose passed into other hands, and presently fell into bad odour, for it was pronounced shy, a bad doer, and all sorts of faults were found with it. This year the Rose has at length fully justified its early reputation, and added renown to the name of its raiser, Mr. Bennett. Her Majesty has proved to be a grand addition to our show, as well as garden Roses. Its colour is exquisite, its form, if properly grown, perfect, and it possesses a habit which makes shoots like whip handles if the soil be rich. That, however, is not a desirable feature, as it is complained that so robust is the growth it will actually force itself away from the stock.

Now we, last week, in reporting the Crystal Palace Show, referred to the huge blooms of Her Majesty shown in the competing boxes as a little coarse, whilst reference was made to the smaller but exquisite flowers shown in a non-competitive lot from Mr. Will Taylor, of Hampton. Mr. Taylor grows Her Majesty on hard soil, and where it is not too rich, hence his blooms, if none too large, had a beauty about them not to be seen in coarse flowers. Very likely when this grand variety is grown under ordinary conditions as a garden Rose, we shall see amateurs showing blooms of the best form and most perfect beauty, because not grossly grown. Her Majesty is a distinct addition to the most delicate hued, and loveliest tinted of all the sections; and in admiring the flower we will not forget to honour its raiser.

ANNUALS AT CHISWICK.—We referred in our notice of the meeting of the Royal Horticultural Society's committee last week to the annuals now growing so freely at Chiswick, and the subject is dealt with at greater length in another column. With the exception, perhaps, of the Tom Thumb Nasturtiums, we believe that the bulk of the seeds sown are of Continental origin, and it may occur to some of our readers as rather odd that foreign houses should use the Chiswick Gardens as English trial grounds; but, of course, no contributions can be refused come whence they may. On the other hand, it is equally open to English houses to send seeds to Chiswick for growth if they choose. As we obtain the greater part of our annual novelties or improvements from the Continent, it is advantageous to English seedsmen to be enabled to note what those novelties are by seeing them growing at Chiswick. Still it does seem as if some systematic arrangement were needful by which if annuals are to be grown there they should be taken in groups or families; contributions of choice selections or assumed novelties in those sections being invited from a wide area.

We see for instance, the Tom Thumb Dwarf Nasturtium grown yearly at Chiswick, but the Tom Thumb form is not the only section of Dwarf Nasturtiums, and some effort should be made to secure representatives of all the dwarf strains for testing. Marigolds might be treated in the same way; so also Asters, Stocks and similar things, until in the course of a few years the whole round in ordinary garden annuals had been gone through, whilst some line would be obtained as to the relative merits of strains generally, and also as to the merits respectively of those grown at home and abroad. Just now, however, we urge all who may be interested in annuals to look in at Chiswick, and note the merits of the various kinds there growing.

SPECIMEN SHOW PLANTS.—Now that we have got through the chief of the summer flower shows, and the autumn ones are a few weeks remote, a favourable opportunity is offered to take stock of the general features of flower shows, and of specimen plants in particular. As to general features, it must be admitted that since the introduction of the decorative group competitions, nothing whatever novel or specially attractive has originated. Flower shows still keep to their old dead level of non-originality. They are the re-productions of their former selves, going on just so from year to year. But there is this distinction, that at very many shows the fine old stove and greenhouse specimen plants seem to be

shown in fewer numbers yearly, their places being occupied by combinations of all sorts of plants, amidst which we look in vain for special evidence of high culture, but are, all the same, very useful to the average gardener, because they serve the purpose of supplying the needful decorative matter, when required.

Show specimens are useful at exhibitions in helping to maintain the reputation of the shows, in winning prizes, and in serving to show to the younger generation of gardeners how plants may be developed into fine specimens, if so desired. But all the same, the specimens are a fast disappearing race. First one old exhibitor and then another fall out of the ranks of showmen, and none others step in to fill their places. At just a few shows where some large prizes serve to attract the peripatetic exhibitor, some fine specimens may still be seen; but too often, all the same, they look rather stale after doing a round of shows, and probably prove less useful as examples of plant culture than as means whereby expenses may be paid over a wide circuit, and something handsome pocketed as well. Ten years hence, probably, it will be hard to find specimen stove and greenhouse plants at ordinary flower shows.

White Roses.—We progress slowly in the production of pure white Roses of good form and substance, such, indeed, as are fitted to take their place in show stands, wherein the form and staying qualities of flowers are severely tested. During the present season, no flower which claims to be white, amongst hybrid Perpetuals, seems to have taken a higher place than Merveille de Lyon, undoubtedly a superb flower, but still, not pure white. A paper-white variety of the same quality would, indeed, be a grand addition to our show flowers. The Puritan is of more recent introduction, but so far seems to have been shown only moderately. We want whites of the hue of Boule de Neige, and of the form and substance of Marie Baumann, and then we shall have comparative perfection.

Our purest whites, so far, seem to have been found amongst the Tea kinds, wherein Niphetos, Devoniensis, Marie Guillot, and some others have great merits; but the newer Bride seems likely to excel even those beautiful varieties, for it makes on the whole a better show flower, and during this season has been seen in wonderfully good form in many stands. The old Niphetos is still a prime favourite with many growers, but its petals are large and loose, and the blooms are best when not more than half open. It sadly needs substance, and that the Bride seems to be by no means deficient of.

A very promising rare white Tea is Mr. Prince's Souvenir de S.A. Prince, a sport from Souvenir d'un Ami; but the parent has so long fallen out from the ranks of high-class exhibition Teas that the merits of its sport seem to be a little discounted. Still, we have had plenty of pink Teas, whilst whites are scarcer, and any fine new variety, of course, will be welcome. Raisers must try and eliminate from white Teas the creamy or flesh tints too often found in the centre of the flowers. If, too, they could give us sorts which are much less spiny than is Niphetos, for instance, it would be satisfactory.

Bulbs for the Royal Parks.—We understand that Her Majesty's Commissioner of Works has again this season, and for the fifteenth time, accepted the tender of Messrs. James Veitch & Sons for the supply of Bulbs, Hyacinths, Tulips, Crocus, &c., for the Royal Parks.

A Winter Garden for the East End.—Sir Edward Cecil Guinness, Bart., has notified to the trustees of the People's Palace his intention of increasing his original donation of £9,000 for the erection of a winter garden to the sum of £14,000, in order that the people of East London may be provided with a complete and perfect winter garden of the best possible design.

The Acton Park and Recreation Ground, which has been laid out and planted by Messrs. J. Cheal & Sons for the Acton (Middlesex) Local Board was opened on Wednesday afternoon by Lady George Hamilton.

Messrs. F. Rosher & Co.—We understand that Mr. Frederick Rosher, who has been for forty-five years head of the firm of F. Rosher & Co., of Blackfriars, has retired from business, and that he is succeeded by his sons, Mr. F. Howard Rosher, and Mr. Frank E. Rosher, who will carry on the business under the same style and title.

The Crystal Palace Rose Show.—We were in error last week in attributing the exhibition of a collection of fruit trees in pots at this show to Messrs. George Bunyard & Co., the whole of the specimens staged really coming from the nurseries of Messrs. T. Rivers & Sons. We regret the injustice done to the Messrs. Rivers, but perfect accuracy was hardly possible under the prevailing excitement on account of the visit of the Shah, and which involved arrangements which were inimical to careful note-taking.

The Marechal Niel Rose.—A correspondent calls our attention to the curious fact that at the same exhibition not a single box of blooms of this Rose was put up.

The Imperial Botanic Garden at Vienna.—It is announced that the Emperor Francis Joseph has made over absolutely and gratuitously to the State that portion of the University Botanical Garden (Vienna) which has hitherto been reserved for the Court, to be henceforward used for the general purposes of the Botanical Garden.

Earwigs and the "Mums."—A successful Chrysanthemum grower writes:—"The earwigs appear to have begun business amongst the Chrysanthemums in real earnest, and no time should be lost before traps are laid for them. After trying many things, I am convinced that the old plan of laying lengths of Broad Bean stalks amongst the plants is the best plan, though a gardening friend in this locality does condemn the plan, and says I am providing them with lodgings as well as food."

Fruit as Food.—Mr. W. S. Manning, The Woodlands, Vanbrugh Hill, Blackheath, S.E., asks us, as many of our readers are just now desirous of preserving their fruit in the most wholesome fashion, to state that the London Vegetarian Society have printed a little paper on *Bottling British Fruit*, giving a full description of the American method of canning fruit for domestic purposes, and that he will be glad to enclose in any addressed wrapper, sent to him with two stamps, a copy of this treatise, and also pamphlets on fruit as food and other works on the wholesomest diet for hot weather.

Sutton's Silver or Sea Kale Beet.—Lady Nugent, writing from Colton Lodge, near Rugeley, on the 15th inst., informs us that she has this season grown the above Beet, and finds it an admirable substitute for Spinach, yielding a good crop of edible leaves that taste like the most delicious and delicate Spinach, while the latter vegetable has not done at all well on the same ground. The midribs of the leaves are recommended to be dressed and served up as Asparagus, but we agree with our correspondent that they are not very good, and in no sense a luxury.

New Plants Certificated in Ghent.—At a meeting of the Ghent Syndical Chamber of Horticulture, held on the 8th inst., Certificates of Merit were awarded to Mr. L. Desmet, for a species of Oncidium and Nephrodium pallidum cristatum; to Messrs. E. Vervaet & Co., for Odontoglossum crispum grandiflorum; to Mr. Jules Hye, for Odontoglossum hastilabium and O. Pescatorei; to Mr. G. Vincke, for Cypripedium bellatulum grandiflorum; and to Mr. J. De Cock, for Cypripedium Elliottianum.

Merryfield's Superlative Raspberry.—Some very fine fruits of this robust-growing, free-bearing, and deliciously-flavoured variety have reached us from Messrs. George Bunyard & Co., Maidstone, who, we understand, have arranged to distribute the stock during the next two years. It was partially distributed by the raiser in 1887, but our first acquaintance with it was made at the meeting of the Fruit Committee of the R. H. S. in July last year, when it was awarded a First Class Certificate, which further experience proves was well deserved. It certainly has every good quality to recommend it.

New Strawberries—Early Gem and Big Templar.—From Mr. J. Sim, seedsman, Stonehaven, Kincardineshire, we have received samples of his two new Strawberries named as above, but for want of proper packing we were, unfortunately, unable to taste them. Early Gem, a medium-sized, round, well-coloured berry, Mr. Sim states is earlier than Rivers' Eliza by eight days, bears its fruits in large clusters, and is very prolific. Big Templar resembles Noble in size and shape, but is paler in colour, and comes in between Eliza and Sir Joseph Paxton. Mr. Sim states that it is a more reliable cropper than the latter, and recommends it for market cultivation.

Presentation to Mr. Lindsay, of the Edinburgh Botanic Garden.—On Wednesday, the 10th inst., Mr. R. Lindsay, the Curator of the Royal Botanic Garden, Edinburgh, was presented in the Waterloo Hotel with a wedding gift by a number of his botanical, arboricultural, and horticultural friends. There was a good representation of members of the botanical and other societies present. The gift consists of a prettily designed oxidised and gilt mantel clock with vases to match, and bears a suitable inscription. Mr. Methven made the presentation, and Mr. Lindsay replied briefly. Mr. Syme proposed Mr. Lindsay's health. Edinburgh people, he said, ought to be proud of Mr. Lindsay. They had only to walk through the gardens to see that he was the right man in the right place. There were larger gardens, but he defied anyone to produce a better, almost in the world. The toast was very heartily received, and Mr. Lindsay responded.

A Wasps' Nest in a Gooseberry Bush.—Wasps' nests are all too plentiful most seasons in the neighbourhood of gardens, as many a struggling gardener knows to his cost, but we do not remember before having seen or heard of a nest being found in a Gooseberry bush. Such, however, has recently been the experience of Mr. W. H. Lambert, who on assuming charge of the Rectory Garden at Horsmonden, discovered one hanging from a branch about 2 ft. high, and hidden by Nettles and "gravel bine" (Convolvulus arvensis). That the nest was not discovered sooner says much for the character of the lads about Horsmonden—but, perhaps they know more than the new gardener about the quality of the Gooseberries on that particular bush.

Cabbage Lettuces.—A number of different varieties of Lettuce have been sent us by Messrs. Geo. Bunyard & Co., Maidstone. All were globular and good specimens of the Cabbage kind, differing chiefly, as far as could be seen, in the colour of the leaves and the amount of blanching. More important points are to be looked for, however, in the degree of hardiness and earliness possessed by the different kinds. All the Year Round is a good old kind of great hardiness, with compact and wrinkled leaves of good quality. Bunyard's Winter Emerald is dwarfer, equally globose and compact, and all the outer ones are of a rich dark green colour. A taller and stronger-growing Lettuce is the Perpignan, which seems somewhat looser, but has foliage of a light yellowish green. Early Paris Market is an old kind much valued in France for its earliness. It is equally rampant in its growth as the last named, and nearly all the leaves are tender, crisp, blanched, and almost white. Bunyard's Golden Globe closely resembles the Winter Emerald in its dwarf, globose, and compact habit, but all the leaves are of a light yellowish green hue, and the central ones especially are tender, crisp, and of good quality.

The Parcel Post—a Capital Suggestion.—A writer in the *Society of Arts Journal* says:—"Seeing that the Society of Arts was instrumental in bringing about a postal reform which has proved a great boon to the public at large, I write to ask whether some steps could not be taken by that influential body to introduce a system which has long been prevalent on the continent of Europe and in America—namely, the collection of money due for a parcel of goods delivered, such collection taking place at the actual time of delivery. This is done on the Continent by the Post Office, and in America by a Parcels Forwarding Company. In the latter country the system is so far extended as to render the sending of articles on approval or trial (such as guns, &c.) possible, even to persons who are strangers to the firm sending the goods, the local agents receiving a deposit of the value of the goods during trial, and refunding the same if the trial should not prove satisfactory, less a small charge. Without asking that this latter method should be introduced into our country, it would afford considerably increased facilities to trade were it possible to send goods through the Post Office to persons who had ordered them (through advertisement or recommendation), payment to be received by the *employé* of the Post Office, and be remitted, less a commission, to the sender of the goods. This system, called in the French-speaking countries *Envoi contre remboursement*, has not, so far as I can learn, given

any trouble that is beyond the power of the English Post Office, and would, if introduced, no doubt prove not only a source of revenue to that department, but also afford facilities for trading such as the public would not be slow to take advantage of."

Aldenham Street Children's Flower Show.—The thirteenth annual flower show of the Aldenham Street Sunday School, in connection with Regent Square Presbyterian Church (Rev. John McNeill), took place in the Aldenham Institute, Goldington Crescent, on Saturday last. This school, which is one of the largest in the metropolis, having 1,400 children on its roll, was the first to introduce flower shows in connection with Sunday Schools in England. Saturday's show was one of the best and most successful ever held. There were 752 exhibits, consisting of window boxes of annuals, pots of annuals, plants in pots, and home-made work, as against 585 last year, by 129 boys, 168 girls, and 17 teachers, in all 314 exhibitors, as compared with 150 in 1888. The Royal Horticultural Society's Medal for the best collection of four plants was won by Harry Briers. Other special prizes were awarded for collections of plants in addition to the ordinary prizes, about 100 in number, for the different varieties. The Rev. John McNeill addressed the children in characteristically happy terms, and congratulated the children and those friends in charge of the show upon the success that had attended their efforts, as he believed these shows were doing a good work in developing a love for all that was beautiful in nature. Mr. McNeill then presented the special prizes.

ANNUALS SUITABLE FOR LONDON GARDENS.—I.

A LARGE number of annuals belonging to widely diverse natural orders are being grown on trial in the gardens of the Royal Horticultural Society at Chiswick, and they were recently inspected by the Floral Committee, as mentioned by us at p. 728. All those exhibiting showy flowers, a floriferous character, good habit, general distinctness, and suitability for culture in London and suburban gardens were honoured with three marks, a distinction equivalent to a First Class Certificate. The object of this article is to give a little more detail concerning those that were so honoured.

Cloveworts.

Comparatively few of this large family are popular annuals; but Silene pendula is much used, especially for spring bedding. The double form, S. p. compacta flore pleno, grows into compact, free-flowering masses about 4 ins. to 6 ins. in height. The supernumerary petals are sometimes in bundles, as if they originated as out-growths from the primary ones, while the stamens and pistil are perfect, so that there is no difficulty in obtaining seeds, provided the season is moderately dry so as not to rot the flowers. Viscaria cardinalis is a showy annual with brilliant red flowers produced on slender branching stems about 1 ft. or more in height. A bed of it is very effective. The greater number of the species of Gypsophila grown in gardens are perennials, but G. elegans grown here is similar, having a very much branched and graceful inflorescence, and a profusion of tiny flowers that might be utilised for the purpose of bouquet making.

Geranium Family.

Neither of the undermentioned are as a rule classed by gardeners with Geraniums, yet to that large family they belong. One of the earliest of annuals is Limnanthes Douglasii, which in the months of May and June renders the borders quite gay—autumn and self-sown seedlings being, of course, the earliest. The lobed leaves resemble those of a Nemophila, but the golden yellow flowers with white edges have often been mistaken for a kind of Buttercup.

All the dwarf Tropæolums (T. minus) were considered suitable for town culture. They are commonly known under the ridiculous and confusing names of Small Indian Cress or Nasturtium, although they are neither Cresses nor Nasturtiums, nor do they come from India. Both T. majus and T. minus are natives of Peru. Empress of India is generally considered the best of the dark-coloured kinds, being very floriferous, with flowers of an intense scarlet, and beautiful foliage of an intense green. King of Tom Thumb is similar but is a shade lighter in the colours of the flowers and leaves, while it is considerably dwarfer. Golden King of Tom Thumb has golden yellow unspotted flowers and dark foliage. King Theodore is characterised by the intense crimson of its flowers and dark foliage. Crystal Palace Gem has pale yellow flowers, with a crimson spot on each petal, and is extremely floriferous. Spotted King differs from the last in having deep golden yellow flowers, with large crimson blotches. Pearl has soft luteus-yellow, unspotted flowers, and is both dwarf and floriferous. A variety named Cœruleum roseum has deep red flowers resembling Ruby, and produced in great profusion. The most singular of all the varieties grown is that named Terra Cotta. The plant forms a spreading mass, with light green foliage surmounted by a profusion of bronzy flowers, which on close inspection have a silky gloss. They are singularly curious, but not attractive.

Crucifers.

A large collection of Stocks is being grown on trial, but they were not sufficiently advanced for inspection

Bartonia aurea.

when the others were examined. Erysimum Peroffskianum, with its small but bright orange flowers, and E. arkansanum, with large clear yellow blossoms, we described in our last issue.

The annual species of Candytuft, varieties of Iberis amara and I. umbellata, are all very floriferous, easily grown, showy, and otherwise suitable for the purpose above mentioned. Those coming under I. amara are Rocket-flowered, Dobbie's New White Rocket, and Tom Thumb. These have white flowers, produced in rather elongated racemes, and differing more or less in size, while the leaves are deeply and rather coarsely toothed. Tom Thumb differs from the other two in being dwarf,

Clarkia pulchella.

but varying according to circumstances from 6 ins. to 12 ins. in height. Varieties belonging to I. umbellata have obsoletely-toothed or almost entire leaves, and the flowers are arranged in a short flat corymb resembling an umbel. The best of this group is I. u. Dunnettii, which has very dark purple and showy flowers; those of Normandy are lilac. New Carmine has rosy carmine flowers, while those of a strain named New Hybrid, mixed, are mostly lilac, with a few dark purple kinds. Grown in a mass these Candytufts are perceptibly and agreeably fragrant.

Lupins.

A number of different kinds of Lupins are grown, and they are almost the only representatives of the Pea family in this trial. Lupinus nanus, L. n. albus and L. luteus were the only kinds honoured with distinguishing marks. The first named is probably the most widely-cultivated species in this country, and is a very old inhabitant of many gardens, including those of cottagers. It grows to a height of 12 ins. or 18 ins., is very floriferous, and has the flowers variously shaded with blue, purple and white. The variety L. n. albus is pure white and equally floriferous. L. luteus, as the name implies, has yellow flowers, and is very distinct; it does not flower very profusely, however, but branches a good deal and looks as if it would keep up a succession of flowers for many weeks to come. Several other kinds are grown with equally pretty or even more showy flowers, but they are strong growers, and produce only a moderate amount of bloom.

Clarkias.

Some half-a-dozen forms of varieties of Clarkia pulchella are just now a mass of bloom, and indicate indisputably their adaptability for suburban gardens. C. p. integripetala flore pleno has rose-coloured flowers, but vary extremely in being single or semi-double, with entire or trifid petals. The last character is peculiar to the typical form of C. pulchella, and when the limb of the petal is entire it is elliptic or rhomboid in outline, that is, diamond-shaped. There is a white form of this variety, and both grow from 18 ins. to 24 ins. in height. C. p. rosea plena has single or semi-double, Carnation-coloured, and very pretty flowers. Mrs. Langtry is also exceedingly pretty, and has entire, lozenge-shaped, deep rosy purple petals, with a distinct white margin. It comes true from seed, seems pretty constant, and is only 12 ins. or 15 ins. in height. Tom Thumb is about the same height, and varies slightly with light or deep rose-coloured flowers. The petals are entire, and similar in shape to those of Mrs. Langtry. Another pretty variety is the new Dwarf Rose, with pale lilac-pink or rose-coloured flowers.

Miscellaneous.

Under this heading may be classed a varied assortment of beautiful hardy annuals belonging to different natural orders. Campanula macrostyla, a very singular yet striking species, is described on another page. The great golden yellow flowers of Bartonia aurea, with their masses of stamens, remind one of Hypericum calycinum, or some of the other large-flowered kinds. There is a scarlet blotch at the base of each petal, but it is toned down or almost hidden by the stamens. It is a strong-growing Californian species, with more or less deeply-cut or lobed leaves, and is certainly handsome when allowed plenty of room to develop. Nolana atriplicifolia is a member of the Convolvulus family, with blue and white flowers, and a yellow eye. A pretty dwarf annual is Asperula orientalis, producing a profusion of small lilac-blue or sky-blue flowers in dense heads, which are fragrant and admirably adapted for bouquet making. It is a native of the Caucasus, and is perhaps better known in gardens under the name of A. azurea setosa. Linum grandiflorum rubrum, with its crimson-red flowers, is so well known in every garden that it hardly calls for comment.

As a garden annual for border decoration, Eutoca viscida is certainly handsome, with its intense blue flowers spotted with purple in the centre. The viscid glands, however, with which the whole plant is beset, and the odour given off by them, would militate against it for cut-flower purposes. Covent Garden Favourite Mignonette is a very meritorious kind, with pyramidal racemes of flowers having conspicuous orange anthers. Gilia liniflora is well named, for the whole habit of the plant and the profusion of pure white flowers give the plant very much the aspect of a Linum. The leaves, however, are opposite, deeply and palmately divided into linear segments. No collection of annuals would be complete without some of the Linarias, and L. reticulata aureo-purpurea has deep crimson flowers, with a large and conspicuous orange palate. The lower lip is undivided, save for three distinct and minute teeth.

SUMMER-PRUNING HARDY FRUIT TREES.

In all the various branches in connection with horticultural pursuits, there is no portion more pleasing to the eye or more deeply interesting than a tastefully arranged, well-assorted, skilfully managed hardy fruit garden or orchard. There are many persons who take great interest in hardy fruit trees, and by a judicious selection of varieties, a constant and watchful supervision, and due attention to pruning and training, they have been able to produce fruits of superior excellence, but if we may judge from the badly pruned specimens which are so frequently met with, it is quite evident that there is still room for a vast improvement in this respect—a much deeper, wider, and more scientific and practical knowledge of the art of pruning. In dealing with this question it is impossible to dissociate spring disbudding from summer pruning, because the latter is merely a continuation of the former, and one is a

necessary part of the other. No amount of labour in winter can compensate for any neglect in this respect in spring and summer, and yet this part of the work is so generally either not done at all, or at least sadly scamped over.

I am well aware that spring and summer are seasons of the year when there is a great demand upon the gardener in the labour item, and in most cases far exceeding the resources at his disposal. Employers of labour do not often understand this, or are, perhaps, indisposed to do so; or in these days of agricultural depression many find it necessary to curtail their expenses. This is unfortuuate for the gardener and unfortunate for the fruit trees under his charge, which naturally suffer in consequence, and often are entirely ruined for want of attention at this season of the year; this accounts for the seeming neglect in many instances. Tbere are many men of great experience and superior ability who find themselves very heavily handicapped in this manner, who quite understand what should be done, but are unable to do it. But it is so seldom we see such trained trees as Apples and Pears cleverly and skilfully summer pruned and disbudded that many others have grown old in the profession and followed in the ways of their predecessors without perhaps giving this subject a thought, or even considering disbudding in spring as necessary to the well-being of the trees. They, probably, having never seen it well donc, have simply given the trees what is called the summer pruning, going over them as usual during the latter end of summer by shortening the growing shoots, and then considering the work finished. This is not enough. This sort of summer pruning will not do if previous disbudding has been neglected.

How often do we see espaliers, pyramids, and even wall trees of Apples, Pears, Plums, or Cberries, matted all over with stubby clusters of short spurs much too thick for scientific and successful culture, which, had they been properly treated, would not have been the case. Now we have to consider the objects for which trained trees are pruned. First, we must have due regard for the proper symmetry of the tree; secondly, the proper regulation of its branches, and formation of fruiting buds or spurs; and thirdly, the production of fruit of superior size and excellence. The manner in which trees are trained, which in a measure governs the pruning, depends much upon taste and upon the fruiting habits of the tree—whether the fruit is produced upon buds of the previous year's formation, as in the case of the Peach and Nectarine, or on spurs of two, three, four, or more years' growth, as is principally the case with Apples, Pears, Plums, and Cherries, the primary object beiug to secure a sufficient quantity of bearing wood in all parts of thc tree. In the first instance disbudding is practised with very little stopping of branches, as it is necessary to train in as much as possible of the young wood to all parts of the tree, and stopping would induce the formation of spurs which is not required. This method is so well understood, and so universally practised, the Peach and Nectarine being generally so well done, that it is scarcely necessary to say more about it now, as it is chiefly with the Apple, Pear, &c., that I wish to deal.

The fruit of these being produced as before mentioned, chiefly on spurs of two, three, four, or more years' growth, much discretion should be exercised in disbudding and stopping, commencing as early as possible in the spring, as soon as the character of the bud begins to develop itself. This is the time when the greatest attention and care are required if we wish to favour the production of healthy strong bearing wood. All gross and superfluous branches should be removed as soon as they appear, as these would only rob the more fruitful portions of the tree of their sap, and the rest thinned out to their proper distances. It is quite evident that those which remain will make a more substantial growth by having a greater share of the sap, as the immediate result of pruning is to cause a greater flow of sap to those buds and branches which are left. Disbudding should be done at intervals, a little at a time, severe pruning causing a check in the root action, which would be injurious. Sufficient space should be allowed for the full development of the leaves, exposing them as much as possible to the sun and air, which are necessary for the elaboration of the sap.

Spring disbudding is, I consider, by far the most important pruning operation (if I may so call it) of the year; if properly done, and a clever selection of the buds is made, it prevents the foliage from becoming too thickly crowded, and the leaves then properly perform their functions. One portion of the tree naturally depeuds upon another, and if the action of the leaves is deficient the whole tree suffers, while, if the branches are allowed to become too thick, they overshadow those beneath them, and the consequence is a superabundance of leaves and a deficiency in fruit-bearing qualification. By proper and progressive disbudding we secure a well-developed formation of the leaves, branches, fruit, and leaf-buds, which means a longer duration of the fruiting age of the tree, and the general superiority of the fruit. The mode of shortening the young branches in summer very much depends upon the manner in which the tree is trained. In the case of wall trees and espaliers, after the disbudding is practically finished, it is best to allow the remaining shoots to complete their growth, which will be towards the end of July or beginning of August, when they should be shortened back to within 4 ins. or 5 ins. of the main branch.

The time of summer pruning should be regulated according to the season. A hot dry June or July, followed by an abundance of rain in August will often induce the trees to make fresh growth, and a later stopping would be necessary, or it would otherwise induce those buds to burst which we would wish to remain dormant; but if, on the contrary, an average amount of rain has fallen during the summer, it can be taken in hand earlier. Some years ago there was much controversy as to the most scientific method of summer pruning—whether to make a clean cut with the knife, or simply to snap off the branches between the knife and the thumb. It does not seem to me to matter much which way it is done, only I think snapping them off is the easiest and quickest method, if not too large. Leading shoots of these trees should not be cut back until winter. Where the tree is very weak, it would be better not to shorten back the summer growth, but to let it remain until the winter pruning, in order to strengthen tbe tree. Many prefer to stop the leading branches on pyramidal or bush-trained trees in summer when about a few inches long, and allow them to make a second growth; this induces young subjects to come more quickly into bearing, which is a great object with this kind of tree.

Standards in orchards are allowed, as a rule, to grow very much as they like, with merely a little thinning of the branches in winter when too thick, or to open up the centre to the light; but if a few of the young shoots are rubbed off from time to time when necessary, the trees will probably be of little trouble afterwards, and this will be much better than cutting out the branches in winter when the trees are older, as pruning large kinds with the saw is often very injurious to them, and is much better left alone where it can possibly be avoided.—*Alfred Gaut.*

PERFUME FLOWERS.

The sources of odours in flowers cau usually be traced to the presence of fragrant volatile oils. In some, these are imprisoned in certain close vessels; in others, they are generally diffused throughout the petals. Upon the structure of the flower, in this particular, depends the method that must be used in separating the odours. This volatile oil, once developed in the flower, remains there until liberated by some agency, either natural or artificial. The agencies employed by nature are heat and light, as applied by the rays of the sun; these penetrating the envelope, the oil is volatilized and the flower gradually emits a subtle effluvia, varying in degree with the amount of oil, its pungency, and the intensity of the heat and light, until the fragrant principle is exhausted.

A method approximating to nature could be easily applied, and the odours liberated by means of artificial light and heat; but instead of liberating, we must really confine them; should they once elude us, they are so incorporeal that we could not again secure them.

There are exceptions to this rule of emitting odours under the influence of sunshine, as in the case of certain flowers which receive their specific names from the quality of giving out their fragrance only at night, and the Cereus grandiflorus, which emits its odours at intervals, but the rule is sufficiently general to include all recognised perfume flowers.

Therefore, to secure the odours, the flowers must be gathered just when there is the highest development of fragrant oil, and before Nature begins in her own way to claim tribute of their incense. The true attar, or otto, of Roses, the highest type of fragrance, is made from the petals of full-blown Roses, gathered at daybreak, before the sun has touched them. As they are plunged at once into water, the fact that the petals may be wet with dew is not material; for manipulated by regular processes, the flowers must be sufficiently dry to permit free handling; therefore they are not gathered until the dew is off, but as soon thereafter as possible. This readiness of nature to forestall the perfumer is a factor of importance in determining the relative values of the flora of northern and southern latitudes for the perfnmers' uses. All who have known the abundant and magnificent flora of the tropics will recall the air heavy with fragrance. The same profusion of floral riches in the cooler and rarer climate of a more northern latitude, would not have been so intoxicating. The heavy, super-heated air causes the fragrance to exude from the flowers so that volatile oils are speedily exhausted, and their odours dissipated upon the atmosphere. The odours thus emitted are a direct loss to the commercial value of the flower product. Thus wc see why they must be gathered as soon as fully developed, and at once manipulated for the artificial separation of the odours.

The fact that the perfnme-flower growers are found mainly so far south (about 30° north) is not becanse the flowers grown there have peculiar virtne, but because the eqnable temperature and length of season are favourable to the bnsiness of growing flowers.

The various flowers and plants which prodnce perfumes, or whose product enters into their manufacture to some degree, have been divided by an expert into ten different groups, only a few of which, it will be seen, come within the province of the perfume-flower grower. The groups are as follows:—

1.—Petals of flowers, as Rose, Violet, Jessamine, Orange-flower, Tuberose, and many a score besides.

2.—Herbs, as Lavender, Rosemary, Thyme, Sweet Marjoram, Peppermint, and others.

3.—Leaves of trees and plants, such as the Lemon Verbena, bitter Orange, etc.

4.—The skin of fruits, like the Lemon, Orange, Lime, and Bergamot.

5.—Spices: as Cinnamon, Cloves, Mace, and Nutmeg.

6.—Woods: as Sandal-wood, Cedar, Rose-wood, and the bark of roots, like Sassafras and Sarsaparilla.

7.—Roots: as Orris-root and Vittivert.

8.—Seeds: as Anise-seed, Caraway and Celery.

9.—Resins and Gums: as Balsam of Peru, and Tolu, Myrrh, Benzoin, Camphor, and other gums.

10.—Fruits and Nuts: as Vanilla, Bitter Almonds, and Tonquin Beans.

It is obvious that the separation of the essential principle of perfume from so wide a range of material will require various processes. While some growers and manufacturers have methods peculiar to themselves, which they esteem as trade secrets, there are, speaking generally, four main operations by which they may be prepared: (1) expression, (2) distillation, (3) maceration, (4) absorption or *enfleurage.*

The first of these methods is only used for obtaining the essential oils from the skin or rind of fruits—Lemons, Oranges, &c. The rinds are packed into a cloth bag and submitted to powerful pressure (hydrostatic or its equivalent to obtain the full result); the oil which exudes is contaminated by a watery extract, but the fluids separate readily when being left to repose in the vessels.

Distillation is applied (1) to the entire group of herbs; and the extensive nature of this branch of the manufacture may be judged from the fact, that in some of the counties of Eugland, where herbs are largely grown, a ton of them is often distilled at a single operation—(2) for obtaining essences, such as the essence of Roses, essence of Neroli (from Orange flowers) and Orange-flower water; and (3) for the final process of obtaining the volatile oil from certain flowers which have no peculiar vessels for its imprisonment, but in which it is generally diffused throughout the petals. For these a preparatory process is necessary; alternate layers are formed of fresh flowers and thin cotton fleece, or modern cloth wadding, previously soaked in a pure inodorous oil. M. Piesse recommends the Oil of Behn, Jamaica, a perfectly inodorous fat oil, as best for tbis purpose. A mixture of lard and beef suet, and the best Olive oil are also used. Whenever the flowers have giveu ont all their volatile oil—the fixed oil upon the fibrous matter—they are replaced by fresh flowers in succession, until the fat oil has become thoroughly impregnated with their fragrance.

The process of distillation is the same in either case. Tbe plant, or the saturated fibrous material, is introduced into a still, water poured upon it, and heat being applied, the oil is volatilized by aid of the watery vapour, at the temperature of 212° Fah. When the mingled vapours of the oil and water are condensed into

the liquid state, by the refrigerator of the still, the oil separates and is easily collected.

Maceration (or infusion, as it might properly be called) and absorption are the methods by which the pomades and scented oils of commerce are generally obtained from the great bulk of perfume flowers. The same grease or fat oil is used in both processes. In the first, the grease is heated in a water bath together with the parts of the plant that afford the scent; in the second, artificial heat is not a factor, the fragrance being obtained by the lapse of time and action of the atmosphere, and as this is the method best adapted to the work as a household industry, I will explain it at more length.

A square frame of wood, 2 ins. or 3 ins. deep, is set with a pane of strong glass resting on its inside ledges. On either side of the glass is spread a thin even layer of grease, made from two-parts of lard and one of tallow. This should first be pounded in a mortar until the membranes are completely torn, then boiled, skimmed, and strained through canvas. The frames must be prepared and ready before the season of flower gathering begins. As soon as the flowers are gathered, the petals are picked off and spread upon the grease; the frames are then piled so as to rest upon their woodeu edges, which must fit closely together, so as to form a series of air-tight chambers, the floors and ceilings of which are the grease, exposed to the perfume of the flowers within. As the fragrance is absorbed, the flowers are removed (usually each day) and fresh ones supplied. This is continued for several weeks (according to the desired strength of the pomade), until it is sufficiently rich in perfume. It is then removed from the glass with a thin spatula, packed in tin caus and sealed, and is then ready for the perfumer. The making of pomades is practicable where other methods would not be. The frames are easily made, and are inexpensive. In preparing the grease, purity of material, carefuluess, and cleanliness are the requisites. In handling the frames they must not be allowed to come in contact with anything odorous, by which the grease would become contaminated. After the flowers are all in, the frames must be air-tight, that the proper odours may be kept in and all others out.

The above operations cover the handling of the flower product in its passage from the field to the laboratory of the perfumer, and are uot properly included in the work of the latter, although some perfumers grow their own flowers largely, while others purchase them fresh from the growers each day; but if the flower farmer desires to obtain the maximum profit himself, he will prepare the pomade himself as well as grow the flowers.—*James K. Reeves, in The American Garden.*

FRUIT CULTURE IN JERSEY.

By Charles B. Saunders.*

Jersey being the most southerly of the group of islands in the Bay of St. Michael's, and the slope of the land being from north to south-west, enjoys a very favourable climate, the general moisture, owing to its position, and the saline air, which almost always will be felt blowing over its surface, rendering it peculiarly adapted to the growth of Pears. The soil is a good loam, upon a substratum of clay retentive of moisture, which suits the quince stock, upon which most of the Pear trees are budded or grafted. There are localities along the coasts where the soil is much mixed with sand, owiug to the continuous drift in stormy weather, whilst some parts of the western side of the island are so much exposed to the Atlantic Ocean as to be entirely unfit for fruit culture, and scarcely worth cultivating, the cereals and root crops growing upon them beiug very often subject to serious injury from the force of the westerly gales. Now it is easy to understand why the most protected and best sheltered situations are selected for the growth of the finest and best kinds of fruit. Apples are grown on the higher and drier parts of the island, where the land is stiff enough and the drainage good, hence the orchards, where the more ordinary kinds are grown for the manufacture of cider and general consumption, are generally surrounded by hedgerows from 5 ft. to 8 ft. high, and planted with Elm and other descriptions of forest trees. The Apple trees in these orchards are generally grafted 6 ft. from the ground, and have spreading circular heads, which are perfectly beautiful when in bloom. Very many of us can recollect when the Weigelias of sorts were first introduced that their great recommendation was that they were as "beautiful as Apple blossoms." Were not Apple blossoms beautiful before then?

These orchard trees, which make such a beautiful display of flowers and produce in favourable seasons such an abundance of fruit, are much neglected, and allowed to grow in a confused mass of branches. To scientific horticulturists it seems a pity that, where nature does so much, man should do so little in the way of pruning, so as to give the trees a more regular form and better appearance. You will, I think, agree with me that judicious pruning—*i.e.*, removing weak and superfluous branches, would have the good effects of improved appearance, more healthy growth, and finer fruit. The general character of the growth is so vigorous as to render it unnecessary to prune the extremities of the shoots, except for the sake of shaping the trees and balancing the heads, but "thinning out" is the style of pruning requisite.

The finer descriptions of Apple fruit are grown in gardens sometimes against the walls, on espaliers, or on the long cordon system. The dwarf cordon is not much practised, nor is it desirable, inasmuch as the growth, in spite of the Paradise stock upon which the trees are usually worked, becomes so strong that it requires constant cutting back to keep it within the desired limits, and this constant repression of growth is not conducive to fructification.

The finest Ribston Pippin Apples are grown upon south walls in sheltered gardens, trained upon the fan system, the strong radiative shoots being selected to form the frame of the trees, and the lateral and weaker branches being pinched and pruned off, so as to get fruit spurs to form. It is an excellent system, barring the disadvantage of the early maturity of the fruit. Very few other sorts are thought worthy of wall culture. The dwarf bush, the open standards, and the rider or tall standard trees are all acceptable forms of garden trees where the space is sufficient; and such varieties as Early Stibberd, Red Astrachan, Lord Suffield, Hawthornden, Red Quarrenden, Hooper's Seedling, Downton King, Golden and Walton Pippins, Grand Alexander, Cox's Pomona and Orange Pippin, Court of Wick Pippin, English and Dutch Codlins, &c., are grown freely on Paradise as well as other stock, and take up but little space. It is not unusual to see crops of fruit considerably above the weight of the trees producing them. Planting Paradise stock Apple trees in rows 6 ft. apart, and the trees at 3 ft. apart in the rows, suggests a system of culture which might be made remunerative, and were it not for the constant changing of tenants from one piece of land to another, might be advantageously practised. It is not so here; most of the fine fruit is produced on accidental trees, either found in gardens on taking possession, or planted by incoming tenants. Taking into consideration the time necessary to get a stock of trees into a good bearing state, few tenants would care to adopt any system of planting or training from which they would not derive some immediate advantage.

The cultivation of the Pear has been so very remunerative for years past, that it has been made a subject of more general study and system. Many of the old gardens, established more than half a century or more ago, offer evideuce of the walks having palisades on both sides, for the purpose of training Pear trees upon them, and in some cases the palisading has been double, so as to admit of trees being trained on both sides, 1 ft. or less being the intervening space between the rows of palisades. Trees planted in this way are generally productive; the main lateral branches being trained and supported horizontally, a regular and continuous supply of sap is provided during the growing season for the development of the fruit. This system has and does answer well, and as long as the trees continue healthy, they bear good crops of fruit, the size of which much depends upon the amount of thinning practised. Against walls, both horizontal, fan, and cordon styles of training are practised, all of which answer well in the hands of careful attendants. Dwarf bush and pyramidal trees are also grown, many acres of ground being devoted to the cultivation of the celebrated Chaumontel Pear. The great number of excellent varieties grown, and their exquisite though varied flavours, make the Pear a fruit of general acceptance, though few varieties are much grown. Citron des Carmes, Jargonelle, Williams' Bon Chrétien, Louis Bonne, Maréchal de Cour, Beurré d'Amanlis, Beurré Diel, Duchesse d'Angouleme, Doyenné du Comice, Chaumontel, Glou Morceau, and Easter Beurré are more ofteu met with; and amongst culinary Pears, the Belle de Jersey (*syn.* Belle Angevine), and Catillac, or pound Pear, are considered the best.

A rich, strong loam suits the Quince stock best; a lighter soil suits the free stock for Pears. The advantage of growing Pears on the Quince as a stock is early fructification, whereas the generally-accepted axiom respecting Pears grafted on the free or Pear stock is that—

He who plants Pears,
Plants for his heirs.

There are but few large Pear trees on the island.

* From a paper read at the Chiswick Apple and Pear Conference.

NOTES FROM SCOTLAND.

A Fine Flower Bed.—Pentstemons are numbered among the old favourite flowers, and the improvement which has been made in them during late years has been very great. I purchased a large collection some few years ago which has given great satisfaction. Like many other herbaceous and florists' flowers they are much improved iu character and usefulness, and their value enhanced when they are liberally treated. Planting in deep highly manured land gives a different idea of Pentstemons than when they are grown in poor soil.

In a large oval bed, where many kinds and colours are represented, there has been a rich display for nearly two months past. The plants are mostly from those propagated in the autumn of 1887, and have been left where they are since that time. They were left intact during the winter after the flower stems were removed, and growth, by the warm rains and genial spring, was early. The spikes are in many cases 1 yard high, and of great bulk. The young growths are abundant, and all showing flower buds as they advance. There is a band of Pansies of deep blue and pure white kinds flowering very profusely round the bed, which gives the whole a dressy appearance. The young Stocks propagated last autumn are not fully in flower yet, but from what they show now should give a display of flowers to the end of autumn.—*Stirling.*

Fruit Notes.—The popular Strawberry never was more in demand than during this season. The crop is splendid everywhere (so all reports say), the quality excellent, and kinds which have not always been satisfactory in some districts are doing well this year, especially where mulching had been given in good time (in fact, the best time to do this heavily is in the autumn after the crops have been gathered and the runners cleared off). The old favourites, we note, still hold their own; Noble, however, appears to be much valued, and I notice that some of my neighbours are about to increase their stock as much as they can. Leaf-soil mixed with sand is being spread round the old plants, in which the runners are pegged, and I need not add that they cannot fail to root readily in such kindly material.

In the forcing lot this year we had the largest crops from President, which has been for many years held in high favour. Sir J. Paxtou was also good, and we value it for packing, while La Grosse Sucrée was expected to be the first this year, but was not much in advance of the first-named two kinds, and the latter is not one of the best for transmission. King of Earlies and Earliest of All have been tried for forcing, but they are too small for our requirements. Duke of Edinburgh, a good Strawberry, was forced, but it has come in so slowly in a cool Peach house, that it was not ready long before early kinds were being picked in sheltered borders. I never yet could see the force of pushing forward late Strawberries, as oue can do earlier kinds with less forcing and with more certainty as a rule. In the open ground King of Earlies and Earliest of All—much alike in their habit—were picked one day before Sir J. Paxton and Sir Harry. The former varieties are abuudant bearers, but go off quickly; they are fine for preserving. Duke of Edinburgh makes a fine succession to President, and is a heavy cropper, with fine colour and of large size. James Veitch is very large, but deficient in quantity and colour. British Queen is a moderate crop, but really a queen in quality; I have found none equal this old kind (so familiar to me in my schooldays) as a highly-flavoured sort, and where it does well it should always be grown. Elton and Eleanor are coming in fairly as the latest kinds, but the first named is iu every way superior to the latter for cultivating in Scotland. I have seen Eleanor fine in the south of England. Loxford Hall Seedling is an enormous cropper, and I hope to be able to report favourably of it and Boule d'Or later.—*Stirling.*

Roses.—Rose shows should be a great success everywhere this season. Judging from what I have seen, flowers are abundant and the plants very vigorous. We never had a better display, and perhaps no thanks to the cultivator. After they were pruned according to our usual custom, we left a number of strong shoots to be pegged down, but pressure of work caused them to be overlooked. These strong shoots were tied upright to stakes every few feet apart (about three shoots enclosing the stake), and 1 yard to 5 ft. high, so that they are now pillars loaded with blossoms from the ground upwards, those cut down in process of pruning close to the ground being in full flower, and of great vigour in plant growth. Climbers of choice sorts are towering upwards, with the view of using them as arches every 9 ft. apart or so. These, well attended with mulching along each side of walks about 200 yards long, should give an informal display of Rose blooms of a pleasing character. Hybrid perpetuals of strong growth do well for arches.—*Stirling.*

FLORICULTURE.

National Carnation and Picotee Society (Southern Section).

The thirteenth annual exhibition of this society will be held on Tuesday next, July 23rd, under the auspices of the Royal Horticultural Society, in the Drill Hall of the London Scottish Volunteers, James Street, Westminster. Upwards of a hundred prizes are offered in varying amounts, from 40*s.* downwards. The southern flowers were about at their best early this week, but better blooms are expected from the midland districts. A luncheon will be provided at the Hotel Windsor, Victoria Street, at 1.30 p.m., for the judges, members of the society, and their friends, at which Dr. Hogg, vice-president of the society, has consented to preside. The treasurer, Mr. T. E. Henwood, Earley, Reading, will be glad to receive all unpaid subscriptions.

The Carnation and Picotee Union.

Friends interested will kindly note that the annual exhibition will be held, in accordance with a practically unanimous vote of the cultivators interested, in my garden, on Thursday, August 1st, anticipating the former date by five days.—*E. S. Dodwell, The Cottage, Stanley Road, Oxford, July 15th.*

TWO GOOD TOWN TREES.

Undoubtedly the common, or as it is now usually designated, the London Plane (Platanus orientalis aurifolia) stands first in the category of town trees, for not only does it grow vigorously, but it is peculiarly well adapted for withstanding the smoke and other impurities of a town atmosphere. Repeated experiments have only too clearly pointed out that in London at least this tree flourishes better than any other, and a visit to the Thames Embankment, and several other of the urban districts, but too clearly substantiates the statement.

As not a little diversity of opinion exists as to what particular Plane it is that grows with such unabated vigour in and around London, it may be stated that a careful examination of a large number of specimens points to the variety P. o. aurifolia as being not only more commonly distributed, but likewise better suited for town planting than the typical P. orientalis.

This valuable variety is readily distinguished from the normal plant by the less deeply divided leaves, and this again from the American Plane (P. occidentalis), with which it is not unfrequently confounded, by the many fruit "balls" which are attached to each peduncle, the fertile catkins of P. occidentalis being for the greater part produced singly.

But not only for its value as a town tree is the Oriental Plane much sought after, for the giant proportions to which it attains, coupled with the handsome finely cut leaves and easy habit of growth, render it one of our most desirable ornamental trees. Then it is of the easiest culture, succeeding as it does well in soils of very opposite qualities. In taking everything into consideration, we question much whether any other of our forest trees is of equal or greater value than the Plane for town planting.

The Ailanthus, or Tree of Heaven (Ailanthus glandulosa), may be seen in a most flourishing and happy condition in many of the London streets and byeways. By its rich, green, spreading foliage, the Ailanthus is, during the summer months, a great favourite with lovers of sylvan scenery, the leaves, in many cases, reaching to a length of fully 2 ft. It is a tree of very rapid growth when suitably placed as regards soil and situation, shoots nearly 2 ft. in length being not unfrequently produced in a season.

To the town planter the Ailanto is indeed a boon, for it not only succeeds in the most smoky and dusty of our city thoroughfares, but the perfect health and freshness of foliage renders it at all times, and under almost all circumstances, a tree of great beauty and one of the most desirable. It has been largely planted in many of the continental towns; indeed, has proved itself one of the few trees that are capable of withstanding the impurities of a town atmosphere.

The greenish white and rather inconspicuous flowers are produced freely enough, these being succeeded by innumerable fruits resembling the hips of the Ash, but of a reddish brown hue, which imparts to the tree a wealth of autumn glory that unfortunately we are too seldom permitted to witness.—*A. D. Webster.*

FIGS FOR AMATEURS.

The most satisfactory results are obtained in the cultivation of Figs when a house is solely devoted to their accommodation. There are three leading systems on which they may be grown—namely (1), with fire-heat; (2), without it, but yet under glass; and (3), in the open air, whether as standards or on the open wall. Figs can only be grown as standards in the more favoured parts of the country, possessed of a mild and equable temperature, and if near the sea, the chances of a crop are better. Ripe fruit can, however, more frequently be obtained when the trees are grown on warm south-aspect walls.

There is more certainty of success, however, in this country if the trees are grown under glass, and the first crop may be brought to perfection without the aid of fire-heat. The principle adopted in Kent when no fire-heat is to applied is to be construct a narrow house against a south wall, much on the same plan as a Peach wall-case. The trees are planted against the back wall, to which they are nailed or otherwise fastened. During the growing and ripening season the houses are kept moderately close, allowing the temperature to run up pretty high, while syringing and damping down is regularly attended to. As the first crop approaches maturity the atmosphere of the house must be kept drier and rather more freely ventilated, in order to ripen the fruits without causing decay, as they are very liable to splitting just before finishing off. The quality will also be improved by the drier treatment. Many of the fruits of the second crop will never ripen at all without the aid of heat, especially in dull and cold seasons like that of 1888.

Amateurs, or those who cannot spare a whole house for the cultivation of Figs, may still attempt the culture of a few of the hardier and easily-grown kinds in houses occupied by other plants that delight in heat and moisture. When the fruit is ripening, however, a drier condition should be maintained for a time, as far as practicable. Brown Turkey, one of the oldest and best known varieties, has been found very suitable for cultivation under various conditions, and is one of the very few to be recommended for outdoor cultivation, either as standards or on a wall, and upholds its character against any. It may also be used for pot culture, and forced if required. The brownish red skin is covered with a blue bloom when well ripened, and the flesh is red, with a rich and luscious flavour. The Brunswick Fig is, perhaps, equally as hardy and suitable for outdoor cultivation as the Brown Turkey, but it fruits much less abundantly. The quality, however, is good, the size large and Pear-shaped as in the Brown Turkey, but when ripe is of a pale greenish yellow, except on the exposed side. White Marseilles would also prove highly suitable for open walls or a cool house, as it is very hardy, and the fruit ripens freely. At the same time, it is one of the most delicious Figs grown, and may readily be dried if so required. The fruit is round, pale green, ridged longitudinally, and rich and sugary when ripe.

A small-fruited but exceedingly prolific kind is the White Ischia, equally suitable for pot culture or planting out under glass like a Peach tree. It should be close to the glass, and under these conditions a fair-sized tree will produce a great quantity of fruit every season. The fruit is top-shaped, pale green, and so thin-skinned that the purple flesh shines through when ripe. Some owners of private establishments are so delighted with its highly-flavoured and luscious fruits that they prefer it to Brown Turkey or any other, notwithstanding its diminutive size. It is not adapted for outdoor culture.

The Black Ischia is also a free bearer, with medium-sized, deep purple, almost black fruit when mature, and is suitable for small collections, either on the open wall or in pots under glass. The fruits ripen in August in the open air. The fruit is rich, juicy, deep red, and luscious. Like all the above-mentioned kinds it is hampered with a complicated synonymy—an evil to which all widely-grown fruits and vegetables are subject. If size is greatly desired, combined with good quality, Negro Largo should not be omitted from the collection. The fruit is Pear-shaped, and attains a length of nearly 4 ins. by 2¾ ins. at the thickest end. It is ribbed throughout, and when fully matured becomes jet black, while the flesh is pale red, tender, juicy, and melting, even to the skin. The variety is admirably adapted for pot culture or for forcing, and has received the most flattering recommendations from private growers for this purpose. Even in small pots, if well tended, the quantity of good fruit produced by a single plant is quite remarkable, considering its size. Angélique is another sort suitable for open air or pot culture, and differs from all the foregoing in having a medium-sized rather flattened fruit, fading to yellow when mature, and variegated with white stripes. It has an agreeable odour when ripened, with a white flesh slightly tinted with rose.

REGAL AND DECORATIVE PELARGONIUMS.

What a pity it is that these fine flowers should be so perishable in the cut state; for in this respect they resemble Poppies in their ephemeral and evanescent nature. A Yorkshire correspondent sent us a boxful of blooms the other day, but by the time they reached us the greater number of the petals had dropped. The most of them had very large flowers, as Pelargoniums are now reckoned, and the colours of the darker kinds were so brilliant as to have a dazzling effect on the eyes as they lay on the table.

Foremost among the dark kinds must be placed Fire King, with the lower petals of an intense red, while the upper ones are heavily veined and shaded with maroon-crimson. Dr. Masters is smaller, but there is a black blotch on all of the petals. Beauty of Bicton is maroon-crimson, with a rose and white centre. A fiery scarlet is Edward Perkins, while Scarlet Gem is paler with a rose centre; and Queen Victoria is somewhat smaller, with darker blotches on the upper petals, but a fine flower notwithstanding. Purple Emperor exhibits a mixture of interblending carmine-red, rose, purple, crimson, and black. The above seven are of the regal type, with variously-undulated or wavy petals.

Amongst the dark-coloured varieties with smoother petals was Mandarin, which has crimson-scarlet petals, the upper ones being conspicuously blotched with blackish crimson. A brilliant little flower is Madame Gewitzki, with intense scarlet flowers and small blackish blotches on the upper petals. Mesmeris Improved has carmine-red flowers, with large black blotches, and Ambassador is larger and paler. Several light-coloured kinds were very pleasing, including Hamlet et Ophelie, soft lilac, with crimson blotches; Premier, rose and crimson blotches; La Vesuve, carmine, with rose centre; and Madame Thibaut, a free-flowering and useful regal kind. Kingston Beauty is a well-known show variety, with white flowers and purple blotches; Mary Cooke, purer white, with pale blotches and wavy petals; Venus, white, with rose blotches; and Denise is like a white Madame Thibaut. The best twelve were Fire King, Dr. Masters, Queen Victoria, Scarlet Gem, Edward Perkins, Mandarin, Hamlet et Ophelie, Mary Cooke, Kingston Beauty, Denise, Madame Thibaut, and Premier.

RHODODENDRONS.

It is unfortunately too true that one of the grandest flowers grown is greatly neglected in many places, and allowed to struggle on without aid or cultivation of any kind, except when they may grow in the way of a path, and a pruning hook is called into requisition to cut back some of the branches in order to clear the way. Too often trees and shrubs are seen which are neglected, and no blame can be attached to the gardener in charge of them. Maybe duties have been accumulating, and it is a fact that labour power is decreasing all round. One need not, therefore, wonder why so many shrubs, Conifers, and other ornamental trees are left to take care of themselves and make shelter for game, which is seldom neglected if everything else goes. Whatever is good and grand may go, but the animals reared to be killed, or maybe to suffer torture from the sportsman's gun, must have gentle care, and the labourer has to remove to distant parts in search of work in order that food for his little ones may be found. But these facts are too unpleasant to dwell upon.

What is necessary for the raising of good Rhododendrons is rich soil (half loam and half peat answers well), and if a liberal mulching of well-rotted manure be given occasionally fine growth and an abundance of flowers may be expected. The mulching attracts the roots upwards, where the action of air and sun matures them, while they cannot suffer from drought. Flower-buds are thus formed, and these being supported by luxuriant foliage, the best results follow. We know that in some nurseries the starvation system goes on, and the proprietors of them state that prices are so low, and labour so expensive, that they cannot afford to enrich and mulch their land. It is advisable at this season (if not done already) to remove all decaying stems or seed-pods of the flowers which have recently faded, as then the wood growth has full scope to form flowers for next season's display of inflorescence.—*Stirling.*

A BRANCHING BROCCOLI.

About the middle of May last we received from Messrs. Sutton & Sons, Reading, an extraordinary novelty in the form of a huge branching Broccoli, which completely filled one of the large flat baskets, such as are commonly used by nurserymen. The accompanying illustration, prepared from a photograph which we had taken, serves to give a correct idea of the plant as seen from above, but while also indicating the arrangement of the heads, fails to show the mode of branching. The whole plant consisted of a strong central or main stem girthing 6 ins., together with ten strong lateral branches originating from the primary one at the ground level. All of them produced usable heads of Broccoli, the central one being the largest, measuring 7 ins. in diameter, and as many in depth. This crown had a few small leaves projecting through between the component branches, but it was otherwise quite compact, and a good specimen of a Broccoli in itself. Each of the ten side branches or stems carried a head from 2 ins. to 4 ins. in diameter when we received them, but being somewhat later than the central head, they would in the ordinary way have time to attain a somewhat greater size, and come into use soon after the primary one had been cut. There were other, but very much smaller stems, also bearing flower heads, and some of these sprung from the secondary stems; so that, given a good rich soil and plenty of room to develop by planting about 4 ft. apart each way, this remarkable Broccoli has wonderful powers of branching and increase. The side branches have an advantage in springing from the ground level, inasmuch as they would be less liable to become broken down by wind, rain, or snow. The leaves were narrowly lance-shaped, slightly lobed, of a deep glaucous green colour, and in no way coarse. The variety is evidently capable of giving a large amount of produce—enough from one plant to supply a small family for a week—and cultivation and selection will in time give the heads what is somewhat wanting now—a more refined appearance. We understand that at present the variety has not been named, but being fixed in character, it will be sent out next season, so that we shall soon know more about it.

Messrs. Sutton's New Branching Broccoli.

STRAWBERRY CULTURE IN SOUTH EAST LANCASHIRE.

I was invited a few days ago to see some beds of Strawberrics in this so-called bad gardening county, and having availed myself of the opportunity I send you a few notes on what I saw. My first call was at the garden of a lady, where Strawberrics, &c., had been grown for many years. A year or two ago the place changed hands, and fresh ideas were brought to bear on the cropping of the garden. Here I saw one of the heaviest crops of Strawberries I ever met with. Many had been gathered, yet one could not see where they had been picked from. The trusses were of immense size, like bunches of Grapes, with the berries large and colouring well; but all cannot possibly swell up, unless we get some rain, and we have only had one slight shower since the hailstorms of Sunday, June 2nd. The varieties grown are President and Yates' Seedling. The latter is a new name to me, but the sort is a prolific one. The way they were planted was as follows:—A trench was dug out for each row, as if for Celery, and then filled up with 9 ins. of manure and rotten Beech leaves, which were trodden down hard. On this the soil was spread and the runners planted, the result being such a crop as I have never seen surpassed during many years of practice in different places.

The other place visited was the Salford Hospital Farm, at Hope, near Eccles. These grounds are situated at the back of an immense range of buildings in the pavilion style, off the Eccles old road, a series of brick buildings extending for a quarter of a mile. The garden and piggeries are at the back of these buildings, having a depth about equal to the frontage, and are under the management of Mr. Rowlands, a most excellent gardener, as was evidenced by the condition of his crops. The buildings are divided from the garden by a public foot-path, necessitating the use of iron railings on either side. The hospital railings are flanked with a row of the golden variegated Elder, having a lively effect. The other side has a steep bank of earth thrown up against the railings, having a slope to the south, extending the whole length of the building. On entering by the lodge at the western side, we found two or three of the inmates of the houses busy gathering Strawberrics off this bank, which from end to end was planted with them. They had been gathering for about ten days when I saw them, and there must have been many more bushels to gather as they ripened. Such a crop in this part is quite an exception, and does the gardener great credit. In another place I came upon a large quarter of them heavily cropped, as also large breadths of Black Currant bushes heavy with fruit. A small brooklet passes through the grounds, which would have been a capital place for Water Cress culture, but, alas, like most other water-courses in this county, it has been poisoned with sewage. Vegetable growing is carried out on an extensive scale. A large breadth of Cabbage suggested an inquiry as to whether any were marketed, but I was told that a cartload a-day was required to supply the houses. The Parsnips looked grand, so regularly thinned and clean, but the Onion beds are not good, the seed not coming up regularly. Peas, excepting one kind, were exceedingly fine, rows 100 yards long of Laxton's Prolific, Fill basket, &c., being a picture to look at. Beans also were good, and ground was being heavily manured and prepared for the planting out of Leeks and other winter stuff when rain comes. I noticed also a lot of Musselburgh Leek for seed; Mr. Rowland having a good strain is desirous of keeping it true. Red Cabbage was for the season extra fine, and will produce some fine heads. The whole place was remarkably free from weeds, and when we consider the only help he has is the poor unfortunate inhabitants of the hospital, redounds much to the credit of the gardener in charge. There was no spare land anywhere. Celery was of fine colour and growing strong and sturdy. I was taken into the yard to see the fine breed of pigs; some of them were very fine animals, one sow I measured exceeding 7 ft. in length from nose to tail. They were wonderfully fine bacon pigs, though if there is any fault to be found with them they are too fat, but this is to be corrected by cross breeding.

As I walked about the grounds, I could not but think what a benefit it would be to many of the young under-

gardeners of the present day if they could have a year or two of training under such a good kitchen gardener as Mr. Rowlands; many valuable lessons might be learned for their future use. A good, clean, well-cropped vegetable garden should be as interesting as any other department.—*Visitor.*

THE FEAST OF ROSES AT REGENT'S PARK.

This festival, so long announced, was held on Monday afternoon at the Royal Botanic Gardens, Regent's Park. Nothing like this parade and feast has ever been previously attempted in England, and there was a special appropriateness in the fête because it celebrated the jubilee of the society. Some very charming spectacles were offered, but, upon the whole, they were not so numerous as had been expected. The public failed somehow to catch that hint of the society which recommended a display of Roses on the part of the spectators, in harmony with that provided by the management. But whatever was lacking in the co-operation of the visitors, no fault could be found with the preparations in the gardens themselves. Half way up the corridor a lovely little bower had been constructed by Miss Ada Bell. The interior was furnished with white and cream muslin, looped up with a touch of yellow in the hangings, and on the walls were upwards of thirty pictures of flowers in vases or pots. The furniture consisted of ottomans, rustic chairs, and occasional tables, all made out of Indian grass. Upon the walls were climbing evergreen Roses—white, yellow and red. The whole of the furniture was adorned with Roses, and in all upwards of 3,000 of these blooms were used in this pretty bower, besides a van-load of hardy plants. A covered passage ran all round the grounds, beginning and ending at the conservatory. From this covered way entrance was had to the several exhibition tents and the flower gardens, and a triumphal arch to the west of the daïs, through which drove the horses and competing carriages. Those portions of the entertainment which fell within the province of the professional Rose-grower were magnificently carried out, of course. Messrs. W. Paul & Son filled all the arena of the show-tent with parterres of cut blooms, arranged in a sort of carpet-bedding. Mr. B. S. Williams displayed many fine Orchids; Messrs. J. Laing & Sons had a trophy of Begonias; Messrs. Rumsey, Cant, Keynes Williams & Co., and others sent a mass of Roses. The crown or bower, for its design was not evident at a glance, offered by Messrs. Keynes, Williams & Co. made a very striking effect with Duke of Edinburgh and Niphetos. Upon the lake were three boats—a canoe, a pair oar, and a double pair oar. Mr. H. O. Garford sent the pair-oared boat, which was adorned with a canopy richly ornamented with flowers. Messrs. Smith & Larke furnished a single-sculling boat, which was also decorated with a bower covered with flowers, and Fuchsias lined the outside of the boat. Mr. J. R. Chard sent a canoe, which was daintily hooped and adorned with Gladioli, Clematis, Paris Daisies, Roses, and Larkspur. In different parts of the lawn before the conservatory were maypoles, triumphal arches and canopies, and a wedding bell by Mr. W. Gardiner. The great "marriage bell" of Stephanotis, Lilies, and Sweet Peas, suspended over a cake to correspond, sent by Messrs. Hill, the confectioners, drew much admiration. With these pleasant sights, and triumphal arches, maypoles, flower-decked boats, and so forth, spectators passed the time agreeably until the hour of the "Judges' parade" arrived.

It was unfortunate that the weather reached its worst at that moment, but the worst proved to be alarming rather than dreadful. The smart showers, which the desponding interpreted to mean a deluge, very shortly passed. The broad central walk had been railed in for the parade, and on either side at this time some thousands of ladies, in the brightest and most radiant hues, were seated, or standing on chairs behind full of expectation. First of the competitors to show was Mrs. E. Ledger's victoria, preceded by a groom with epaulettes and scarf, and bow-pot of Roses. A grand beginning this vehicle made, perfectly equipped at every point. The prevailing tone was golden, and two ladies therein were attired to match. The harness of the two blacks, the whole body of the carriage, the wheels, the splash-board, and the steps were hidden under yellow Roses and Iceland Poppies, relieved by ropes of snow-white Lilies. Mrs. Ledger's carriage would have been hard to beat at Nice. The dog-cart of Mr. W. West Neeve followed. Before it walked a cavalier in French grey velvet, plumed hat, silk stockings, and posy-crook, just such as Mr. Grossmith carried in *Iolanthe.* In the cart sat two gentlemen in similar disguise—the one in violet velvet with profuse feathers, the other golden brown. It made one shiver to think how very cold their unaccustomed legs must be in the rain and wind. Mrs. Horner's victoria came next with an iron-grey pair. Very handsome was this arrangement, lavish in dark red Roses, the lady wearing green silk; many declared it the most tasteful, if not the most striking, of all. Pretty was Mrs. W. Gilbey's carriage and pair of ponies, enveloped in blooms of La France. Miss Bryant's victoria had an uncommon decoration of Midsummer Daisies (Chrysanthemum) mostly; Miss Scaigill's, which succeeded, had an original effect, more striking, in garlands of large orange Zinnias, crimson-centred. Miss Ada Bell's pony tandem, driven by a small jockey with scarlet cap, also put Roses in her second line of decoration, trusting especially to scarlet Tropæolums, with bunches of blue Cornflower. Messrs. Bourne & Underwood displayed the Royal Arms in red and white Roses in their tandem.

The village cart and pony of N. N. Sherwood, Esq., succeeded, one of the prettiest certainly. The little girl (Miss Sherwood) was heavily crowned with Roses, red and pink; the wheels were decked in a pattern of the same contrast, and a huge rope festooned the splash-board. The pony and cart of W. Glazier, Esq., that of Miss Ada Bell, and that of Mr. T. Fall, went by in this order. Especially charming was the last, with two children embowered in La France Roses. Miss Rose Gilbey's tumbril carriage and pony followed, and then the pony and trap of Mr. J. R. Chard. A large and beautiful coronet of Marguerites, white Lilies, and scarlet-orange Pompon Lilies, set in evergreen, stood upon the latter. The pony phaeton of Mr. C. H. Sharman was canopied over in Lilies, red Roses, and pink Gladioli. Both of these drew great attention. A horse followed, bearing a few flowers, and after it Mrs. W. Goldsmith's pony, black, saddled, bridled, and cruppered with Roses. Master G. E. Paget-Bowman's pony bore a young hero in armour, with an ostrich plume of chivalrous dimensions, carrying a spear which sustained the Union Jack in red and white Roses. A delightful little piebald of Mr. W. Gilbey's brought up the rear, harnessed in yellow and white. A few bipeds followed—two little boys in pale blue costumes of the period, carrying their tiny sister in a glowing sedan chair; and two boys, smaller still, in maroon, trundled a go-cart, hidden in blossoms.

A few minutes after five o'clock, when the sun was shining, the strains of "God Save the Queen" announced the arrival of the Prince and Princess of Wales, who promptly occupied the chairs on the daïs provided for them. This stretched across the centre walk, looking down the vista where the parade had just been held. The Princess of Wales wore a fawn silk dress, trimmed with plush; a gold silk bonnet, with a black lace border and heartsease. Beside her sat the three Princesses, her daughters, the Prince of Wales, the Duke and Duchess of Teck, and the Princess Victoria of Teck. The Earl of Fife, Marquess of Bristol, Earl and Lady Annesley, Lord Walsingham, Sir Dighton and Lady Probyn, Lord Rendlesham, Hon. Miss Thellusson, Lord and Lady Willoughby D'Eresby, Hon. Mrs. Mitford, and others attended their Royal Highnesses. Forthwith the parade recommenced, to pause at the first step almost, as was expected. Mrs. E. Ledger's *attelage* was so far superior, taking all points of view, that it secured the Princess of Wales's prize and the Gold Medal, of course. Mr. Sherwood won the first prize and a Silver-gilt Medal; Mrs. Horner the second, with Silver-gilt Medal. A Bronze Medal fell to Mr. W. West Neeve and to Miss Ada Bell with the second prize. The first Silver Medal was obtained by Mrs. Faed. Mrs. W. Goldsmith, Mr. W. Gilbey, and Master G. E. Paget-Bowman also won Silver Medals.—*From The Standard.*

THE AMATEURS' GARDEN.

Sweet and Yellow Sultan.

Now is the time to see these old-fashioned but showy annuals in their best form. There are two varieties of the Sweet Sultan (Centaurea moschata) in cultivation—namely, the typical purple and a white one. Both produce large flower-heads that are strongly and agreeably fragrant, and prove very useful for cut-flower purposes. The Yellow Sultan (Centaurea suaveolens) is of a bright clear yellow, and the outer florets of the head being finely and deeply cut, they give the whole head a pleasing and fimbriated appearance. For cut-flower purposes it is decidedly the showiest of the three, and deservedly the most popular. Large quantities of it annually find their way to market and prove very attractive amongst the masses of other and differently-coloured flowers now in season. The two species above mentioned are annuals, and can be grown by anyone having but a limited knowledge of practical gardening. The seeds may be sown where the plants are intended to flower, or raised in boxes under a hand-glass or cold frame, in the same manner as stocks, and afterwards planted out.

Corn Blue-bottle.

Better known and even more popular than the Sweet and Yellow Sultan above mentioned is the Corn Blue-bottle (Centaurea cyanus), a well-known pest of corn-fields in many parts of the country. As a garden annual, however, it is most serviceable, especially for cut-flower purposes, and is grown in beds and borders to an annually increasing extent. There are now rose, pink, white, purple, pale blue, and other intermediate forms in cultivation, but all are inferior in point of beauty to the exquisitely fine rich blue of the typical form which grows as a weed in corn-fields, and comes into bloom after the corn has attained some height, but some time previous to its ripening. For the sake of variety, however, the numerous coloured kinds are generally grown in mixture. Seeds may be sown in March or April directly where they are intended to bloom, and thinned out to 6 ins. apart after they have germinated and fairly commenced to grow.

Auriculas.

Those who have not yet potted their old plants should lose no time in doing so, in order to let them get established before the advent of winter. See that they are thoroughly free from aphis and other insect pests before potting is performed. A camel's-hair brush may be used to remove the green-fly from the crown of the plant, or fumigation with tobacco-paper may be resorted to. Keep close for a few days till the roots have taken to the fresh soil. If any seed has been saved sow it immediately, when small plants will be produced before winter, and come into flowering condition much sooner than if seed-sowing is deferred till spring.

Hollyhocks.

If the ground is dry Hollyhocks will well repay heavy watering, with occasionally a dose of liquid manure, and if the soil is mulched with farmyard manure so much the better. Attention in this way will be well repaid by the healthy condition of the plants, the greater length of stem, and the larger quantity of bloom. Should red-spider infest the leaves by reason of the drought, syringe them heavily and frequently with clean water. Should the Hollyhock fungus put in an appearance, remove the leaves showing the characteristic orange spots. Propagation by means of eyes or cuttings should now be commenced without further delay. Young shoots, not yet showing bloom, may be cut up into lengths of 2 ins. or 3 ins. with a good bud to each, and after removing the leaf-blade (if there is one) the eyes may be inserted in boxes in a light and sandy compost. Stand the boxes in some shady position behind a wall or under trees, and give a good watering with a rosed pot to settle the soil, after which they may be left to take care of themselves, with the exception of watering should the soil become dry. No frame or covering of any kind is necessary. The bud will push in about a fortnight, and soon grow into a nice little plant.

Dahlias.

In the more favoured parts of the country the earliest started Dahlias have been in flower for some weeks past. The duties to be attended to are pruning, tying, and watering. Liquid manure given pretty frequently will also prove serviceable. During dry weather slugs will not be very troublesome; but earwigs will both be numerous and exceedingly annoying. A small flower-pot, with a little moss inside, should be placed on the top of each stake to which the plants are tied, and examined every morning in order to destroy the earwigs hiding in the moss.

Peas, Beans and Scarlet Runners.

The long-continued drought that has prevailed since the early part of June is beginning to tell severely on various garden crops. The subjects above mentioned may continue to hold out for a time, especially the later sowings; but the careful cultivator should not wait till the foliage is assuming a yellowish hue before

assistance is given. By making a shallow ridge along each side of the rows, and then mulching with some material that will retain the moisture, a copious and unstinted supply of water can be given. Peas, Beans and Scarlet Runners will amply repay any trouble that may be incurred in this way by their continued growth and the production of fruit. As soon as the pods are quite fit for gathering they should be collected, and in this way a much longer succession of these excellent vegetables will be obtained.

GARDENING MISCELLANY.

Glaucous Fescue Grass.

A CORRESPONDENT sends us a specimen of Festuca glauca, describing its suitability for decorative purposes when used in the same way as Scirpus riparius, which is better known under the garden name of Isolepis gracilis. Its deep glaucous blue colour certainly would make it contrast strongly with the grass-green of the other plant, now so well known and so widely distributed in gardens. Our correspondent uses it with telling effect on the front of stages, but it nevertheless lacks the graceful pendent character of the fruiting stems of the Scirpus. In mixture, however, we have no doubt it would be very effective, on account of the decided glaucous hue contrasting so markedly with the grass-green colour of the Scirpus in question. The flowering stems are in this instance erect, and produced with moderate freedom—at least, when the plant is grown out of doors. It is perfectly hardy, and might be more frequently utilised than it is at present for edgings, and for planting in the rock garden and elsewhere.

Remarkable Begonia Leaves.

LAST week we received some leaves of the Begonia rex type from Messrs. William Thomson & Sons, Clovenfords, Galashiels. The three sent appeared to be of the same variety and nearly of equal size. The largest one measured 22½ ins. by 15½ ins., and was of a deep bronzy green with a broad pale grey zone of irregular outline passing through the middle of the leaf, while the under side was of a deep red or crimson. The whole possessed a healthy and fresh appearance, which was all the more singular from the fact that the plants had been grown under the stages of the Odontoglossum house, and subject to drip from the pots overhead. The plants were raised from leaves laid down about eighteen months ago, and at present are simply growing in coal ashes without other nourishment than that which drips from the pots overhead, and an occasional dose of Thomson's Vine and Plant Manure.

The Abbey Park, Leicester.

THE town of Leicester boasts of the possession of one of the most beautiful parks in the provinces. It is situated almost in the heart of the town, is of easy access from all points, and is a great boon to the toiling masses who daily visit it in thousands. Mr. Burn, the able superintendent, deserves high praise for the splendid condition in which he keeps it. The various styles of bedding are carried out in a most effective manner, all receiving great attention. The pretty garden around the pavilion is just now in perfection, and the same may be said of the carpet bedding, the recent rains having brightened everything up considerably. Some fine beds of succulent plants, so quaint in their growth, attract great attention. A new botanical garden of hardy herbaceous, Alpine plants, &c., is just being made, and will be a grand addition to the park. I noticed also some hundreds of well-grown Chrysanthemums, which will make a rich display in the houses during the winter months, giving additional attraction to the many visitors in the dull days of the winter. Anyone who visits Leicester should not fail to pay a visit to this park. It will amply repay them for their trouble. A grand flower show is to be held in the park on August 6th, when liberal prizes are offered for plants, fruit, vegetables, &c., and is sure to be supported in a manner worthy of the encouragement offered.—*Rusticus.*

Campanula carpatica turbinata.

THIS plant is used extensively, and with telling effect in various ways, by Mr. Burn, in the Abbey Park, Leicester. If used individually, it is very showy; but a long border edged with it is now a grand object, its beautiful blue flowers, which are borne most profusely, being very attractive. Being quite hardy, it is all the more valuable as a bedding plant, and should be more extensively utilised.—*Rusticus.*

The Shirley Poppies.

THESE, too, are also used extensively by Mr. Burn in the borders and flower beds, their bright-coloured flowers standing out most conspicuously. They make a welcome addition to the many novelties now in cultivation.—*Rusticus.*

The Spurless Violet.

SUCH is the vernacular name often applied to Viola hederacea, an Australian species having much the same habit as our native Wahlenbergia hederacea. The leaves are small, reniform or orbicular, and more or less toothed, and the slender stems creep along the ground, forming dense patches. The name Spurless Violet is peculiarly applicable to this species, as the spur so characteristic of our native species is here absent, nor are the sepals produced at the base, as usually happens, sometimes making a prominent feature of unopened buds. The plant is nearly hardy in this country, and whether grown out of doors or under glass, its beautiful little flowers are freely produced during the summer months. The petals are blue, with the upper portion white, reminding us of Magpie or Countess of Kintore in miniature among bedding Violas. The plant is therefore both interesting and pretty, and might be cultivated in the rock garden to great advantage in the more favoured parts of the country.

Lilium Harrisii.

THIS truly beautiful Lily is grown to perfection at the Victoria Nurseries, Reading, and in immense quantities. A span-roofed house, 60 ft. long, is filled to repletion, and presents at the time of writing (July 12th) a magnificent display, the flowers filling the air all around with a most delicious fragrance. The fame of this charming sight having spread far and wide in this neighbourhood, numerous have been the visitors to pay their devotions at the shrine of this Bermuda beauty. The plants are in the most robust health, with stout stems from 3 ft. to 3 ft. 6 ins. in length, and well covered with foliage down to the very rim of the pot. They carry from six to seven blooms each, which measure about 5 ins. across the trumpet. The plants are mostly in 8-in. pots, five bulbs being placed in each, and they have thrown up, on an average, seven stems; one pot has thirty-five expanded flowers open. On the day of my visit, Mr. Phippen had cut twenty-four dozen blooms, and yet their loss was scarcely perceptible. Being anxious to learn a little of the system adopted to get the plants to such a high state of perfection, I inquired of Mr. Holder, Mr. Phippen's able manager, who gladly gave me the information asked for. The bulbs were planted last September in fairly rich compost, the loam being fibrous and of the very best quality. After planting, the pots were placed on a brick floor in a cold frame, where they remained until about three weeks ago, when the plants were brought into the house, very little water being given them until they began to show for bloom. Not only Lilium Harrisii, but everything else in these rapidly-rising nurseries, show a master hand, and Mr. Phippen is to be congratulated upon having so skilful and able a manager as Mr. Holder.—*T. E. Henwood, Reading.*

Campanula macrostyla.

WERE the habit of this plant closer and less rigid it would soon be cultivated over a wide area, considering the large size of its flowers, the huge erect, club-shaped style projecting beyond the corolla, and the singular arrangement of the colours. The species is a native of Mount Taurus, and is occasionally seen in British gardens. At present a clump of it may be seen amongst the collection of annuals in the gardens of the Royal Horticultural Society at Chiswick. The great openly campanulate flowers are borne singly at the apices of the diverging rigid branches, and show some variation in colour. They are heavily reticulated with lilac-blue or deep violet on a white ground, but occasionally individuals appear having the reticulations of a soft rose colour. The leaves are ovate-oblong, or the upper ones lance-shaped and small for the plant, which attains a height of 12 ins. to 18 ins. or more. The club-shaped style ultimately divides into three stigmas. On the whole, however, it is a most remarkable Bellflower.

Begonia Haageana.

THE nearest affinity to this plant is with Begonia metallica, of which it seems to be an enlarged form, differing chiefly in size, and slightly in colour. The flowers are borne in great dense cymes, and about the size of the first in the aggregate. They would of course be more conspicuous if the individual pedicels were longer, so as to avoid the crowding which at present exists. The two outer sepals are transversely very broad and rounded for those of a wild unimproved species, and are pure white, but furnished on the back with numerous coarse, red or pink, bristly hairs—a combination which gives to the flowers more than half their charm. The leaves are one-half cordate, deep green above, and thinly hairy, while the under surface is wholly of a deep red. In all these characters it will be seen that B. metallica is similar, except that the leaves and flowers are smaller, while the hairs on the sepals are paler, or almost white. Fine plants of both are now flowering in the stoves at Kew.

Linaria bipartita alba.

THE typical form of this plant has pale lilac or purple flowers, borne in long, rather loose racemes. They are not of great size, but when the plant is well grown, either on rockwork or in the ordinary border, a pleasing and pretty effect is produced. The variety under notice is not particularly conspicuous, on account of its small pure white flowers; but the latter are certainly graceful and pretty. Already they have attained some value in the eyes of florists and bouquet makers, on account of their neatness and graceful chaste appearance when mixed with other more highly-coloured flowers. White-flowered Linarias are as yet by no means too common.

Laya elegans.

ABOUT a dozen species of this genus are known to science, but few of them seem to have been introduced, while some of them are occasionally grown under a different generic name. L. elegans is certainly a pretty and attractive plant that ought to be more generally grown, if only for cut-flower purposes. The rays of the flower-heads are trifid, and bright yellow with white tips, reminding one of Limnanthes Douglasii at a little distance away. The head is as broad as that of a Marguerite, but it is more bulky, while the rays are much wider, and touch or even overlap one another quite closely all round. The stems grow from 12 ins. to 18 ins. in length, and are either erect or procumbent. A bed or mass of the plant produces a fine effect, owing to the great quantity of bloom produced, and the pleasing admixture of two leading colours. The lanceolate, entire or coarsely-toothed leaves are mostly hidden by the flowers, and are not very conspicuous. There is a fine patch of it in the gardens of the Royal Horticultural Society, Chiswick.

Campanula pusilla.

IN habit this miniature Bellflower may be compared to C. pumila, but the stem leaves are few and linear or lance-shaped, whereas those of C. pumila are cordate or ovate, and clothe the stems almost to the pedicels of the flowers. The latter is the more common all over the country, and forms a beautiful object on rockeries. C. pusilla, on the other hand, is comparatively scarce, and to be found in a limited number of gardens only. The flowers are few on a stem, blue, and comparable to those of C. pumila or even C. rotundifolia, except that they are smaller. We more frequently see it in pots than out of doors, where it does not seem to be so hardy as C. pumila. The plant increases by forming underground runners, from which erect flowering stems arise. It may readily be propagated by means of these suckers.

Erythræa diffusa.

OF the perennial species of this genus seen in gardens none has been found more admirably adapted for cultivation on the moist ledges of a rockery, or even on the level ground provided the soil is naturally humid during the summer months. As the specific name implies, the stems are slender, and spread diffusely on the ground, and are amply clothed with small, bright green shining leaves. The flower stems on the contrary, rise to a height of 3 ins. or 4 ins., bearing each a few flowers of a beautiful deep rose, and moderately large for the genus. Our native Erythræa Centaurium has similar, brightly coloured flowers, but the species is an annual, with upright stems bearing corymbs or cymes of numerous flowers that render the grass very gay where

they occur in a wild state. E. diffusa may readily be propagated from cuttings under a hand-glass, or by division of the plant in spring when growth is just commencing, and when the ground is still moderately moist, so that the pieces may soon become re-established.

Lupinus subcarnosus.

A FEW plants of this pretty species from Texas may be seen in the collection of annuals now on trial in the gardens of the Royal Horticultural Society at Chiswick. The stems are as yet only about 6 ins. or 8 ins. high, terminating in racemes of deep blue flowers. On the standard or upper petal is a conspicuous white blotch changing to purple as they get older, and giving the flowers the same lively appearance which is so characteristic of many of the shrubby New Holland members of the Pea family, such for instance as Swainsonia, Hardenbergia, Chorozema, and others. The long-stalked leaves of Lupinus subcarnosus are digitately divided into from five to seven lance-shaped, sub-fleshy leaves that are hairy beneath and have given rise to the specific name. It is also known under the name of L. texensis and L. bimaculatus.

The Strawberry Crop in Kent.

A CORRESPONDENT states, as a fact, that 190 tons of Strawberries were sent away this season from one little station in Kent. He remarks also that the Raspberries promise to be a fine lot. A five acre plot produced four tons of fruit at the first picking, which is reckoned pretty good for a start.

VEGETABLE NOTES FROM THE NORTH.

EARLY POTATOS.—It is always a matter of importance to get Potatos as early as possible from the open ground to relieve pits, frames, and other structures, and allow of their being turned to use for other purposes. The present season has been one of the best I ever remember for the growth of early vegetables of all kinds, every kind coming in at the right time to succeed something which has been of good service before it. When the forced Potatos came to an end, about the 20th of June, our attention was turned to those in the open ground, and very agreeably was I surprised to find them in such good condition, and the ripening process so far advanced. Belvoir Kidney took the lead in its class, and gave a good crop of useful size and good quality, some measuring from 4 ins. to 5 ins. in length. Veitch's Ashleaf (always good when true to name), the old Ashleaf and Mona's Pride, represented the other earliest Kidneys. I have only tried one round kind, named Drummond's Early, which is really ripe and of good useful size; the quality is the best that I ever remember trying at the beginning of July. I do not know how widely this kind is known, but it is a favourite about Stirling; and once when the Messrs. Drummond, of Stirling, exhibited it at a provincial exhibition, I was greatly taken by its fine appearance, and the good recommendation it received from the firm induced me to give it an impartial trial. A good round Potato grown under ordinary circumstances on cold coarse land is of no mean value; as a forced Potato it also was most satisfactory. I have found it a good practice when planting early Potatos on such a cold clay soil as I have under my charge to ridge the ground up roughly, planting the sets in the ridges when the weather is dry, and the ground in good order. They do well if covered with any old potting soil or chopped turf if such can be spared. Old Mushroom manure and leaf-soil applied dry as covering, is very conducive to good results. The ridges are then reversed and left somewhat roughly on the surface. Between the Potatos, Early Turnips, Spinach, Radishes, and other light crops are grown, and being in a measure sheltered, do well in such positions.

CAULIFLOWER.—The successions of Cauliflower (five in number) from the first cutting were very satisfactory. Planted between ridges well pulverised by March winds, they received no check. The warm rains and absence of frost during April and May were greatly in their favour, and when large enough they had the ridges levelled among them, and the stems well covered. All the kinds are doing or have done well. Downie's Early and Veitch's Extra Early are not very distinct from each other, but both are most useful. Early London, Walcheren, and Stadtholder will prolong the season till the spring-sown kinds come into use. Though Spinach is grown between these early crops they are all we could desire.

DWARF PEAS.—Multum in Parvo has done excellent service as a dwarf Pea. The pods are not large but well filled, the quality is excellent, peas being large, and in unusually great abundance. When the pods were set the haulm was turned over, which has protected the crop from the drought and hot sun. Blue Peter (from second sowings) is doing well among fruit bushes. Our close cropping proclivity is irresistible, being inherited from very early associates in market gardens, and never having seen reasons to object to the practice it has grown with years. Drought continues, having had no rain to moisten the soil since May 25th.

ONIONS.—Amongst half a dozen kinds of Onions Banbury Improved has out-distanced all the others in growth, and no effects from grubs are noticeable, which is more than can be said of the others. Only the weakly ones as yet show distress, and as thinning is done less severely than usual, these "unfortunates" can be well spared. Dustings of soot mixed with fine ashes have been given, and could we spare water a soaking would be administered to wash it down to the roots. Reverting to the Banbury Improved Onion it is striking to note that the strength of the plant and its active growth evidently resist the attacks of grubs, and the more weakly-growing kinds are attacked the worst. Vermin has appeared among Carrots, attacking the Short Horn kinds first; the space was filled up with bog earth, and well sooted, but with no apparent benefit. Parsley, too, seems to have its tormentors, and young plants are being puddled in a soot mixture and transplanted. Winter Parsley stood excellently. *Stirling.*

THE GARDENERS' CALENDAR.

THE STOVE.

ALLAMANDAS, DIPLADENIAS, AND IXORAS.—Whether grown in pots or planted out, the two former of these should now be in full flower, and if properly attended to, will give a supply of bloom till autumn. If grown in pots, they will require more attention in the matter of watering, and assistance should be given with frequent doses of weak liquid manure. Growth will be continuous and even freer should the blooms be removed from time to time for cut-flower purposes. Old plants of Ixoras have been flowering for many weeks past, and would now derive much benefit by the use of liquid manure. Young plants, and those that are annually much cut back for the purpose of obtaining a supply of cut flowers, are also in bloom, and pay for liberal treatment.

ACHIMENES, GESNERAS, &c.—These are now rapidly reaching the flowering stage, and should be assisted with weak manure water, which will greatly improve both flowers and foliage. Be careful not to keep the atmosphere of the house too damp, otherwise both flowers and foliage will be liable to damp off; decaying leaves and blooms should be removed immediately, to prevent them from destroying others. More air than was given in their earlier stages will now prove advantageous in keeping the plants healthy and fresh.

WINTER-FLOWERING PLANTS.—Young plants now rooted and potted off should be well exposed to light and freely ventilated, so as to keep them sturdy and dwarf. Pinch back any rampant-growing shoots, so as to render the plants close and bushy. They will prove all the more serviceable and floriferous for a little timely attention in this way.

THE GREENHOUSE.

CYCLAMENS.—Where old plants have been kept cool and moderately dry in order to rest them, the old foliage will have dropped and young leaves be pushing again. When this is the case they should be re-potted without delay. Water the old soil in which they are grown some hours previous to turning them out, so that the roots can readily be separated from the soil without breaking. Cut away injured or decaying pieces, and pot the corms firmly in good loam, with an admixture of clean silver-sand. With soil of this description 6-in. pots are large enough in most cases for old corms. Feeding with liquid manure when coming into bloom will be found a better plan than giving larger pots and using manure in the compost. Seedlings should also be potted on as they require it.

EARLY-FLOWERING CHRYSANTHEMUMS.—A place should be found for these in the greenhouse or conservatory, or at least under glass, because they flower much more freely there than out of doors, especially the large-flowering kinds, such as Madame Desgranges and Mons. G. Wermig, otherwise known as the yellow Madame Desgranges. They should still, however, be kept freely ventilated unless wanted to come in very early, and syringed on hot days to keep the foliage fresh.

THE FRUIT HOUSES.

VINERIES.—Vines in early houses should be kept well syringed with the hose or garden engine, in order to keep the foliage healthy and free from red-spider or insect pests. The borders should not be allowed to get dry for the purpose of ripening the wood, because if proper ventilation be given, ripening will proceed rapidly enough during the present warm weather. The buds also swell up and get into a better condition next spring than if the Vines are starved. The atmosphere of the Muscat house where the Grapes are now ripening should be kept drier and more freely ventilated, leaving top air on all night; this will greatly improve the flavour and quality of the fruit. Avoid crowding of the foliage, as all the light possible is requisite for the finishing of the berries. Laterals produced now should be entirely removed.

FIGS.—After the first crop of fruit has been gathered, the house should be kept warm and moist, in order to encourage the swelling of the late crop of fruit. Close up early in the afternoon, syringe, and damp down heavily, allowing the temperature to run up as high as 90° to 95°.

THE KITCHEN GARDEN.

PEACHES, APRICOTS, PLUMS, &c.—Stone fruits of all kinds on walls must not be neglected in the matter of pruning and tying. Useless lateral shoots should be removed, and the leading ones nailed in, so as to increase the size of the trees where their wall space is not yet fully occupied.

WINTER CROPS.—The recent rain has put the soil into suitable condition for planting winter and late crops, and where the work has not been completed it should be hastened forthwith, so that the plants may become thoroughly established, and be ready to grow away strongly when the moister and shorter, but warm autumn days come.

ORCHID NOTES AND GLEANINGS.

THE ORCHID GROWERS' CALENDAR.

AT this period of the year the cultivator of Orchids has the pleasure of seeing the majority of the plants under his care in active growth, and very interesting it is to him to watch the development of leaves and pseudo-bulbs, and to see plants which have been heavily taxed by flowering plumping up again, and making better and stronger growths than in the previous season.

Some plants appear to be stubborn and only grow very slowly, while others of the same variety are doing as well as possible alongside; and it seems evident that some are weaker in constitution than others, and should not be allowed to carry their flowers so long, nor to occupy such large pots or baskets as the stronger-growing forms.

Even at the present time there are a great number of plants of Cattleya gigas and its varieties in this country, which have been grown for many years without flowering, while others flower annually under precisely the same treatment, which seems to prove that some are much more free in flowering than others; but by choosing a very light position, with only the slightest shade, the greater portion of them will flower, and, undoubtedly, they do make a gorgeous show at this season when flowers are not plentiful.

Lælia elegans is another very showy plant, which is now in flower, and succeeds well when grown with L. purpurata. It flowers at various times. The same plants are frequently flowering twice in the year, and the great variety of forms from L. elegans alba to L. e. Turneri make it very useful.

Lælia grandis, Cattleya Eldorado, and the strongly scented C. Gaskelliana are all now in full beauty, and have succeeded C. Mossiæ and C. Mendelii, being easy to cultivate. C. Eldorado is doing best in the East Indian house, which is kept moist, while the others do admirably with C. Trianæ and C. Mossiæ.—*W. P.*

CYPRIPEDIUM PARISHI.

THE scape of this species bears from four to seven flowers, and has much the aspect of a Selenipedium. The leaves, moreover, are more like those of C. Stonei, and are rigid, oblong-strap-shaped, unequally lobed at the apex, deep green, and channelled. The upper sepal is oblong, revolute at the sides or more or less twisted, and pale yellow, with darker veins and a

prominent midrib. The petals are linear and much twisted, pendent from a spreading base, greenish yellow in the lower third of their length, and marked with black spots, while the upper two-thirds of their length is deep dull purple. The lip is rather small for the other organs of the flower, with erect diverging auricles, and mostly of a dull green hue. It is a native of the Moulmein district, and is a very distinct species. A flowering specimen may be seen in the Kew collection.

Oncidium pubes.

Amongst the smaller species of Oncidium, that under notice, when in its best form, is certainly a pretty one. The small size of the flowers is compensated for by their numbers and the closeness of their arrangement in an oblong somewhat one-sided panicle. The sepals and petals are bright yellow in the best forms, and transversely banded with numerous slender, brown lines. The upper sepal is concave, while the petals are incurved, making the flowers appear smaller than they would otherwise be. The lip is three-lobed and fiddle-shaped, with a brown crest; the wings of the column are also brown internally. The flower-scape is slender and erect, or pendent when it attains a length of 12 ins. or 18 ins., and is laden with a large quantity of bloom. It is a native of Brazil, and may be seen at Kew in attractive condition.

Ornithochilus fuscus.

In habit and general appearance this Himalayan Orchid may be compared to Aërides, or in reference to the size of the flowers, to a Sarcanthus. The two-ranked leaves are elliptic and bright green, similar to those of a Phalænopsis; while the pendent inflorescence consists of slightly branching racemes, bearing rather small but very numerous and rather pretty flowers. The sepals are dull yellow, with three brown lines running through them, while the petals are narrower, with two brown lines. The lip is a curious organ with a conical spur behind, and a bi-lobed, hooded, rather deeply fringed, purple lamina. The flowers collectively are attractive, and the species is well worth growing as a basket plant suspended from the roof of the East Indian house. A slight odour is given off by the plant. It is said also to be a native of Burmah, and is so nearly related to Aërides, that it is sometimes described under the name of A. difforme. A flowering specimen may be seen at Kew.

Miltonia Warscewiczii.

The oblong, bifid, apron-like shape of the lip of this species, together with its various markings, give it a singular appearance, while the colours taken altogether as exhibited by the flower, render the species an attractive one. The flower scapes on well-grown plants are branched, quite an unusual occurrence in the genus. The sepals and petals are oblong, wavy at the margin, similar in shape, size, and colour, being of a rich cinnamon-brown, with a yellow margin, and are horizontal or somewhat reflexed. The lower part of the lip is of a violet-purple, with a white spot at the base, and a curious transversely oblong, pale brown and glossy blotch on the middle; the upper third is pure white. A flowering specimen may be seen at Kew under the name of M. Warscewiczii, var. Weltoni. The basal portion of the lip is somewhat darker than usual, and the transverse blotch presents its usual skinny appearance, but it is very dark in colour, and much less discernible than usual. The species labour under various names in gardens, such as Oncidium fuscatum, O. Weltoni, and Odontoglossum Weltoni.

Grammangis Ellisii.

We learn from Mr. F. Exell, Misarden Park, Cirencester, that he has a specimen of this Orchid in flower, with forty blooms on one spike. It must certainly be very fine, for a plant with half that number of flowers is a handsome object, and a conspicuous ornament in any collection. This species is best known in gardens under the name of Grammatophyllum Ellisii, but it is different in structure as well as in general appearance from the true species represented by Grammatophyllum speciosum. The plant under notice is a native of Madagascar, and is notable for its strongly quadrangular bulbs, which are 6 ins. in length. The racemose inflorescence arises at the base of the pseudo-bulbs, and assumes a gracefully arching form, displaying its large showy flowers to advantage. The sepals are yellow, more or less banded transversely with brown, while the petals and lip are also pale, almost white. The flower spikes are produced just as the young growths are being made.

HORTICULTURAL SOCIETIES.

Royal Caledonian Horticultural.—*July 9th.*

This society is to be congratulated on having this year with its summer show a record-breaking display, the exhibition held on the above date in the Waverley Market being the finest it has ever held. The display of Roses and vegetables was much in excess of previous efforts, thanks to the seasonable winter and spring weather which the growers have rejoiced in. The first class—always a most interesting one—being for the best table of plants, brought a new competitor (Mr. Fraser, gardener to R. B. White, Esq., Arddarroch) to the front, as he beat Mr. Grossart, Oswald House, and Mr. McIntyre, The Glen, mainly with a grand lot of Orchids. Mr. Paterson, Millbank, secured the premier award for six stove or greenhouse plants in flower; and Mr. Grossart was first for three, as also for the best half dozen fine-foliaged plants, and for the same number in 9-in. pots. For four Orchids, Mr. Grossart beat the Arddarroch grower, and he had also the finest single specimen. In other competitions, the leading exhibitors were Mr. Paterson, with Heaths and Gleichenias; Mr. Grossart, with exotic Ferns and Caladiums; Mr. W. Brown, Waterloo Place, with hardy Ferns; Mr. McIntyre, with plants for table decoration, Dracænas and Crotons, &c.

In the cut-flower department, the display of Roses was much above the average, and in the trade classes especially so. For forty-eight, distinct, the highest award went to Messrs. Hugh Dickson & Son, of Belfast; while Messrs. Cocker & Son, Aberdeen, had the best twenty-four; and Messrs. D. and W. Croll, Aberdeen, the best twelve H.P.'s and the best twenty-four Teas. Mr. Alexander Kirk secured the two best awards in the amateurs' section.

In the plant competitions confined to the trade, Messrs. R. B. Laird & Sons secured five of the eight first prizes offered with a table of plants, four Palms, two tree Ferns, six Dracænas, and a dozen table plants; the others going to Messrs. Dickson & Sons, for Conifers; Mr. James Mather, for Carnation Souvenir de la Malmaison; and Messrs. Munro & Ferguson, for Alpine and herbaceous plants.

In the fruit classes, Mr. McIndoe, Hutton Hall, was first for a collection, for a Pine, and for a dish of Strawberries; Mr. McHattie for four bunches of Grapes, two bunches of white Grapes, and six Nectarines; Mr. Boyd, Callendar, for two bunches of Black Hamburgh Grapes; Mr. Smith, Oxenford Castle, for two bunches of any other black Grape; and Mr. J. Richards, for Peaches.

Alexandra Palace Rose Show.—*July 12th.*

The second of the annual shows held under the new management took place in the Palace on the above date, and although the Rose season was practically over in the southern counties, many of the exhibits presented a fresh appearance and the colours were all that could be desired. In the nurserymen's classes Messrs. Pau & Son, Cheshunt, were awarded the first prize for forty-eight blooms of distinct kinds. Some of their best blooms were Merveille de Lyon, Charles Lefebvre, Marie Baumann, A. K. Williams, Perle des Jardins, E. Y. Teas, Reynolds Hole, Madame Susanne Rhodocanachi, Her Majesty, and Madame Victor Verdier. They were equally successful in the class for twenty-four blooms, three of each; the varieties shown were much the same, but the following additional ones may be mentioned—namely, Marshal P. Wilder, Pierre Notting, and Madame Alphonse Lavallée. Mr. Wm. Rumsey, Joynings Nursery, Waltham Cross, was second; and Messrs. Cooling & Son, Bath, came in third. For twenty-four blooms of H.P. Roses, Messrs. G. & W. H. Burch, Peterborough, led off with the first prize, followed by Messrs. Paul & Son and Messrs. Cooling & Son in the order named. Mr. Geo. Prince, Market Street, Oxford, took a high position, as usual, with Tea Roses, and won the first prize for twelve Tea-scented and Noisette kinds. Messrs. Cooling & Son followed, while Messrs. G. & W. H. Burch were third. In the amateurs' and gardeners' classes the Rev. J. H. Pemberton, Havering-atte-Bower, Essex, was to the fore, and led off with the first prizes for the best thirty-six, twenty-four and twelve Roses respectively. E. B. Lindsell, Esq., Bearton, Hitchin, Herts, was second in the first two cases, but third for twelve Roses. Mr. E. Mawley, Berkhamstead, took the second place for twelve. Mr. Lindsell was again to the front for six Tea-scented Roses, followed by the Rev. J. H. Pemberton. The North London Nurserymen's Local Trophy, for the encouragement of exhibitors within five miles of the Palace, was taken by Mr. James Bateman, Highgate, together with the first prize in that class. There were a number of open classes, and Mr. G. Prince took the first prize for twelve blooms of any Rose not dating back prior to 1887. He showed a deep crimson-red sort named Earl Dufferin. Messrs. Paul & Son took first prize for twelve blooms of any Rose not yet in commerce, howing H.P. The Dowager Duchess of Marlborough. Messrs. Harkness & Sons, Bedale, Yorks, were first for any white Rose with Merveille de Lyon. Messrs. G. & W. H. Burch had the best crimson Rose in Horace Vernet, and the best Rose in the show, for which a Silver Medal was awarded, occurred in his stand. Mr. Chard, Stoke Newington, had the best basket of Roses, and Messrs. Perkins & Son, Coventry, were second. The order was reversed in the class for a hand-bouquet. A first prize was awarded to Mr. W. Rumsey for twenty Roses in pots, mostly Teas.

There were several miscellaneous exhibits, and a Silver Medal was awarded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for a beautifully arranged and varied assortment of hardy cut flowers, including Lilium auratum, L. speciosum, L. candidum, L. c. striatum, Campanulas, Gaillardias, Carnations, Gladioli, Chrysanthemum maximum, and others. The whole were grouped in a long bank of undulating outline. A similar award was made to Mr. B. S. Williams, Upper Holloway, for a group of stove plants, such as Palms, Ferns, Crotons, and Aralias relieved with Sobralia macrantha, Calanthe masuca grandiflora, Cattleya Mendelii, Vanda teres, and other Orchids.

Nottingham Botanical and Horticultural.
July 11th.

A large number of persons were attracted to the Arboretum on the above date to see the monthly exhibition of this society, when an exceedingly good display was put forward by the local gardeners. It should be stated that these shows are not strictly competitive, but in order to make a display each member of the society exhibits whatever he has that is really good, and the society, setting aside a few pounds, makes awards according to the merit of the different exhibits, and, in addition, grants certificates to anything of extra good quality. Groups of choice decorative plants were put up by Mr. Meadows, gardener to C. J. Cox, Esq.; Mr. Plumb, gardener to J. Robinson, Esq., Sheriff of Nottingham; Mr. Attenborough, gardener to W. H. Farmer, Esq.; and the display of hardy cut flowers, staged by different members, was really grand. This meeting was made more interesting than usual from the fact that Messrs. Sankey & Son, of the Bulwell Potteries, offered the society three guineas to be used as the committee thought best, and they decided to offer the amount for competition in three classes, viz., for four Ferns, and for Coleus and Gloxinias, six of each. Mr. Meadows was first for Ferns, showing a good Todæa superba amongst his four. Mr. Attenborough stood first for Coleus, and Mr. Neuton, gardener to — Hallam, Esq., for Gloxinias, all of which were very good, and the competition very keen. The visitors were so numerous that the assembly rooms of the Arboretum were literally crammed, and the committee decided to make a charge for admission of one penny each, which had the effect of keeping out all who were not really interested in horticulture.

St. Ann's Floral and Horticultural.
July 15th and 16th.

The twenty-eighth annual exhibition of this Nottingham society was held on the above dates. The guiding spirit of the society is its chairman, S. Thacker, Esq., who spares neither time nor labour in his efforts to promote a love for gardening among the working classes of Nottingham. Allotment gardening meets with great encouragement, and no town in England can boast a greater number, or a better class of cultivation. The display of plants, cut flowers and vegetables was of a highly creditable description, and in all the classes the competition was very keen. The show was also greatly enriched by collections of plants kindly lent for the occasion by the sheriff, J. Robinson, Esq., W. H. Farmer, Esq., the president; and Mr. Thacker, whose natural style of grouping plants always commands universal admiration. The show was opened by the Hon. Harold Finch Hatton, who addressed the exhibitors in most encouraging terms, exhorting them to extend their interest in horticultural pursuits, and to support this most useful society in a liberal and worthy manner. In the absence of Arnold Morley, Esq., M.P., the mayor, Alderman Renals, distributed the prizes.

QUESTIONS AND ANSWERS.

To save time, as far as possible, correspondents are specially requested to write only on one side of the paper; to write their questions in as few words as possible consistent with clearness; and where two or more questions are asked on widely different subjects, to be good enough to put them on separate pieces of paper.

Boxes for Orange Trees.—*Omega:* The best thing you can do with tubs or boxes for Orange trees to prevent them from decaying inside, is to put straw, wood shavings, or other light combustible material into them, and set it alight so as to char the surface without burning deeply into it. We should not advise the use of any kind of paint.

Chrysanthemums Diseased.—*Edwin Beevers:* We cannot say precisely what is the matter with your plants, but we have seen some varieties similarly affected in spring while they were yet under glass. Your specimens arrived just as we were going to press, so that we had no time to examine them, but we shall submit them to microscopic examination, and revert to the matter in our next issue.

Names of Plants.—*Perthshire:* 1, Lythrum Salicaria; 2, Œnothera biennis; 3, Veronica incana var. (often grown under name of V. neglecta); 4, a Calycanthus; 5, Chrysanthemum lacustre, probably; but three out of your five specimens were not in flower. How could you expect them to be named correctly? *Tyro:* 1, Limnanthes Douglasii; 2, Scrophularia aquatica variegata; 3, Galega officinalis alba; 4, Bocconia cordata; 5, Astrantia major; 6, Clematis recta; 7, Galium palustre; 8, Thalictrum minus; 9, Alchemilla alpina conjuncta; 10, Tradescantia virginica. *Omega:* The grass is the Common Beut (Agrostis vulgaris); the other plant is the smaller Burdock (Arctium Lappa minor). *S. Dawson:* 1, Veronica Andersoni imperialis; 2, V. Traversi; 3, V. parviflora angustifolia; 4, Spiræa japonica rubra (known in gardens as S. callosa rubra); 5, S. Aruncus (male form); 6, Alstrœmeria aurantiaca *Edwin Beevers:* Adiantum Veitchianum.

Red Cabbage.—*F. J. S.:* For the early exhibitions Sutton's Dwarf Blood Red, or any other good dwarf strain would suit you, and the Large Blood Red for later use. You have probably been growing a bad strain of seed if you cannot get them well coloured, and should try a change of seedsmen.

The Codlin Moth.—*N. J. D.:* Paris Green, London Purple, or Arseniate of Copper are all names for the same thing. It has been and is much used in America for the destruction of the Codlin Moth, and more recently has been successfully applied as a remedy against the Plum Curculio. The manner of using it is to mix 1 oz. of Paris Green with 5 gallons of water, and spray the trees with a syringe or garden engine furnished with a fine-rosed nozzle. Several applications should be given during the summer season, commencing soon after the blossoms fall. The larva of the moth when hatched commences to eat its way into the fruit, and gets poisoned. Great care must be exercised in the use of Paris Green, as it is highly poisonous, and must not be used late in the season when the fruit has attained a large size. Early applications get washed off by rain. Paris Green would have no effect on canker.

Turnip.—*F. J. S.:* Chirk Castle Black Stone—sow at once. Golden Ball and Veitch's Red Globe—sow in August.

Communications Received.—A. O.—J. C.—P. B.—G. M.—A. B.—T. E. H.—W. G.—J. P.—W. S.—Salix—G. A. W.—W. R.—T.—Young Gardener.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending July 13th was 29·66 ins.; the lowest reading was 29·42 ins. on Wednesday afternoon, and the highest 29·83 ins. on Thursday evening. The mean temperature of the air was 63·0°, and 0·3° above the average in the corresponding weeks of the twenty years ending 1868. The mean was below the average on Monday and Wednesday, whereas it exceeded the average on each of the other days of the week. The general direction of the wind was variable and the horizontal movement of the air averaged 8·2 miles per hour, which was 1·5 miles below the average in the corresponding weeks of sixteen years. Rain fell on five days of the week, to the aggregate amount of 0·72 of an inch. The duration of registered bright sunshine in the week was 23·0 hours, against 22·2 hours at Glynde Place, Lewes.

COVENT GARDEN MARKET.

July 17th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Grapes .....per lb.	2 0	3 0	Strawberries.. per lb.	0 2	1 0
Pine-apples, Eng., lb.	1 0	1 6			

Canadian and Nova Scotia Apples, per barrel, 7s. to 17s.

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus ....per 100			Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 6		Lettuces ..per dozen	1	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages.... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	8 0	Radishes ..per dozen	1 6	
Celery ....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers ....each	0 4	0 10	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos ....per lb.	0 9	1 0
			Turnips ....per bnn.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms..	2 0	4 0	Maidenhair Fern, 12 bns	4 0	9 0
Asters, French, per bunch	1 6	2 0	Marguerites, 12 bun.	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Mignonette, 12 bun.	2 0	4 0
Carnations, 12 blooms	1 0	2 0	Moss Roses 12 bnchs.	6 0	12 0
Carnations, 12 bnchs.	3 0	6 0	Pansies ..12 bunches	1 0	2 0
Cornflower, 12 bnchs.	1 0	3 0	Pelargoniums, 12 spys.	0 6	1 0
Delphinium, 12 bun.	3 0	6 0	— scarlet ..12 sprays	0 4	0 6
Eschscholtzia, 12 bchs.	2 0	4 0	Pinks ....12 bunches	2 0	4 0
Eucharis ..per dozen	3 0	6 0	Primula, double, bun.	0 6	1 0
Forget-me-nots.....	1 6	4 0	Pyrethrum, 12 buchs.	2 0	6 0
Gardenias, 12 blooms.	2 0	5 0	Roses, Tea, per dozen	0 6	1 0
Gladioli ..12 bunches	6 0	12 0	— Red .....per doz.	0 3	1 0
Heliotropes, 12 sprays	0 3	0 9	— Saffrano ..per doz.	0 6	1 0
Iris .....12 bunches	6 0	12 0	Stephanotis, 12 sprays	2 0	4 0
Lapageria, 12 blooms	1 0	2 0	Stocks, doz. bunches	3 0	6 0
Lilium longiflorum, 12 blooms	2 0	4 0	Sweet Sultan, 12 bun.	3 0	5 0
			— Peas.....12 ,,	3 0	6 0
			Tuberoses, per dozen.	0 6	1 0

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	5 0	12 0	Hydrangeas..per doz.	6 0	15 0
Arum Lilies..per doz.	6 0	12 0	Lilium auratum, doz.	12 0	24 0
Bedding plants, in var., per doz.	1 0	3 0	— longiflorum per doz.	18 0	30 0
Calceolaria ..per doz.	4 0	8 0	Lobelia .... per doz.	3 0	6 0
Cyperns, ..per dozen	4 0	12 0	Marguerites per doz.	6 0	12 0
Dracæna term., doz.	30 0	60 0	Mignonette, doz. pots	3 0	6 0
— viridis, per dozen	12 0	24 0	Musk ..... per doz.	2 0	4 0
Erica, various ..doz.	9 0	24 0	Nasturtiums ....doz.	3 0	5 0
Evergreens, in var. ,,	6 0	24 0	Palms in variety, each	2 6	21 0
Ferns, in var., per doz.	4 0	18 0	Pelargoniums, scarlet,	2 0	6 0
Ficus elastica ..each	1 6	7 0	Pelargoniums, per doz	6 0	18 0
Foliage Plants..each	2 0	10 0	Rhodanthe ..per doz.	3 0	6 0
Fuchsia.....per doz.	4 0	12 0	Saxifraga, various, doz.	6 0	18 0
Heliotrope ..per doz.	4 0	8 0	Spiræa .....per doz.	9 0	12 0
			Stocks ..... per doz.	2 6	4 0

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See our Manual for 1889, *gratis and post free.*

LANGPORT, SOMERSET

GARDENERS' ORPHAN FUND.

Result of the Election at the Annual General Meeting, July 19, 1889.

Names of Candidates.	No. of Votes.
ALLEN, WILLIAM CHARLES	133
BUTCHER, FRANK	43
CHAPELOW, OLIVE	87
DEEDMAN, BESSIE STRONACH	73
GRIEVE, MARY	47
GUTHRIE, DAVID GEORGE	108
HENDERSON, THOMAS	44
IRELAND, ARTHUR JOHN	233
LACEY, ARTHUR	49
MOSEDALE, EDMUND WALKER	151
PRESTON, HARRY ROBINSON	103
SKELTON, HENRY EDMUND	55
TAYLOR, BESSIE	237
TODD, ROBERT JAMES	92

The Meeting thereupon declared Bessie Taylor, Arthur John Ireland, Edmund Walker Mosedale, William Charles Allen, David George Guthrie, and Harry Robinson Preston duly elected.

A. F. BARRON,
Hon. Secretary.

ROYAL HORTICULTURAL SOCIETY'S GARDENS, CHISWICK.

July 22nd, 1889.

READERS OF THE GARDENING WORLD who experience any difficulty in obtaining the paper at Railway Bookstalls, or through local agents, are respectfully requested to communicate with the Publisher, 17, CATHERINE STREET, STRAND, W.C.

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Next Week's Engagements.

TUESDAY, July 30th.—West Haddon Flower Show.

WEDNESDAY, July 31st.—Acton Horticultural Society's Show.

THURSDAY, August 1st.—Exhibition of the Carnation and Picotee Union, in Mr. Dodwell's garden, at Oxford.

FRIDAY, August 2nd.—Sale of Orchids in Flower at Protheroe & Morris's Rooms.

SATURDAY, August 3rd.—Liverpool Horticultural Association's Exhibition at Fairfield.

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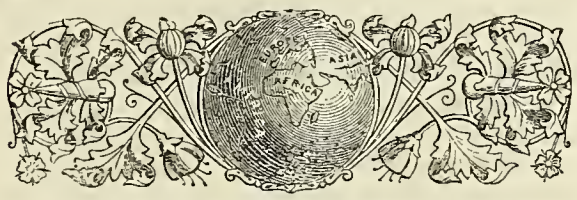

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, JULY 27, 1889.

CURRENT TOPICS.

THE ORPHAN FUND ANNIVERSARY.—Rarely has it been our lot to assist at a more enjoyable, and yet withal more practical gathering than was the second anniversary meeting and dinner of the Gardeners' Orphan Fund, the report of the proceedings of which we give elsewhere. The practical part of the proceedings was conducted unostentatiously during the afternoon, but most amicably and with admirable results. The large number of votes recorded for the chief selected candidates shows that the full particulars relating to each case had been fully studied, and although there must of necessity be disappointments, yet there is every reason to believe that the most necessitous cases were the first to be selected by the subscribers.

The munificent donation of the Duke of Bedford very happily enabled a sixth candidate to be placed on the successful list; and we very fervently hope that as a result of the bold and generous offer of Mr. Harry Veitch at the dinner-table, some two or three others of the disappointed candidates may speedily be sharing the benefits of the Fund also. The business arrangements of the meeting in the hands of Mr. Deal, the excellent chairman, and Mr. Barron, the popular hon. secretary, were of the most efficient kind; and everything went as smoothly as could well be desired. The proposed addition to the rules, enabling promoters of particular forms of fêtes or entertainments which result in a substantial gain to the Fund to enjoy certain voting privileges, was unanimously adopted, and we hope will have excellent results.

THE DINNER.—Through the kindness of Messrs. Wills & Segar, Mr. Laing, Mr. Cutbush, and Mr. B. S. Williams, the fine hall at the Cannon Street Hotel, in which the annual festival took place, was superbly decorated with noble Palms and flowering plants, so that when the large and overflowing party of horticulturists were seated the *coup d'œil* was very striking, as well as a charming one. The dinner was well served, the speeches were excellent, and the music enjoyable. There was also a very practical air about the speeches, especially when the suggestion was made that some other orphans should be enabled speedily to receive the benefits of the Fund. The remark that the company should rather think of the homes wherein there would be the next morning disappointment rather than joy, went home to all present, and following as it did upon Mr. H. J. Veitch's munificent offer of £100, and the chairman's splendid lead of £25 additional, it was impossible that the appeal then made could be resisted.

We are by no means in accord with those who wish to see established a big reserve fund of £10,000. Any such accumulation of funds intended for the assistance of the orphans of to-day, would but serve later to dam up the sources of liberality in human nature. Still further, it is the duty of each generation to care for its own little ones, and that each generation will do so we can have no doubt. We trust universal resistance will be offered to the proposal to form a big reserve fund. Let us help the orphans of now; perhaps ten years hence there may be no orphans needing help. In any case we regard it as little less than a crime to lock up money in the funds whilst there are still eight poor little orphans suffering from disappointment and from poverty. We must pay a tribute before leaving reference to the dinner to the admirable way in which Mr. Shirley Hibberd succeeded Sir Julian Goldsmid in the chair. Mr. Hibberd in his best moods is very genial and jolly, as well as prolific in humour. He was in one of his very best moods on Friday evening last.

THE GENERAL GATHERING.—Whilst the provinces were represented by a few gardeners at the dinner, it was but too obvious that the bulk of those present were of the metropolis and its neighbourhood. That is not perhaps all that can be desired, as we are most anxious that the anniversary gathering of the Gardeners' Orphan Fund should be widely represented, and that the country should furnish as large a contingent as the town. It is certainly the case that the orphans know no locality, but are widely distributed; they are, indeed, more of the country than of the town, and that fact alone should not only encourage country gardeners to attend the yearly meeting, but should lead to some arrangement by which some of the provincial subscribers should also be encouraged to come to London for that purpose.

It is doubtful whether the anniversary dinner has not been fixed at a time of the year when gardeners are peculiarly busy, and still further, when there is absolutely nothing proceeding to bring them to London. For that reason few of the vocation care to embark in the expense incidental to a long journey, a dinner, and a night in town; whereas, were some important show or other horticultural attraction proceeding many country gardeners might find it possible to attend. In any case, as one time or another makes little difference to Londoners, the anniversary gathering should be arranged with the fullest regard to the

welfare and convenience of our provincial friends.

We could not but remark that at the dinner the Royal Horticultural Society's Council, as such, was utterly unrepresented—we looked in vain for those nurserymen and gardeners who have been so prominently associated with that body. Well, the Orphan Fund will grow and prosper without their countenance, and we believe in a few years will constitute the most popular of all the institutions associated with horticulture.

Colour in Flower Gardens.—Plants of good habit, free-blooming, and productive of rich, striking masses of colour are still highly favoured in summer flower gardens. A few days ago we looked in upon Mr. Dean, at the Bedfont Seed Grounds, and were struck with some things grown there as presenting the most effective masses of colour we have ever seen. To begin with, there was a large mass of the orange-yellow flowered, Venidium fugax, a fine hardy annual of free spreading growth, the plants having been dibbled out into the open ground 12 ins. apart. This presented, without exception, the most remarkable blaze of yellow colour we have seen, the two rows forming a perfect body of flowers and foliage about 3½ ft. in width, and promising to bloom as freely for months. Then, a little way removed, were rows of the dwarf Nasturtium compactum Lustrous, the foliage dark, and the flowers of an intense crimson-scarlet, produced in wondrous profusion, glowing like fire. This again, is one of those constant bloomers which endure until cut down by frost. The plant in bloom is about 10 ins. in height, and of its kind forms one of the most effective of bedding plants. Then there was seen a wonderfully fine strain of dark blue compact Lobelia, which comes almost as true from seed as from cuttings. For the production of a fine mass of blue from seed this splendid strain of Bedfont Lobelia could not be excelled.

We shall never tire of rich hues of blue, yellow and scarlet in our flower gardens if judiciously disposed, but especially desirable are they when colour is needed for distant views. In such a case mixed beds are utterly lost; but big masses of striking colours give wondrous life and beauty to the garden picture. Like the rich colours in the paintings of the old masters they charm with their glow and effect. The earth is of itself none so gay, and gladly do we hail masses of colour here and there thrown into the landscape, even if they be but of the scarlet Poppy or the Golden Charlock.

The Eccles, Patricroft, Pendleton and District Chrysanthemum Society will hold its third annual exhibition on November 15th and 16th.

A New Race of Annual Chrysanthemums.—At the meeting of the Floral Committee on Tuesday, Messrs. Hurst & Son exhibited cut blooms of some new double-flowered varieties of Chrysanthemum carinatum. They may be described as Anemone-flowered, having full, double, but somewhat flat centres, with well-defined guard petals. The colours, bronze and lilac, were not particularly attractive, but having got the form this is a defect that will soon be remedied, and the process of improvement may be expected in due time to give us some very fine things.

Lady-birds as Aphis Destroyers.—Mr. John Thorpe writes in the *American Florist*:—"It seems strange that so few know what a friend the lady-bird and its larvæ is to florists. It is not only the black aphis that they destroy, but thrip, green-fly, and the eggs of many other insects injurious to plants. It is amusing to see the larvæ clean out a colony of aphis. They pitch right in and seize each individual as a terrier does a rat, and it takes only a few minutes for them to kill hundreds, for there is no escape. The first lady-birds appeared here about June 2nd, about thirteen days earlier than last year. I have in previous years sent lady-birds to many growers to do police duty among their Chrysanthemums."

Destructive Hailstorm.—On Wednesday afternoon of the 17th inst. a sharp thunderstorm broke out over the western part of London, the suburbs, and the country lying immediately beyond. It was accompanied by a tremendous downpour of hail, which fell with sufficient force to do a considerable amount of damage to tender foliage of all kinds exposed to the fury of the blast. A collection of many kinds of Tobacco at Kew suffered great harm by the leaves being completely riddled as if with buckshot, and in some cases the larger leaves were snapped through the middle. Broad-leaved trees, such as Planes and Limes, were considerably damaged on the side facing west, and this notwithstanding the advanced period of the season and the firm or matured condition of the foliage. Softer-leaved subjects, such as Vegetable Marrows, were very much smashed up, and must present a rather sorry appearance for a long time to come; while Limes and Planes can hardly recover their wonted freshness till the leafage is renewed next spring.

Ancient Society of York Florists.—The Rev. F. Umpleby, chaplain of this society, conducted, on Sunday, July 12th, a special flower service, at his church at Osbaldwick, York, the main object of which, we may say, apart from the primary object of worship, was to assist by a collection the Gardeners' Orphan Fund. The text for the sermon was "Consider the Lilies of the field," and an interesting feature on the occasion was the elaborate and tasteful decoration of the interior of the edifice with flowers, sent by the members of the society. A special choir, brought together and acting under the direction of Mr. J. E. Wilkinson, of York, consisted of Miss Marian Stead, Miss Ingram, and Miss Brown (sopranos); Mr. J. E. Wilkinson and Mr. J. Haigh (altos); Mr. F. Newey, Mr. T. Laverack, and Mr. A. Jubb (tenors); Mr. E. Tuke and Mr. E. Cox (basses). Mr. W. S. Child officiated at the harmonium, and very ably led the musical part of the service, which included the anthem, "God is a Spirit," from Sterndale Bennett's cantata, "The Woman of Samaria." The hymns sung were, "Onward, Christian Soldiers," "All hail the power of Jesu's name," and "All people that on earth do dwell," in which the congregation very heartily joined. The collection taken amounted to £2 10*s.*, all present being highly pleased with such an interesting service, which together with the beautiful walk of about two miles into the picturesque country was most enjoyable.

Orchid Nomenclature.—On Wednesday afternoon a meeting of Orchid growers and others interested in the nomenclature question was held in the Council Room of the Royal Horticultural Society, Sir Trevor Lawrence presiding. The chairman explained the object of the meeting, which was to endeavour to lay down some general rules for the correct naming of species and varieties of Orchids, and after some discussion, in which Mr. D. Morris, Mr. J. G. Baker, Mr. Harry Veitch, Major-General E. S. Berkeley, Mr. Sydney Courtauld, Mr. A. H. Smee, Mr. O'Brien, Mr. Rolfe, and Mr. J. C. Bowring took part, Dr. Masters moved, "That the Council of the Royal Horticultural Society be requested to nominate a committee in which botanists, importers of new plants, raisers, and growers be represented, to draw up a code of regulations applicable to plants introduced into and cultivated in gardens, such code, when duly approved, to be considered binding on the officials and committees of the society, and recommended for universal adoption." This was seconded by Mr. Courtauld, and carried unanimously.

The Manchester Rose Show.—The annual Rose show, held at Old Trafford, on Saturday last, was exceedingly interesting, every country in the Union being well represented, and Scotland and Ireland especially so. There were eight competitors each in the nurserymen's classes for seventy-two singles and thirty-six trebles, these alone bringing out the grand total of 1,430 blooms, and all of fine quality. In the first-named class the competition was very keen between the winning collections, but Messrs. Harkness & Sons again secured the highest award; Messrs. James Cocker & Sons, Aberdeen, being second; Messrs. Paul & Son, Cheshunt, third; and Mr. H. Merryweather, Southwell, Notts, fourth. The premier award for the thirty-six trebles went to Messrs. Alex. Dickson & Son, Newtownards, Ireland, who were in rare form, not having a single second class bloom in their stands. The other awards went to the Messrs. Harkness, Mr. G. Prince (Oxford), and Messrs. J. Cocker & Sons. With Teas and Noisettes Mr. G. Prince was invincible, but in a grand class of Merveille de Lyon the first award went to Dundee, the second to Aberdeen, and the third to Newtownards. Mr. Prince, with Alfred Colomb, also secured the winning bracket in the class for any crimson Rose. In the amateurs' division, the Rev. J. H. Pemberton, Havering-atte-Bower, Essex, secured all the first prizes, and Mr. W. J. Grant, Ledbury, all the seconds. Miscellaneous contributions were furnished by Messrs. Harkness & Sons, Mr. S. Barlow, Mr. Frank Low (Rochdale), Messrs. Dickson, Brown & Tait, and Messrs. Dickson & Robinson, who all received extra prizes.

Silene Armeria.—The deep rosy purple flowers are very conspicuous and showy when grown in a mass, for the simple reason that they are produced in umbellate cymes well above the foliage, and therefore quite different from the other cultivated species. There is a pure white variety, as well as one named S. A. compacta, which is of dwarf habit, and has pink or blush-coloured flowers. They may be sown in autumn to flower early, or in spring to come on later.

Cucumber, Allan's Favourite.—A number of large well-formed fruits of this variety were exhibited at the meeting of the Fruit Committee of the Royal Horticultural Society on Tuesday last, when an Award of Merit was accorded it. The fruits measured from 18 ins. to 22 ins. in length, and were cylindrical, smooth, or nearly so, and of a rich dark green colour. They presented an even thickness nearly throughout their length, and contracted near the base only, so as to form a very short neck. Although of the size stated, the fruits preserved as fresh an appearance as if they had been only half the size. The exhibitor was Mr. Wm. Allan, Gunton Park, Norwich.

African and French Marigolds.—From Messrs. Dobbie & Co., florists, Rothesay, we have received a box of Marigold blooms, which deserve more than a passing acknowledgment. Two years ago this enterprising firm was awarded two certificates by the Royal Horticultural Society for their Marigolds, and since then the strains appear to have been very carefully handled. The blooms before us are as near perfection as we can imagine them to be. The African variety, named Prince of Orange, is of a deep rich orange colour, faultless in form and petal, and measuring nearly 5 ins. in diameter. Its companion, Lemon Queen, is of a pale lemon-yellow colour, quite as perfect in form and finish as the orange variety, and, what is of rare occurrence, quite as large. The blooms of the French variety sent are all striped flowers. The ground colour is of a clear lemon-yellow shade, while the stripes are of the deepest chocolate-brown, making a contrast very decided, but withal very pleasing. The blooms are deep, the florets being very numerous and smooth. Messrs. Dobbie inform us that they grow an acre of French Marigolds alone to select and save seed from, and this will account for the purity and beauty of their strains.

Bouvardia, Mrs. Robert Green.—A basket of a new variety under the above name was exhibited by Mr. H. B. May, Upper Edmonton, at the meeting of the Royal Horticultural Society on Tuesday last, when the Floral Committee awarded it a First Class Certificate. The flowers are of a clear soft pink, with red tubes, and are of large size. The chief merits of the variety are its dwarf habit, floriferous character, and suitability for market purposes, or the decoration of private establishments. The stems vary from 12 ins. to 15 ins. in height, and branch very freely from near the base.

Nottingham Gardeners at the Palace of the Peaks.—On Thursday the 18th inst. a party of members and friends of the Nottinghamshire Horticultural and Botanical Society, to the number of 250, visited Chatsworth House and grounds, the delightful Derbyshire home of the Duke of Devonshire. The party left Nottingham by special train, and on arriving at Rowsley entered twenty brakes and carriages which were ready waiting, and after a pleasant drive of about four miles, arrived at Chatsworth House, which was thoroughly inspected, a ramble following through the well-kept pleasure gardens, with the magnificent conservatory, the cascade, the waterfalls, and fountains. The kitchen gardens were also visited. The long ranges of greenhouses, vineries, Peach houses, and other glass structures necessary for keeping up a good supply of fruits, vegetables, and flowers, were all inspected. After partaking of needful refreshments in a marquee erected near Edensor Church, the party greatly enjoyed the drive back to Rowsley, and reached Nottingham soon after nine o'clock. The whole of the arrangements were admirably carried out by the secretary of the society, Mr. Edward Steward.

NEW AND RARE PLANTS.

SPIRÆA GIGANTEA.

Amongst herbaceous plants this would certainly be pronounced a giant, for the stem, as it stood in a tub, where it was shown at the Drill Hall, Westminster, on Tuesday last, was about 8 ft. high. The flowers are small and white, resembling those of our Meadow Sweet (S. ulmaria), but they are produced in large cymose panicles at the apex of the stem and in the axils of the upper leaves. The latter may be compared to those of S. venusta on a gigantic scale, for they consist of a large five to seven palmately divided terminal leaflet, with a few small ovate but irregular-sized lateral ones. The terminal one is so large as to appear like the whole leaf. The plant would be an acquisition for the margin of a lake or stream in the pleasure grouud. It was shown by Messrs. Paul & Son, Cheshunt, and received a First Class Certificate.

CORNUS SIBIRICA SPATHII.

None of the variegated species of Cornus are more effective at a distance than the plant under notice. The opposite leaves are broadly ovate, closely arranged on the stem, and have a broad yellow margin with an irregular-shaped green central blotch. The yellow is, however, by far the more predominant colour, whether viewed from a distance or examined close at hand. It is perfectly hardy, and would be an acquisition to any collection of ornamental shrubs. A basket of plants of it was shown by Messrs. J. Veitch & Sons, at the last meeting of the Royal Horticultural Society, when a First Class Certificate was awarded it.

PTERIS SERRULATA PLUMOSA.

P. serrulata has given rise to many beautiful crested varieties under cultivation, but none as yet have appeared more distinct than the present. The young leaves are, to all appearance, quite normal when first developed, but they soon begin to show small fissures at the apex of the pinnæ, more especially at the apex of the terminal one, which forms a large pendent tassel. The leaves are erect at first, but as they become crested by a kind of proliferation, they droop almost straight down the sides of the pot, so that the latter has to be elevated to accommodate them. The variety will be invaluable for table decoration. It originated as a seedling about four years ago, and having been grown since then will no doubt prove constant. The plant, a large specimen, was exhibited at the meeting of the Royal Horticultural Society, on Tuesday last, by Mr. William Coleman, Swiss Cottage, Tunbridge Wells, when a First Class Certificate was deservedly awarded it.

LAVATERA TRIMESTRIS.

THE flowers of this old-fashioned annual are well known almost to every gardener, for the plant has been cultivated in Britain more or less since it was introduced from South Europe or Asia Minor in 1633. Few of the species are in cultivation, and the present is the only annual species having large conspicuous flowers such as gardeners should appreciate in an annual. It is included in the trial of annuals at Chiswick, or rather a variety of it, with rose-coloured flowers striped with pink. There is also a pure white variety, which forms a beautiful companion to it. The Floral Committee of the Royal Horticultural Society consider them amongst free-flowering annuals suitable for cultivation in London gardens. As a matter of course, annuals that will grow and flower sufficiently well to be considered ornamental in a town garden, and under the influence of a smoky atmosphere, will also grow in almost any other garden if the climate is at all suitable. Collections of annuals in private establishments generally include Lavatera trimestris and Malope trifida, with their varieties for sake of contrast.

HORTICULTURE TO THE FRONT.

MOST people will have observed the growing demand for horticultural produce. A visit to any of the vegetable markets of our great towns will at once fill the mind of the most indifferent observer with the conviction that this demand is amazingly on the increase. To those who are of a thoughtful cast of mind, such a state of matters cannot fail to arouse speculative ideas on the influence this increasing demand will have on agriculture and forestry. Agriculture seems, pure and simple, to be at its wits' end; horticulture, apparently, seems to be on a thriving footing. Utilitarianism is fast becoming the order of the day. As a natural consequence, therefore, the farmer will be shouldered out by the horticulturist. The future cannot well afford to allow land to lie half cultivated in the hands of the farmer, when the more energetic horticulturist is competent to turn it into food supplies for the nation. The farmer says he cannot make the land pay. This, I believe, is a truism, and did he attempt to say otherwise, I would certainly be astonished. What does he do in order to expect a remunerative crop? The old adage is true here—"he reaps what he sows"; he depends too much on some occult force and the vagaries of the weather to do for him what he ought to do himself. This easy-going, dreamy style might do well enough were our ports ruthlessly closed against foreign produce; as it is, it will not do, and clearly the farmer is out of touch with the whirling celerity of the times. An occasional attempt is made by the farmer to imitate the horticulturist, but rarely with any better result; generally failure more dire than that of farming covers his efforts, though, universally speaking, he holds the land at least an eighth cheaper than the horticulturist.

There is a great probability that land tillage in the future will be all done by the spade. The present and past systems of farming, in general, are inadequate to fully call into action the wealth of the soil. Nor can such a system, except under rare circumstances, be profitable to compete with American produce. Gradually, Horticulture, who properly understands the cultivation of the soil, will roll before her her already one-legged sister to prepare a way for her in the woods and glens of the land, where in turn, Dame Forestry will be packed still farther hillward, to afforest and beautify the landmarks of our kingdom. Properly speaking, and from an economic point of view, this, indeed, is the sphere which nature assigned to forestry. As forestry at present stands, I fully believe, were it not for its

LAVATERA TRIMESTRIS.

economic purpose as shelter and harbour for the well-being of game, no landed proprietors would think of carrying on a practice that on the face of it cannot be profitable.

Much balderdash has been written on the other side, but common sense and reason are better teachers than the muddling syllogisms that would endeavour to convince us that 19*s.* 11¾*d.* are one and the same as 20*s.* No proprietor in our isles, possessed of a modicum of common sense, would for a moment entertain the idea that his forests are profitable. Such a practice can only be profitable where, as already said, it protects and encourages game, and above all, where the land is quite beyond the limits of agriculture. It is unnecessary to speak about the quantity, age, quality, &c., of timber grown in our kingdom, because every person knows how valueless it stands as a universal commodity. We can receive at every wood-dealer's yard capital firewood from abroad, cheaper than we can receive oak, peeled wood or brushwood from the neighbouring forests.

Assuming that horticulture will prevail against agriculture, and in turn, that agriculture will chase forestry to the steppes and mountain wastes, it is only in obedience to the laws of necessity that such will come about, and the probability that such will come about, is, indeed, very great. What foresters and farmers require meanwhile, however, is a thorough training in horticulture, not that they may in after life require its aid very much, but the training will establish a correct mode of observation, a system of work and management that is difficult to meet with in many other arts. They, too, require more extensive knowledge of subjects outside their own callings, to expand and develop the reasoning and judging powers. For instance, forestry is not able, I believe, to give any lucid explanation why the mountainous wastes of the three kingdoms, as well as some of the Western Hebrides and part of Caithness, cannot be again afforested. Science, no doubt, would assist here.

The bare knowledge of farming and forestry is all very good, but this, no more than in horticulture, is not sufficient. I believe in the one certain rule—develop the mind as much as talent will admit, not only in our art, but in every possible phase of knowledge that bears directly or indirectly upon it. We occasionally notice much sophistry exhibited in arguing the contrary, but as such adverse logicians must necessarily be scions of an antediluvian age we do not begrudge them their natural indulgence.

The forester is not on a firm footing in his profession without a sound knowledge of geology, botany, natural philosophy, chemistry, horticulture, agriculture, and several other sciences. This will be still more apparent when we observe that almost every science is inseparably linked with another, and that the knowledge of one is insufficient without part of another or more. The same is true of farming. No farmer to thoroughly appreciate his position and multiply his exchequer can successfully do so without having an intimate acquaintance with the several laws that bear upon his art. It would appear that agriculture, to a great extent, is yet trammelled with primitive prejudices, and unable to cast off the paralysing influences attending their train. Horticulture has so far overcome the sister art in this respect as to at least place reliance on self resources, and depend little or none at all on forces she does not yet comprehend. As for forestry, little improvement on or assistance to nature has been done to entitle the art to a very conspicuous position in the progressive or useful arts. It is certainly not developing, but there are grave indications that the opposite is indeed the case; and this is not to be wondered at when we examine the mode of tuition that the young forester undergoes to further him in the important management of large forests; and the most astounding part of the drama is that some of our foresters seem to think that such training and no other is just the thing for attaining success. A practical man, they say, is the one required to carry on the art. No doubt this is to some extent very true, but if they mean by it to represent only the experience they have acquired manually of the art, then they grievously err. They would do well to give some consideration to the system adopted by the Commissioners of Woods and Forests if they would feign an approach to success.

A fact that ought to make horticulturists proud is that from them emanated what literature and knowledge of any importance forestry can boast of; and to show how sterile forestry art and literature are each year becoming, a well-conducted journal in this town was unfortunately compelled to hang the pen "on the Willow tree," for reservation to some future generation to take up. Again to indicate the value forestry puts on any matter whatever in this line, an essay on a certain subject by a clerk, who presumably could not be practical, received the first prize of a certain forestry association. This paper was afterwards published and circulated by the said association as a very acceptable treasure and ornament to their modern literature. Facts such as these but too truly demonstrate the necessity for some energy and attention on the behalf and training of our young "Robin Hoods." Our young horticulturists fare better it would appear in this respect than the less fortunate young forester. They combine in forming mutual improvement associations, and in every way betray signs of an inherent tendency to separate themselves from grim ignorance as much as possible by duly adorning the inestimable gift which Nature has conferred upon them. In making this statement I must be understood as speaking generally, and not in the least to insinuate that our confrères are unrepresented in genius or science.

As for the farmer (the young farmer of the period), he is either an ignoramus or a college dandy, absolutely unfitted for the arduous duties of the farm. Coursing, fox-hunting, and the edifying theory and practice of lawn tennis are more to his taste. In a word, neither of these are the right sort of men to be entrusted with the food production of a nation. While they witness the surging wave of foreign produce rolling in, threatening their destruction, they obviously prefer to succumb to its power than to gird their loins with redoubled vigour. Perhaps it is not too much to say that the farmers are not specially guilty of exerting their physical or mental powers, and this, in a great measure, accounts for the wail of despair that is ascending to the clouds from Land's End to John o' Groats. The horticulturist is not slow to perceive this state of affairs, and where the farmer fails I have no doubt he will turn up ducats of gold. Himself and time will conquer all.—*Gamma, Edinburgh.*

POTATO DISEASE.

ANENT the remarks on the Potato disease in your last week's issue, I fear your hopeful anticipations of there being no special evidence of the disease were somewhat premature. Unfortunately we have had special evidence of it here since the 27th of June, and during the last nine or ten days it has developed and spread to an alarming extent in most gardens; but I do not see that it has touched the later kinds in the fields as yet. But even here it is almost too much to hope that they can finally escape the dread scourge, with the continued daily showers, and the electric-charged atmosphere we are now experiencing.

For the Potato disease to make its appearance and spread rapidly during a spell of hot dry weather is an unusual occurrence, yet we have this season witnessed this phenomena in the advancement of the disease. With the exception of one rather heavy storm, June was, on the whole, a dry and very hot month, a combination of conditions usually considered as not favourable to the generation and rapid spreading of the Potato blight. However, on the evening of the 27th June, while walking round our vegetable quarters, I thought I could sniff in the air unmistakable signs of the presence of the Peronospora. Casting about to find where it was lurking, and after looking several breadths of different varieties over, I found the disease had commenced in one corner of a large breadth of Early Puritan to the extent of about a yard square, and such was the rapid progress of the disease that in three days it had spread over the whole breadth, and in three days more there was nothing left but blackened and withering stalks. With a few exceptions the haulm of every root in the breadth has been quite dried up for more than a week past now.

On the sixth day from the first appearance of the disease I had several roots lifted, and found the soil underneath them not exactly dust dry, but certainly bordering that way, and very far from that condition which is looked upon as favourable to the generating and rapid spread of the blight, namely, an over-saturated and stagnant condition of the soil. Fortunately, no diseased tubers were found, and it is just possible that the dry condition of the soil at the time was the safeguard, and which prevented the spores from the haulm passing through it and reaching the tubers. The quick withering up of the haulm may also have had something to do with the saving of the crop, for on trying the few roots which escaped the withering up, I find to-day that there are several diseased tubers at each root, while at the roots where no haulm is left every tuber is sound, albeit they are only two-thirds the size they would have been.

Other breadths of different kinds, which escaped in a great measure the attack which laid low the Puritans, have been going very bad the whole of the past week, some roots having half the tubers diseased.—*J. Kipling, Knebworth.*

GARDENING MISCELLANY.

The Most Ornamental Maritime Shrubs.

I HAVE been pretty much around among the villa gardens here (Tramore, co. Waterford), on the edge of the Atlantic Ocean, and find generally the handsomest and healthiest are bushes of Escallonia macrantha; the deep rich green of the foliage contrasts with the continuously produced reddish coral flowers. Next in hardiness, probably, would be evergreen dwarf Oak, Quercus Ilex; but showy, if not so hardy, would come the Euonymus—evergreen also. These might alternate with the hardier Hollies, Grislinia littoralis, Laurus lusitanicus, Berberis Darwini, and Ligustrum ovalifolium. Two sweet-scented shrubs, very perceptible along several of the marine parades just now, are the large Privet and the mock Orange—Philadelphus. The list would be sadly deficient without Fuchsia sanguinea and the Jasmines.—*W. J. Murphy.*

Helianthus rigidus.

THE typical form of this plant flowers in August, and is therefore considerably in advance of most species, with the exception of H. decapetalus multiflorus, which is already in bloom. There is a variety of H. rigidus, however, which flowers about three weeks earlier than the type, and is known under the name of H. japonicus in gardens, although the application of the name is not very apparent, seeing that H. rigidus is a native of North America. The stems attain a height of 2 ft. or 3 ft., so that the species, together with H. decapetalus multiflorus already mentioned, must be considered as the dwarfest of their kind, and therefore most suitable for small gardens. The large size of the flower-heads, with their long rays, is another point in favour of H. rigidus, which is therefore, in all respects, a useful border plant. It has a synonym in H. diffusus, which is better known in gardens under the name of Harpalium rigidum.

Lobelia splendens.

THERE are three scarlet-flowered Lobelias—namely, L. cardinalis, a native of North America, L. fulgens, and L. splendens, both natives of Mexico. Some, or all three of them, may be seen in cultivation, and when they occur together there is no difficulty in distinguishing them by anyone with a practised or discriminating eye. The case, however, becomes complicated by the presence of hybrids in cultivation. The species under notice has lanceolate, slightly toothed leaves, which, together with the stems, are glabrous, and more or less stained with bronzy red. The variety known as Queen Victoria belongs here, and is characterised by its dark blood-red, or almost black foliage. It is often, though erroneously, referred to L. cardinalis; but the latter has green and differently shaped leaves, and altogether smaller flowers with narrow segments, and is quite inferior either to L. fulgens or L. splendens. There is a variety of the latter named L. s. atrosanguinea, having very dark-coloured foliage, and which was figured in the *Botanical Magazine*, t. 4002. There can be little doubt that L. Queen Victoria is closely allied to this plant, if indeed it is separable at all. L. fulgens is closely allied to L. splendens, but may be distinguished by its pubescent leaves, stems, pedicels, and calyx.

Bignonia Cherere.

THIS magnificent climber may either be grown in a stove or greenhouse, but it never gives better satisfaction than when planted out in a cool conservatory or greenhouse and allowed to ramble to a great distance over the roof. All the leading stems should be neatly tied to wires or other supports under the rafters, and the short side shoots allowed to hang down freely. Under these conditions a large quantity of gorgeously-coloured flowers will be produced. The flowers are funnel-shaped, with an orange-yellow tube both externally and internally, and a fine lobed rich crimson-red lamina, the whole being of great size. Some sprays were exhibited by Mr. F. Ross, at the meeting of the Royal Horticultural Society on Tuesday last, when a First Class Certificate was awarded.

Cyrtomium falcatum.

MOST gardeners are familiar with this old-fashioned Fern, but there is a wonderful difference between plants as ordinarily seen and those receiving high-class cultivation. A large basket of plants was shown by Mr. G. Fensom, Tottenham, at the last meeting of the Royal Horticultural Society, when a First Class Certificate was awarded. All the segments of the fronds were of unusual breadth, but the terminal one was quite out of its usual character, so large and deeply lobed was it. The plants on the contrary were of various sizes, but some of them were quite small compared with the dimensions attained by large old plants of this species. The whole surface was of a rich shining dark green.

Remarkable Begonia Leaves.

I NOTICE in your last the dimensions of the Begonia leaves grown at that far-famed Grape-growing establishment, Clovonfords, and write to say that I had some very fine Begonias of the Rex type last autumn, which were in the conservatory adjoining Cyfarthfa Castle, South Wales. The largest measured exactly 24 ins. by 18 ins. They were grown in good turfy loam with a little charcoal, and a good dose of Thomson's Vine and Plant Manure. I may here state that our best Pines, pot Vines, Tomatos, and Chrysanthemums are grown with this excellent manure.—*J. Jeffrey, Caversham Park, Reading.*

Chironia palustris.

A FORM of this beautiful plant may be seen in one of the borders at Kew. In general appearance it may be compared to a strong-growing Erythræa, and, like that, belongs to the Gentian family. It has, however, much stouter stems, and larger, oblong, or linear deep green leaves, and is an herbaceous perennial, at present about 6 ins. or 8 ins. high, with branching stems bearing axillary and terminal cymes of its bright rose-coloured flowers. The latter are of appreciable size, and produced in succession for a considerable length of time from the top downwards, the branches in the axils of the lower leaves being the last to develop their blooms. Although it may grow and flower freely while the summer lasts, it can hardly be expected to outlive our winter unprotected. A number of the species have been introduced from time to time, either of an herbaceous or sub-shrubby nature, and are grown in the greenhouse. They may be propagated by means of cuttings, and succeed best when grown in a compost of fibrous or lumpy loam, with a larger quantity of peat, and plenty of sand.

Senecio macrophyllus.

THE handsome character of this magnificent Composite can hardly be over estimated when seen in its best and most luxuriant form. When planted in deep rich soil, and left undisturbed for some years, the roots continue to increase in strength, and the stems also get taller, ranging from 3 ft. to 6 ft. in height. The leaves are mostly radical, oblong-ovate, of a deep glaucous hue, attaining a great size, and the whole plant has a sub-tropical appearance, hence the advisability of utilising it in the sub-tropical or even wild garden. It is for the matter of that a grand and decorative plant for the herbaceous border. The stems bear a few small bract-like leaves, and terminate in a large spike-like panicle of bright yellow flowers that are very conspicuous, even at a distance. The species of this section of the genus are generally grown under the name of Ligularia, and that under notice is without doubt the most handsome of all, and ought to find its way into every collection, but unfortunately it is of very slow increase, and seldom produces good seeds in this country. It is a native of the Caucasus.

Palava flexuosa.

THE flowers of this plant are of medium size for the order, but are not very conspicuous on account of their soft colours. They are produced singly in the axils of the leaves, but projecting beyond them are seen to advantage. The corolla is pale rosy purple, white towards the base, with purple claws. The whole plant does not exceed 8 ins. or 10 ins. in height, and is therefore dwarf compared with the Mallows, Malope trifida, and Lavatera trimestris, which generally attain a height of 2 ft. or thereby when under good cultivation. Palava flexuosa is therefore well adapted for narrow borders or small gardens where gross-growing subjects cannot be permitted. The species is a native of Peru, from whence it was introduced in 1830; but although it may be considered an old inhabitant of British gardens it does not often find its way into cultivation. A large patch or bed of it may be seen in the collection of annuals in the gardens of the Royal Horticultural Society at Chiswick.

Centaurea babylonica.

A FINE sub-tropical effect is obtained where a group of this Composite is planted in deep rich soil, and if sheltered from high winds so much the better. The stems grow from 6 ft. to 10 ft. in height, and are clothed for some distance on the lower half with large hoary leaves, resembling to some extent a Verbascum at a short distance away. The flower-heads are yellow, and produced along the greater length of the stem from the axils of the leaves. They are neither very large nor conspicuous, and the lower ones are partly concealed by the leaves, but as these get smaller towards the top of the stems the flowers become more prominent. It is quite hardy in this country, and was introduced from the Levant in 1710. For the sake of the hoary and cottony foliage alone it is well worth cultivating, even in the ordinary flower border, but if a sub-tropical effect is desired special treatment should be given it in the matter of soil, which should be moderately moist, in order to encourage vigorous growth. Being a perennial, it does not require to be raised annually, thus dispensing with the attention that half-hardy or tender subjects require.

The Cacao Tree.

INTERESTING as Theobroma Cacao is from an economical point of view, it is seldom seen outside of botanic gardens in this country, and rarely flowers, while the production of fruit is even more rare. There is a flowering specimen in the Palm house at Kew, and although it carries a considerable number of blooms, the fact is probably overlooked by ninety-nine per cent. of the visitors to that establishment; and if the botanically inclined are omitted, the percentage of the

public to notice it would even be less. The small inconspicuous flowers are produced in clusters from the stem and branches on wood from which the leaves have fallen, but at the nodes where leaves at one time existed. The petals are small and whitish, suffused with pale red, but are exceedingly curious from the way they are bent or curved and then hooded a little above the base. In this hood, which forms in reality a rather deep pouch, the five fertile anthers lie concealed, while five barren ones are long-pointed, erect, and completely hide the short style from view. All are united at the base into a short tube surrounding the ovary. The fruit is a large, oblong-elliptical, five-celled body, containing a considerable number of seeds, from which the cocoa or chocolate of commerce is chiefly produced.

Lonas inodora.

In spite of the quantity of flowers produced by this Composite it is by no means popular, probably from the lack of rays, which robs the flowers of much of the interesting character they would otherwise possess. For border decoration it merits a place on account of the conspicuous appearance of its heads, as seen in a mass, and for their long lasting properties. It is closely allied to Athanasia, which is also noted for the length of time its flowers last in presentable condition. In point of fact it has been figured under the name of Athanasia annua in the *Botanical Magazine*, t. 2276, and is still grown under that name on the Continent. The flower-heads are produced in corymbs well above the foliage in the same way as Aster Linosyris, a fact which accounts for their conspicuousness in spite of their small size. Besides being a hardy border annual it is also well adapted for pot culture, and flowers with equal freedom under those conditions. By sowing rather late it can be brought into flower late in autumn, when something for the sake of variety is wanted in the greenhouse or conservatory. It was originally introduced from Barbary in 1686.

The New Holland Daisy.

Such is a very appropriate name for Erigeron mucronatus, a small, Daisy-like, much-branched Composite, and a native of Australia and New Zealand. It is often grown in gardens and nurseries under the names of Vittadinia or Vittadenia triloba or V. australis. The stems are very much branched, and vary from 6 ins. to 12 ins. in height, bearing a profusion of white rosy-tipped flower-heads, for which Burns' lines to the "wee, modest, crimson-tipped flower" would have been specially appropriate. The plant in question is a perennial, with slender wiry stems, and is all but quite hardy—at least, in the southern parts of Britain. It is most adapted for rockwork from the fact that it should be kept moderately dry in winter. Propagation can be readily effected by means of cuttings under a hand-glass or frame.

Eucharidium concinnum.

The flowers of this plant have three-lobed petals similar to those of Clarkia pulchella, to which the whole plant bears a considerable resemblance, but is altogether dwarfer and more suitable for gardens of small extent. It is a native of North America, and was introduced as long ago as 1787—that is, more than a hundred years ago, but is even now far from common, although it is difficult to conceive why this should be so, considering the pretty effect produced by a patch, or even a bed of it. The branching stems grow 6 ins. or 8 ins. high, and flower with great freedom during the present month. E. c. grandiflorum, usually spoken of in seed lists as distinct, merely differs in size. The flowers are of a deep rosy purple, variegated with branching white veins. There is also a white variety, but except by way of contrast there are probably few that would be much taken by it if grown by itself.

ANNUALS SUITABLE FOR LONDON GARDENS.—II.

Poppies and Poppyworts.

The Poppies that were honoured by the Floral Committee of the Royal Horticultural Society in the manner mentioned in our last issue, are pretty numerous, but they are all varieties or races reducible to two well-known species—namely, Papaver Rhæas and P. somniferum. To the former of these belongs the beautiful Caucasian P. Rhæas umbrosum, generally considered a distinct species. It is notable for its dwarf habit, glaucous foliage, and brilliant crimson-red flowers, bearing a conspicuous black blotch at the base of each petal, and the black is sometimes surrounded by a white line. Double varieties have been grown in gardens for many years under the names of Carnation, Picotee, and Ranunculus-flowered Poppies, according to their particular form and markings. More recently a magnificent strain of single kinds presenting a great variety of the most delicately blended colours has been raised from sports of the wild type under the name of Shirley Poppies, and these deservedly met the approval of the committee. They thrive as well in London gardens as in a cornfield. Hooker's double Poppies belong to an Indian plant of large size and bushy habit, and are described under the name of Papaver Hookeri, but modern botanists consider the latter only a form of P. Rhæas. They are of various beautiful colours, but the supernumerary petals are very narrow, the whole flower resembling a narrow-petalled double Anemone.

The Opium Poppy (Papaver somniferum) has been grown in British gardens from time immemorial, but continental growers seem to have been most diligent in raising new varieties, hence the origin of the name often applied to them. Several distinct races or strains have received marks of distinction, amongst which is Mephisto, a single-flowered brilliant scarlet-red kind, with a large black blotch at the base of the petals, which are ragged at the apex. The Danebrog is a single rose or scarlet Poppy, with a large white blotch at the base of each petal. Rawson's Fringe is a beautiful variety that may be considered a double Danebrog. The petals are very numerous, ragged or fringed at the apex, and white with red edges. Steinforth's strain is a dwarf one, averaging about 18 ins. high, and bears a profusion of medium-sized but very double pink and white flowers with shortly ragged petals.

The double Pæony or Pæoniæflorum section is well represented at Chiswick by a large number of varieties, differing chiefly in colour and other minor particulars. The distinguishing characters of this strain are the large-sized, fully double, broad-petalled flowers, which resemble those of a Pæony. They have been selected according to colour, each kind being grown separately, and they appear to come pretty true from seeds. The names given indicate the colours, such as rose, dark red, violet-black, double white, dark lilac, white and crimson, and striped red. The dark lilac is a very dwarf variety with lilac-purple, deeply-fringed flowers, while the double white is very floriferous, and might well be named Snowdrift.

Another section of the Poppy family includes the Eschscholtzias, whose finely-divided leaves and showy flowers win admiration for them in many gardens. The different varieties are classed under E. californica, E. crocea, and E. tenuifolia; but all those coming under the first two names are mere varieties of E. californica, and some authorities consider E. tenuifolia another form, and give it the name of E. californica cæspitosa. It differs so markedly, however, in size and in the general character of the foliage from the seedling stage onwards that we should hesitate in calling it a form of E. californica. The flowers are small and pale sulphur-yellow. Mandarin is a beautiful variety of E. californica, the outer surface being of an intense orange-crimson, while the inner face is orange-yellow. Crocea is an orange-coloured form, with rather more slender and finely-cut foliage. Aurantiaca differs in having the darker colour internally. E. c. alba is pure white, with the exception of a pale sulphur blotch at the base of the petals, yellow anthers, and part of the filaments violet-black; there is a double form of this. Rose Cardinal is of a beautiful soft rose externally, and creamy yellow internally, while Rosea plena is a double form of it. All are exceedingly pretty, but apparently not quite constant, as they come mixed. Platystemon californicus, with sulphur-yellow flowers, must be included here.

NOTES FROM SCOTLAND.

East of Scotland Union of Botanists' and Naturalists' Societies' Annual Conference.—The sixth annual conference of these societies was held on July 16th to 20th at Alford, West Aberdeenshire. The societies embraced in the Union are the Aberdeen Natural History Society, the Alford Field Club and Scientific Society, the Arbroath Horticultural and Natural History Society, the Dundee Working Men's Field Club, the Kircaldy Naturalists' Society, the Largo Field Naturalists' Society, the Montrose Antiquarian Society, the Montrose Scientific and Field Club, and the Perthshire Society of Natural Science. The visitors arrived at Alford on the morning of the 16th, and were met at the station by the Rev. Mr. Bell, Keig; and the Rev. Mr. Gillan, Mr. Baxter, and Mr. Stephen, Alford, as a deputation from the Alford Society. The party proceeded to the "Haughton Arms" Hotel, and partook of luncheon.

Meeting of the Council.

The Council met in the Volunteer Hall at one o'clock. In the absence of Mr. Gilmour, of Montrave (the president), Mr. R. O. Farquharson (the president elect) was called to the chair. The financial statement showed a balance at the credit of the Union. Mr. Ferrier, Montrose, and Mr. Anderson, Aberdeen, were appointed auditors. Professor J. W. H. Trail, Aberdeen University, was re-appointed to edit "The Proceedings," and Mr. Robert Pullar, Perth, was appointed to represent the Union at the meetings of the British Association at Newcastle. A letter was read from Dr. Howdon, Montrose, who, on behalf of the two Montrose societies, invited the Union to hold their conference next year at Montrose. It was unanimously agreed to accept the invitation. The next business was to consider the advisability of petitioning the Education Department to make one of the two science subjects—botany and geology—necessary for students attending training colleges. The card of business stated that if these subjects were compulsory the future teachers of Scotland would be enabled to take a practical interest in natural history, and thus secure to coming generations the advantages to be derived from the studies for which their societies were instituted. The chairman remarked that the step was a most important one to take; and, on his suggestion, Mr. Sang, the secretary, was instructed—in the name of the Union—to draw up a petition on the subject for presentation to Dr. Craik. This was all the business before the Council.

The General Meeting

took place at two o'clock. There was a large attendance, and on the motion of Mr. Sang, Mr. R. O. Farquharson, the new president, was called to the chair amid applause. The chairman returned thanks for the honour of being appointed president of the Union, and in the name of the Alford Field Club, he stated that they would accord them every hospitality, and hoped they might find the Vale of Alford quite as good a place as they expected it to be. The proceedings of the Council were approved of, and a number of interesting and instructive papers were then read, which we hope to publish summaries of in our next. At the conclusion of the reading of the papers, on the motion of the chairman, the contributors were warmly thanked. A vote of thanks to the chairman, on the motion of Mr. Sang, closed the proceedings. The savants were then photographed, after which all sat down to an excellent dinner provided by Mr. Brown, Haughton Arms Hotel, and presided over by Mr. R. O. Farquharson. Then, on the invitation of Mr. and Mrs. Farquharson, a ramble in the Haughton grounds and gardens took place, and the visitors had the pleasure of seeing a microscopical exhibition of granites, diatoms, &c.

Excursions.

The first excursion was made on Wednesday, when the programme consisted of a drive up the Donside Valley, the beauty of which was much admired, the features of the country being so very different from what many of the members anticipated. The cup-marked stones at Ley appeared to puzzle the antiquaries. The ord houses of Glenkindie and muirs of Kildrummy practically illustrate the rude and primitive dwellings of our forefathers. Kildrummy Castle was inspected, and the party photographed. An excellent repast was in waiting at Kildrummy Inn, after which a start was made to head-quarters (Alford), where all arrived highly delighted. On Thursday the party drove to Craigievar Castle, and visited the ord houses of Culsh and Tarland, Loch Kinnord, the pre-historic city of Davon, lake dwellings, &c., and thence drove to Ballater, where they put up for the night at the "Invercauld Arms" Hotel. On Friday the route was continued southwards, the party botanising through Glen Muick, and enjoying to the full one of the most beautiful and majestic portions of Scottish mountain scenery. On Saturday the journey was continued through Glenshee on to Blairgowrie, where the party after five days' companionship broke up amid general regrets, but all highly pleased with the conference and excursions of 1889. The arrangements of Mr. Sang, the secretary of the Union, and the local committee proved excellent.

FLORICULTURE.

The National Carnation and Picotee Society.

SOUTHERN SECTION.

To the surprise of the southern growers, the annual exhibition of this society, held in the Drill Hall, Westminster, on Tuesday last, proved to be the best that the society has ever held in London. The roasting weather of a month or six weeks ago brought the flowers along so fast, that it was at one time doubtful if there would be any flowers to show; but the recent change steadied somewhat the rate of development, and we had after all such a display as wonld have done credit to the most favourable of seasons. The points of excellence which stood out so markedly were the increased number of exhibitors, and the very small proportion of absolntely poor flowers. The average quality was exceedingly good all round, and very level.

It is true we have seen better Carnations in some few stands at former exhibitions, but what they seemed to want in brightness was more than compensated for by the increased purity and loveliness of the Picotees. It was not a case this time, as on so many occasions before, of Eclipse first and the rest nowhere—the rising amateurs made a bold bid for victory, and came very near to the high standard of excellence maintained by such growers as Mr. Turner and Mr. Douglas. Clearly these gentlemen will have to look to their laurels if they wish to retain them untarnished. The following is the list of awards:—

CARNATIONS.

TWENTY-FOUR CARNATIONS: First, Mr. Turner, with Thalia R. F., Mr. Danniells C. B., Prince George of Wales P. F., Mars S. B., James Taylor P. P. B., James Douglas P. F., Charles Turner S. B., Mrs. Barlow P. P. B., John Ball S. F., Robert Lord S. B., Rifleman C. B., Unexpected P. P. B., Jessica R. F., Sporting Lass P. F., James McIntosh S. B., Sam Newman, Robert Houlgrave S. B., Beauty of Chelmsford, George S. B., and duplicates of several of the varieties named. Second, Mr. James Douglas; third, Mr. M. Rowan, Clapham; fourth, Mr. R. Sydenham, Birmingham.

TWELVE CARNATIONS: First, Mr. M. Rowan, with Master Fred C. B., George Melville, W. Skirving P. P. B., Jas. Donglas P. F., Jessica R. F., Fred S. B., Rob Roy, Robert Houlgrave S. B., Sportsman S. F., Edward Rowan and John Whitham S. F. Second, Mr. Douglas; third, Mr. J. Lakin, Temple Cowley; fourth, Mr. W. L. Walker, Dunothie, Earley, Reading; fifth, Mr. H. W. Headlands, Leyton; sixth, Mr. W. J. Nicholls, Kingsland Road, N.E.

SIX CARNATIONS: First, Mr. C. Phillips, Reading, with Robert Houlgrave S. B., Jas. Douglas P. F., J. Harland C. B., Alisemond S. F., and Rifleman C. B. Second, Mr. T. E. Henwood, Earley, Reading; third, Mr. H. Startup, Stanley Road, Bromley; fourth, Mr. J. Anstiss, Brill; fifth, Mr. S. Nutt, Ross Road, Southampton; sixth, Mr. J. J. Keen, Castle Street, Southampton.

SINGLE FLOWERS.—Scarlet bizarres: First, Mr. T. E. Henwood; second, Mr. Douglas; third, Mr. C. Phillips, all with Robert Houlgrave; fourth, Mr. Phillips, with R. Lord; fifth, Mr. Turner, with James McIntosh. Crimson bizarres: First, Mr. Rowan, with Fred; second, Mr. Douglas, with John Harlaud; third, Mr. Turner, with Rifleman; fourth, Mr. Phillips, with John Harland; fifth, Mr. Rowan, with J. D. Hextall.

PINK AND PURPLE BIZARRES: First, Mr. J. Lakin, with a seedling; second, Mr. Turner, with James Taylor; third, Mr. Rowan, with W. Skirving; fourth, Mr. Phillips, with the same; and fifth, Mr. Headland, with Miss Gorton. Purple Flakes: First and second, Mr. Turner, with Prince George of Wales; third and fourth, Mr. F. Hooper, Bath, with Mayor of Bath; fifth, Mr. W. J. Nicholls, with Squire Whitbourne. Scarlet Flakes: First, Mr. Douglas, with Alisemond; second, Mr. Sydenham, with Sportsman; third, Mr. Douglas, with Alisemond; fourth, Mr. C. Phillips, with Sportsman; and fifth, with Matador. Rose flakes: First and third, Mr. Douglas, with Thalia; second and fifth, Mr. F. Hooper, with Mrs. G. Cooling; fourth, Mr. Henwood (unnamed).

PICOTEES.

TWENTY-FOUR PICOTEES: First, Mr. Douglas (in a very close competition with Mr. Turner, in which many thought the awards should have been reversed), with Jessie P. E., Princess of Wales H. R. E., Her Majesty L. P. E., Calypso H. P. E., Mrs. Sharp, H. R. E., Clara Penson L. P. E., Brunette H. R. E., Mrs. Payne R. E., Liddington's Favourite L. R. E., Pride of Leyton L. P. E., Nymph L. P. E., Mrs. Chancellor H. P. E., Mrs. Gorton L. R. E., Muriel H. P. E., John Smith H. R. E., &c.; second, Mr. Turner; third, Mr. M. Rowan; and fourth, Mr. F. Hooper.

TWELVE PICOTEES: First, Mr. M. Rowan, with Brunette H. R. E., Mrs. Payne R. E., Mrs. Sharp H. R. E., Liddington's Favourite L. R. E., Edith Dombrain H. R. E., Nellie L. R. E., Amy Robsart, J. B. Bryant H. R. E., Muriel H. P. E., Clara Penson L. P. E., Morna, and Mrs. Gorton L. R. E.; second, Mr. T. E. Henwood; third, Mr. Douglas; fourth, Mr. J. Lakin; fifth, Mr. H. W. Headland; and sixth, Mr. H. Morris, Hayes, Kent.

SIX PICOTEES: First, Mr. C. Phillips, with Liddington's Favourite L. R. E., Mr. Ricardo, Mrs. Payne R. E., J. Smith H. R. E., Zerlina H. P. E., and Ann Lord L. P. E.

SINGLE BLOOMS. — Heavy red-edged: first and second, Mr. Douglas, with Brunette; third and fourth, Mr. Turner, and fifth, Mr. Henwood, with Princess of Wales. Light red-edged: First, Mr. Douglas; and second, Mr. Rowan, with Mrs. Gorton; third and fourth, Mr. C. Phillips, with Thomas William; fifth, Mr. Douglas, with Mrs. Gorton. Heavy purple-edged: First, Mr. T. E. Henwood (nnnamed); second, Mr. Turner, with Mrs. Chancellor; third and fifth, Mr. Douglas, with Calypso; fourth, Mr. Lakin, with a seedling. Light purple-edged: First, Mr. Lakin, with a seedling; second and fifth, Mr. Turner, with Baroness Burdett-Coutts; third, Mr. Henwood (unnamed); fourth, Mr. Headland, with Pride of Leyton. Heavy rose-edged: First, Mr. Turner, with Sarah Payne; second and third, Mr. Douglas, with Mrs. Payne and Mrs. Sharp; fourth, Mr. Turner, with Edith D'Ombrain; fifth, Mr. Rowan, with Lady Louisa. Light rose-edged: First, Mr. Henwood (unnamed); second, Mr. Turner, with Liddington's Favourite; third, Mr. Rowan, with Nellie; fourth, Mr. Douglas, with Liddington's Favourite; fifth, Mr. C. Phillips, with Nellie. Yellow grounds: First and second, Mr. Douglas, with Remembrance; third, Mr. Turner: and fourth, Mr. Henwood, with Agnes Chambers; and fifth, Mr. Henwood, with Anne Douglas.

SELFS AND FANCIES.

The first prize for plants went to Mr. Turner, and the second to Mr. Douglas; and in a very fine class for twelve selfs and fancies, Mr. Henwood was first, Mr. Rowan second, Mr. R. Sydenham third, and Mr. W. L. Walker fourth. For a dozen yellow grounds the awards went to Mr. Douglas, Mr. F. Hooper, and Mr. J. F. Kew, London Road, Southend.

NEW VARIETIES.

Certificates of Merit were awarded to Mr. Douglas for Rnby, an appropriately-named self; for Calypso, a very promising heavy purple-edged Picotee; and for Remembrance, a very fine yellow ground; and to Mr. Headland for a heavy rose-edged Picotee named Souvenir de Headland.

Laced Pinks at Manchester.

As was generally anticipated would be the case, owing to the forcing nature of the season and the lateness of the fixture, Pinks were not numerously shown at Old Trafford on Saturday last. Messrs. Cocker & Son, Aberdeen, whose bloom the fixture seemed to suit, showed a fine collection of over 100 flowers, large blooms and well laced. Mr. Barlow staged a stand of twenty-four blooms in thirteen varieties, well laced and beautifully finished, but small, being all side blooms. Mr. Thurstan sent from Cardiff a stand of six blooms of a similar character. The flowers were much admired by the visitors.

IPOMÆA LOBATA.

THERE are few that would take this plant for a member of the Convolvulus family, so strikingly different is it from all other species in cultivation. It is most frequently grown under the name of Mina lobata, and when kept as a separate genus it is a monotypic one—that is, containing a single species only, a native of Mexico. If joined to Ipomæa, it comes nearest to the section Quamoclit, but is distinguishable from the latter by its elongated, tubular, and somewhat ventricose corolla. The flowers are moderate in size, and freely produced in one-sided racemes from the axils of the leaves. In the bud state, and just until on the point of expansion, the blooms are of a bright scarlet or crimson; but when fully opened they change to a pale yellow, sulphur upwards, and white or nearly so at the mouth. A large plant well furnished with flowers in all stages of expansion is a beautifnl object. The specific name refers to the deeply three-lobed leaves, which find their counterpart in many other species of Ipomæa, some of which have much-divided leaves.

When cultivated nnder glass, this beantifnl climbing annual often fails to give satisfaction, either by the flowers being few or badly-colonred, or both. The best plan is to raise it in heat every spring, and plant in a sunny unshaded position ont of doors when the weather becomes warm. A few stakes or wires are necessary, upon which it may climb.

LETTUCE, NEW YORK.

I HAVE sent yon a specimen sample of a new Cabbage Lettuce called New York, a packet of which, among other novelties in seeds, was sent to us for trial. As a Cabbage Lettuce I think much of it; as you will see from the sample sent, it grows to a large size, is very close and compact, also very crisp and sweet; indeed, of the two latter qnalifications it partakes more of the Cos than the Cabbage Lettuces. It folds in very closely, and conseqnently blanches well. It is stated that it is capable of being grown to the weight of 6 lbs. This I do not doubt, as we have scaled some considerably over 4 lbs. in weight. Not its least merit, however, in our opinion, is the length of time it will stand on the ground before bolting to seed, which shonld be one of its greatest recommendations to the gardener.

The first sowing, from which the sample sent was raised, was made on the 15th April, and we are still cutting from the same batch of plants, and by the few that we have left, I see no sign of their going to seed—they are more likely to rot first. For comparison we sowed several varieties of both Cos and Cabbage on the same date and on the same border that New York was sown on, and not one of them could get throngh the very hot and dry weather prevailing at the end of June and the first week in the present month, without bolting to seed.

Not so with New York; it seemed rather to revel in the hot dry weather and grow the more luxuriantly, as if bent on defying Sol's powerful rays, which speaks much in its favour.

Most gardeners know what a difficult matter it is, about midsummer and some time after, to get Lettuces of any kind to stand on the ground sufficiently long so as to grow to a fair size and with fairly-blanched hearts before bolting to seed. This difficulty will be overcome by securing the variety nnder notice. It begins to fold in early and is fit to cut for salad when only one-third grown, which, coupled with its long-standing or staying qualities, gives a length of six weeks, over which time cutting can go on from the same batch of plants, and this length of time we have been cutting from our first batch.

For filling the salad bowl it is without doubt the best Cabbage Lettuce extant, and when fully known we anticipate it will be much sought after.—*J. Kipling, Knebworth.*—[A HUGE specimen of this new Cabbage Lettuce was received from Mr. Kipling. Owing to its large dimensions, it more resembled a real Cabbage than a Lettuce, and consisted of a compact mass of leaves occupying a considerable amount of space, in the centre of which was a crown or heart of flattened globular shape, and measuring 7 ins. or 8 ins. in diameter. It was tied up when we received it, but evidently required no such aid when growing to keep it compact, as it is naturally of that habit. The whole of the leaves were of a pale green where exposed, while the heart was well bleached, tender, crisp, and mild in flavour. The flattening of the crown depends upon the outer leaves being broad and folded right over the top. From its general appearance it would seem to have grown very rapidly, but our correspondent does not say whether any special method of cultivation had been adopted. But under any condition the New York Lettuce would seem to be a giant of its kind, and capable of supplying a great amount of produce.—ED.]

THE MALABAR GLORY LILY.

THE Gloriosa superba, Malabar Glory Lily, or Superb Lily, as it is severally called, does not so generally find a place in private collections as it deserves. It is really a superb flower, as its various names indicate. Its native habitat is the East Indies, chiefly Malabar, and also in New Guinea, and was introduced to this country about the close of the seventeenth century. The plant is of a slender trailing habit, strong plants

making annual growths of from 7 ft. to 10 ft. long, and can be trained on balloons or tall branching sticks, to which they will cling by means of their tendrils. It can also be trained upon the roof of the house; the last would probably be the best position for it, but as the branches die off and the bulbs are dormant for several months in the year, this would probably be an objection in most places.

It is not by any means a difficult plant to grow. The bulbs should be placed in the pots in which they are intended to flower, during the month of March or beginning of April, before they put out new fibres or stalks, in a mixture of equal parts of loam and leaf-soil, and a little well-decomposed cow-manure with a sprinkling of silver sand, good drainage being an essential point. Water must be withheld until the buds make their appearance, when the plants should be placed in a good brisk top and bottom heat, in which they revel. During the summer while growing they will frequently require to be watered, but must only have small quantities, as they are always liable to rot. All through the growing period strict attention must be paid to training the shoots, or else they may get entangled with other plants.

When the plants have done flowering, and the foliage begins to turn yellow, water should be gradually withheld. The roots may be taken out of the ground when the stalks are decayed, and placed in sand and preserved during winter in a dry place, and where they can receive no injury from the cold. Some prefer to let them remain in pots, simply laying them on their sides until the following season, and then re-potting them. The plant is increased by division of the roots in spring, and may also be grown from seeds. In this country it has seldom perfected its seeds. I am given to understand that the roots and every portion of the plant is poisonous, and Johnson says the true name is Clinostylis.—*Alfred Gaut.*

CHRYSANTHEMUMS.

FEEDING AND TOP-DRESSING.

Successful exhibitors know how highly important these two points are in the cultivation of Chrysanthemums, and under no pretence whatever can they afford to neglect them. Under these circumstances a few remarks on the subject may be acceptable to young hands, and to others who have not hitherto experienced the pleasure of winning honours at shows, but who wish to do so in the immediate future. In regard to feeding, this ought to begin the first or second week in July, and continue till the blooms are three parts expanded. Perhaps no better stimulant than liquid manure from a farmyard can be used, all points considered, but as this varies greatly in strength, judgment must be exercised in using it. It is better to begin with weak doses, which should be given at intervals of a few days; afterwards, say from the end of August onwards, it may be increased in strength, and soot-water given occasionally.

There are many kinds of artificial manures that may be used with advantage by sprinkling a little over the surface soil, to be washed in with the rains, or carried down to the roots in the usual course of watering. More than ordinary caution should be taken with such manure, or the consequences may be that many of the surface roots will be killed; I have had unpleasant experiences of this kind, and do not intend to be so liberal with them in the future as in the past. About the middle of August the plants will be greatly benefited by a good top-dressing of turfy loam, four parts, and one each of bone-meal, horse-droppings, and leaf-soil. This should be pressed down quite firm, allowing the turf to form a rim of fully an inch above the sides of the pots.—*J. H. W.*

POLEMONIUM RICHARDSONI.

POLEMONIUM RICHARDSONI.

ALL the species of Polemonium are pretty, but the larger flowered ones command the most attention in gardens. P. cœruleum, P. Richardsoni, and P. reptans are the best known, together with their varieties. A variegated form of P. cœruleum with white flowers is extensively used in some gardens as an edging to flower beds. Botanically, P. humile is the more correct name for P. Richardsoni, but the latter is better known in gardens, and for that reason we have used it here. The leafy stems vary in length from 6 ins. to 8 ins. or more, and bear corymbose panicles of large rich blue flowers. All the larger leaves are mostly crowded at the base of the stem, and like those of P. cœruleum, are beautifully pinnately dissected. The species is known under a third name of P. villosum, and there is a pretty variety of smaller size than the type with violet or lavender-blue, or nearly white flowers. This is P. humile pulchellum of botanists, but it is also cultivated under the name of P. pulcherrimum. Being a native of the Rocky Mountains, from whence it was introduced in 1827, it constitutes a suitable plant either for the border or rockwork, and proves quite hardy in the southern countries, at least. Its dwarf habit, finely cut leaves, and the quantity of flowers it produces, as may be seen by our illustration, are the chief characters that recommend it to the attention of horticulturists.

CROP PROSPECTS.

I HAVE heard of no complaints respecting light crops of any kind of orchard fruit in this district, except here and there on a few Apple trees that were infested with caterpillars. As far as this garden is concerned I would not wish for a better crop, and the fruit is forward. Pears are deficient on walls here, whilst trees in the open are well cropped, including two trees of Marie Louise (about 35 ft. high), which only bear occasionally; Peaches and Apricots are grown only in a few places in the open, and I believe they are a failure, at any rate we have not a single fruit of either, a circumstance that has not occurred during the past ten years, if ever it did before. Last year's growth died to within a few buds of the base on all our Peach trees on the walls, and in a less degree on trees in unheated and overshaded houses that were built perhaps before the large Oak and other trees were planted in front of them.

No doubt the wet dull summer of 1888 is responsible for this, as the wood never ripened. Will anyone explain to me how it is that we have more Plums this year than we have had during the past ten years put together? On a tree of Golden Drop a dozen fruits might have been covered with the palm of the hand. I have hitherto attributed the paucity of fruit on the Plum trees to unripened wood, but I must have some other excuse now if future failure occur. Will anyone furnish me with a reasonable one? Strawberries have been an extraordinary crop, but for all that I have not heard of the wholesale price being less than 5*s.* per dozen [?]. There are remarkably heavy crops of Gooseberries and Currants where birds have not interfered with the buds. I see the caterpillar has defoliated some of the Gooseberry bushes, and a start was made on a few trees in this garden, but some finches set to and cleared them, which is the only kind act I ever remember them doing for me.—*W. P. Roberts, Preston.*

BUSH fruits are abundant with me, and Strawberries promised well for a heavy crop, but the drought materially reduced the bulk. Wall fruit was all that could be desired in the early part of the season, but the Plums have nearly all fallen off, and the Pears too. Apricots and Peaches are an average crop, and the latter are abundant indoors. Potatos are a splendid crop, and free from disease. Peas are abundant, as indeed are vegetables of all kinds. We have had nice rains lately, which have greatly benefited vegetation.—*W. Watson, Gardener, Potterhanworth Rectory, Lincoln.*

GARDENERS' ORPHAN FUND.

ANNUAL MEETING.

The annual meeting of the subscribers to this charity was held at the Cannon Street Hotel on Friday, the 19th inst, at 2 p.m., Mr. George Deal presiding. The minutes of the previous annual meeting having been read and signed, the chairman moved the adoption of the following report of the Executive Committee, and cash statement for the year 1888-89 :—

In presenting their second annual report, the Executive Committee desire to record their high appreciation of the support that has been accorded to the charity in various ways during the past year.

They would also particularly express thankfulness in having been enabled during the same period to dispense the means of support to a number of children, who, but for the assistance thus granted, would have suffered privations which it is felt that no orphan child of a British gardener should endure. Experience has brought home to the minds of the committee, more forcibly than ever, the pressing need that exists for a strong fund to meet the urgent claims made upon them.

It is impossible adequately to represent to the subscribers the profound expressions of gratitude received from widows of gardeners and other relatives of the children who were last year elected to participate in the benefits of the fund.

It will be remembered that at the first annual meeting six candidates were elected by the votes of the subscribers, and that subsequently, owing to the satisfactory character of the financial statement then presented, the committee felt justified in placing the four unsuccessful candidates on the fund also. Shortly afterwards, through the generosity of Mr. N. N. Sherwood, who placed the sum of £100 at the disposal of the committee, yet another child was placed on the fund—making eleven in all who now participate in its benefits, as a result of the first year's work.

The committee desire to express their deep obligations to his Grace the Duke of Bedford for the use of the Flower Market in Covent Garden for the purpose of holding the second evening fête, which was as beautiful a floral spectacle as it was beneficial to the object it was designed to assist, the amount derived on the occasion being over £200. Grateful thanks are tendered to the Baroness Burdett-Coutts who so kindly opened the exhibition, to the stand-holders who so freely contributed the plants and flowers, and to all who assisted in rendering the fête such a gratifying success.

To his Grace the Duke of Marlborough the best thanks of the committee are tendered for opening the famed gardens of Blenheim at an appropriate time on behalf of the fund, and to his Grace's gardener, Mr. T. Whillans, for his willing and effective co-operation. The amount raised by this means was £73.

The committee are also greatly indebted to Mr. D. T. Fish, Hardwicke House Gardens, Bury St. Edmunds ; Mr. Owen Thomas, Chatsworth ; Mr. H. B. May, Edmonton ; Mr. W. Wildsmith, Heckfield Place ; Mr. A. Dean, Bedfont, and others, who, in their respective districts, organised entertainments in aid of the fund, which resulted in sums of substantial value being raised. To the many friends who have undertaken the duties of local secretaries the committee desire to express appreciative thanks for the valuable services they have rendered, and among them they would specially mention Mr. J. Hughes, of Birmingham, who by means of collecting boxes has obtained a considerable amount in small sums.

To the gardening press the committee record their great obligations for valued support ; also to Mr. John Fraser, Lea Bridge, and Mr. W. Sharp, for auditing the accounts, a statement of which is herewith presented.

Acting on the advice of Mr. A. H. Smee, one of the trustees, and having regard to the stability of the fund, the committee regret being unable to recommend the election on this occasion of more than five children out of fourteen applications ; and it is felt that this fact affords the strongest appeal for further aid for the succour of helpless children. Through the munificent gift of £500 by the Duke of Bedford, the committee have great pleasure in announcing that a sixth child will this day be placed on the fund.

Mr. George Gordon, of Gunnersbury, has been elected a member of the committee in the place of the late Mr. Howe (an earnest worker in the interest of the fund, whose death is much regretted), and Mr. F. Q Lane, of Great Berkhampstead, in the place of Mr. H. Williams, resigned. The members of the Executive Committee who retire according to the rules are Messrs. Cannell, Goldring, Head, Laing, Nicholson, Penny, Poupart, and Roberts, who are recommended for re-election. The retiring auditor, Mr. W. Sharp ; the treasurer, Mr. T. B. Haywood ; and the hon. secretary, Mr. A. F. Barron, are also nominated for re-election.

The committee venture earnestly and respectfully to present the claims of the Gardeners' Orphan Fund to the consideration of all who derive pleasure from, or are engaged in horticultural pursuits, and will be thankful for the employment of such means as can be devised for according it the support that is needed for carrying out its beneficent work.

The motion for the adoption of the report was seconded by Mr. John Wills, and carried unanimously. On the motion of Mr. J. Smith, Mentmore, seconded by Mr. John Laing, T. B. Haywood, Esq., was re-elected treasurer ; and on the motion of Mr. Sharman, seconded by Mr. Bates, Mr. W. Sharp was re-elected auditor. Mr. A. Dean moved that the retiring members of the committee—Messrs. Cannell, Goldring, Head, Laing, Nicholson, Penny, Poupart, and Roberts—be re-elected. This was seconded by Mr. T. C. Ward, and carried unanimously. The chairman then moved the re-election of Mr. Barron as hon. secretary, which was seconded by Mr. Herbst, and also carried *nem. con.* After a brief discussion, the proposed addition to Rule XII, giving the committee power to award votes for amounts raised by means of fêtes and entertainments, was also adopted on the motion of the chairman, seconded by Mr. Asbee. Mr. B. Wynne moved and Mr. H. Turner seconded that Mr. R. Dean and Mr. T. C. Ward be elected scrutineers. This also was carried, and the meeting was adjourned until the close of the poll at four o'clock. On re-assembling the chairman announced the result of the election as follows :—Bessie Taylor, 257 ; A. J. Ireland, 233 ; E. W. Mosedale, 151 ; W. C. Allen, 133 ; D. G. Guthrie, 108 ; H. R. Preston, 103 ; F. Butcher, 43 ; Olive Chapelow, 87 ; Bessie Stronach Deedman, 73 ; Mary Grieve, 43 ; T. Henderson, 44 ; A. Lacey, 49 ; H. E. Skelton, 55 ; R. J. Todd, 92. The first five on the list were declared to be duly elected, and on the motion of Mr. Sharman, seconded by Mr. Laing, it was resolved that H. Robinson Preston, the next highest on the list, be placed on the fund, for which means had been provided by the munificence of the Duke of Bedford. Votes of thanks were heartily accorded to the treasurer and trustees, the auditors, the scrutineers, the Executive Committee, the hon. secretary, and the chairman.

THE ANNUAL DINNER.

The second anniversary dinner of the fund was held in the evening, Sir Julian Goldsmid, Bart , M.P., presiding. A numerous company assembled, including Dr. M. T. Masters, Messrs. Shirley Hibberd, G. Deal (chairman of the Executive Committee), A. H. Smee (trustee), H. J. Veitch and H. M. Pollett (vice-presidents), A. F. Barron (hon. secretary), D. T. Fish (Hardwicke), J. R. Bourne, A. W. G. Weeks, John Wills, F. Segar, John Laing, H. Turner, H. J. Cutbush, J. Smith (Mentmore), A. Dean, R. Dean, Jesse Willard, T. A. Dickson, J. Asbee, H. B. May, J. Hudson, Alderman Hardy (Chiswick), C. H. Sharman, H. Cannell, most of the other members of the committee, and a strong contingent of gardeners and growers for market, the total number present being 170 persons.

After the loyal toasts, which were given from the chair,

The PRESIDENT proposed the toast of the evening, "The Gardeners' Orphan Fund." He said that the Gardeners' Orphan Fund was now one of the well-established charitable institutions of England. In order to test that, it was desirable to call attention to the accounts. He found that last year their total receipts were £1,820, and the balance which they brought forward was £600. As the result of that year they were able to invest £1,000 in Government stock. On looking to the statement now presented he found that they had invested £2,525, an increase on the year of £1,500. The first year they were able to invest £1,000, the second year £1,500, and obviously next year they must invest £2,000. Well, if they went on at that rate the time would soon come to which he looked forward with satisfaction, when they would have funds of at least £10,000 invested. He should like that to be the case, for the reason that they were rapidly increasing the number of recipients of the charity, and there could be nothing better than that the income necessary for the orphans should come from the invested funds. Last year they allowed the orphans £139 15*s*. They must go on and largely increase that amount, for the reason that they had elected six more recipients of the fund in addition to the eleven elected last year. When he told them that those six were elected from a very much larger number of candidates, by that simple fact he proved the necessity which existed for founding the fund. The growers and stand-holders at Covent Garden had this year, for the second time, given a great fête in that magnificent building which belonged to the Duke of Bedford, and the result of that splendid fête was that they drew the attention of the Duke of Bedford more clearly and distinctly to the work which they had undertaken, and he gave to them a sum of £500 to invest in the fund. While expressing their thanks to the growers and standholders for work which they did they had the greatest encouragement to go on and do the same thing in future years, because it produced results of the most satisfactory character to the funds of the institution. Now in another way this was agreeable to the treasurer, because for the first time they had charged 5*s*. for the tickets the sum realised was £314, and the expenses at the fête, owing to the kind assistance of the growers, only amounted to £114. The result was that the funds benefited to the extent of £200 out of the admissions. That, he thought, must be a great encouragement to the energetic members of the committee, and if he was to

GARDENERS' ORPHAN FUND.—CASH STATEMENT FOR THE YEAR ENDING JUNE 30TH, 1889.

RECEIPTS.

	£	s.	d.	£	s.	d.
To Balance from last account	...		...	608	6	10
,, Subscriptions	323	8	0			
,, Ditto collected by Local Secretaries	102	12	0			
				426	0	0
,, Donations	890	7	2			
,, Ditto collected by Local Secretaries	183	3	0			
				1,073	10	2
,, Receipts from Covent Garden Fête				314	11	3
,, Proceeds from Annual Dinner				63	17	0
,, Ditto from Sundry Entertainments				26	11	6
,, Advertisements in List of Subscribers				33	11	0
,, Dividends on Stock				36	12	8
				£2,583	0	5

EXPENDITURE.

	£	s.	d.	£	s.	d.
By Allowances to Orphans			...	139	15	0
,, Printing and Stationery	75	16	2			
,, Hire of Rooms for Meetings	9	9	0			
,, Postages	30	1	0			
,, Addressing Circulars	5	5	0			
,, Advertising	0	14	0			
,, Collecting Boxes	8	8	0			
,, Expenses of Local Secretaries	1	4	8			
,, Secretary's Clerk	20	0	0			
,, Sundry Expenses (Petty Cash)	5	4	0			
,, Bank Charges	0	9	4			
				156	11	2
,, Expenses of Covent Garden Fête				114	6	9
,, Ditto Annual Dinner				66	13	9
,, Purchase of £503 2*s*. 5*d*. 2¾ % Stock	500	0	0			
,, Ditto £500 Canadian 3 % Stock	485	12	6			
,, Ditto £522 17*s*. 5*d*. 2¾ % Stock	514	7	6			
				1,500	0	0
,, Balance at Bank				605	13	9
				£2,583	0	5

NOTE :—INVESTMENTS.

2¾ % Consols	2,025	19	10
Canadian 3 % Stock	500	0	0
	£2,525	19	10

Having inspected the Securities, and examined the Books and Vouchers supplied to us, we certify the above Account to be correct.

Signed :—JOHN FRASER ... ... } *Auditors.*
WM. SHARP, CHARTERED ACCOUNTANT }

Dated 15th July, 1889.

single out any two more than others as having worked hard in this matter, he would mention Mr. Deal and Mr. Barron. He thought they—the subscribers—had struck a chord which had resounded in the heart of every man interested in the rising generation. Gardeners, like other men, had wives and families, and, like other men, they some time or other met with misfortune, and it must gladden their hearts to know that there was a fund from which their children, if they were unfortunately bereft of the assistance of their parents, might obtain sufficient to enable them to live. They would gladly increase the number of recipients of the fund, and they trusted that from year to year that would be done by the committee. Now, it was hardly necessary or desirable that he should point out to them who knew more about it than he did, how much devolved upon the gardeners. His charming neighbour to his left (Mr. Shirley Hibberd) told him that half an hour before he had begun a discussion with someone on beauty. "What is beauty?" was the point which he and his neighbours considered. He agreed that if they were to pursue the discussion, not only would the remainder of the evening not suffice, but the remainder of the week would be inadequate for it. So far as it went he might say that if there was any profession which promoted and increased the love of beauty, the admiration of everything that was beautiful, it was the gardeners' profession, because any man who devoted himself to any particular branch of the profession was quite sure to find out things which in themselves had new beauties which he could appreciate. Mr. Shirley Hibberd, for instance, had worked hard for years at the cultivation of Ivy. When he told them that there were a hundred varieties, and that recently Mr. Shirley Hibberd had discovered a Golden Ivy, he thought they would see that even with that neglected plant there was very much to be done. Why he had mentioned that was this, he thought that every gardener ought more or less to strike out if possible a particular line for himself, because it was evident they had not come to the end of the knowledge which was to be obtained with regard to the many varieties of plants and fruit with which they had to deal. He was quite satisfied that if each one of them would make up his mind to devote himself to one particular point, in the end he might obtain very useful information and most satisfactory results. He could give many examples of this, because they all knew that fresh varieties of fruit, for instance, had been produced by working gardeners, and many other things might be found out if they devoted their attention to a particular branch of industry. No man ought to consider himself too low to improve the profession to which he belonged. Perhaps they would say that had very little to do with the Gardeners' Orphan Fund. But it had to do with it in this way. It was obvious that if a man had originality and enterprise, that the possibility was that by finding out something he would improve his own position, and then instead of running the risk when he died of having his children thrown upon the Orphan Fund he would probably be a large contributor to the fund himself. That was an important matter, and it was for this reason that he had mentioned it. It was quite certain that they had shown by their attendance there their interest in this fund. They knew as well as he did the advantages which it offered to those placed upon it, and they ought to do all in their power to encourage the committee in the useful work which they had undertaken. It was with these views and these sentiments that he proposed to them "Success to the Gardeners' Orphan Fund."

Mr. G. Deal, in responding, said that as spokesman of the committee of the institution, he returned Sir Julian and those present the warmest thanks for the manner in which the toast had been proposed and received. With regard to the Gardeners' Orphan Fund, he was delighted to inform them that their success for the past year had exceeded even that of the previous year. It was predicted that the fund, having been established as a Jubilee fund, they might expect that the first year their contributions would exceed those that would follow. He was delighted to inform them that the very contrary had been the case. They had touched the spring of love in the hearts of gardeners towards the orphan. It seemed to him that in 1887-8 they had only sown a seed that was to bring forth greater, better, riper fruit in the year 1889. In the twelve months, 1888-9, they had had contributions exceeding those of the fifteen months of 1887-8. He took that as a great evidence of the fact that the Gardeners' Orphan Fund was thought to be a desirable institution, and that they were anxious to do their duty to the orphans of the less fortunate members of their fraternity. On behalf of the committee, he thanked the subscribers for the splendid manner in which they had come forward and contributed. Although he agreed with the suggestion of their distinguished chairman, that it would be well to establish a fund of £10,000, he thought there was such a future in store for the Gardeners' Orphan Fund, as would justify them in electing a larger number of children annually upon a smaller sum. The case was different to that of an insurance office, where they hardly knew the length of time to which some people might live. In the Gardeners' Orphan Fund there was the limit of age of fourteen years, and, therefore, the committee were in hopes that even with the present influx of capital, they might at some future time be able to elect a greater number of children *pro rata* than they had hitherto done. If similar success awaited them in the future to that which had attended them in the past, then they had a splendid future before them. The tree which they had planted in the Jubilee year would, by-and-bye, shed forth large branches, and take under its shelter the orphans of gardeners who had borne the heat of the day. He now had to propose a toast which he was sure would meet with a hearty reception. It was the health of their president, Sir Julian Goldsmid. To him they were deeply indebted for the success of that movement, and he thought they were particularly fortunate in having so able and so distinguished a president. He wished to embellish the toast with a little feminine adornment. It had been their good fortune, by the generosity of the Duke of Bedford, backed up by the Covent Garden growers and standholders, to hold floral fêtes in aid of the institution, and the great magnet of attraction there was Lady Goldsmid. He hoped they might have her presence on many future occasions, and as they were so much indebted to her for her interest in the fête, he begged to couple her name with the toast.

The Chairman briefly returned thanks, and said that Lady Goldsmid was very glad indeed to attend the floral fête. He had great pleasure in attending that dinner, and he was most grateful for the kindly way in which they had received the toast.

Mr. Veitch proposed "Gardeners and Gardening." He said he was pleased to see such a numerous company, and he thought it augured well for the future of the Gardeners' Orphan Fund. In asking them to drink this toast he had the pleasure of coupling with it the name of Mr. D. T. Fish, than whom no one was better known, and no one could be selected more representative of the gardening fraternity of Great Britain. The only point that he would speak about was the liberality with which gardeners had come forward in support of the fund. They saw by the list of children elected last year that no fewer than ten candidates were placed on the list, in addition to one who was put on in connection with the Sherwood trust. That spoke volumes for the success of the institution. To-day they had the satisfaction of putting on five more in the regular way, and another one in consequence of the munificent donation of the Duke of Bedford, but that made only six as against eleven last year. He did not like to see the number less than last year. He thought that Mr. Sherwood had given them a lead which should be followed. He was anxious to follow his friend Mr. Sherwood on certain conditions. He found from the chairman of the committee, Mr. Deal, that £100 would put a child on the list, and keep him until fourteen years of age, and if those present would find £100 to put on a candidate, he would find £100 to put on another candidate. They could not afford to let too many orphans be waiting for their generosity. They had elected six that day, and they had eight who were not elected. When would their next election be? They could not tell at present, therefore he asked them earnestly to provide the £100, on condition of which he would provide £100 himself within three months from that time. He knew they were gardeners to whom every shilling was of consequence; at the same time he urged them to make a special effort in this matter. He thought they might congratulate themselves that, considering their position in the world, there was no more liberal body of men in existence than gardeners were, and what they had done in the past justified the statement.

The President said he trusted they would support Mr. Veitch. It would be well for them to get another £100, and towards that he proposed himself to send to Mr. Deal the sum of £25. He apologised for having to leave to fulfil another engagement, and asked Mr. Shirley Hibberd to take his place.

Sir Julian Goldsmid then left the room amidst cheers, and the chair for the remainder of the evening was occupied by Mr. Shirley Hibberd, who, on taking this position, said they had lost a good shilling and had got a bad sixpence. He should get out of the difficulty by asking Mr. Fish to illuminate them—to bring some phosphorescence from the sea.

Mr. Fish then rose to respond to the toast. He said the report which they had heard of their progress had been a most cheering one. He thanked Mr. Veitch for associating his name with the toast, which he considered almost the toast of the evening. They knew how humble the gardeners of England were. It could not be otherwise. No man could have sat at the feet of Nature for the number of years that he had and not have learnt the first lesson which it taught—that of humility. He was reminded before he came to London that it was a curious place, and they would be able to tell him whether it was true or not; but it was said that one of the first effects of London was to melt down all individual cleverness into one great lump of cleverness. He believed there was a good deal of cleverness there that night, but he did not think that London had had the effect which was attributed to it in their case. They certainly had had one distinguished lump of cleverness, and something better—of goodness—in their chairman who had just left. There was a good deal of originality about gardeners, who were never content with their present attainments. They were always reaching forth to something better. He was much pleased with the suggestion of Sir Julian that each one should strike out some new path as the way to pleasure and wealth. Now he (the speaker) had been trying to strike out new paths all his life. They had led to a great deal of pleasure, interest, enjoyment, and happiness, but the one thing they had not led to yet was wealth. The fact was, gardeners had to take their wages in beauty. That was one of the chief reasons why they wanted this Orphan Fund. It was because, work as they would, do what they might, improve their business and themselves as they would, the one thing, wealth, was not attained. One thing, however, they had accomplished. In starting their Orphan Fund they had succeeded in linking beauty with beneficence. It used to be said that time and tide wait for no man, but in Covent Garden Market the power of their little orphans had been such that they had succeeded in arresting the progress of beauty from the producers to the consumers just long enough to allow them to get £200 out of it. Beauty, like mercy, was twice—aye, many times—blessed. The plants were more beautiful and the flowers more beautiful and fragrant after they had exacted contributions for their helpless orphans. Up and down the country their example with reference to the floral fête was being followed. If there were any who were hesitating as to whether they should follow the example of the president, he begged of them not to hesitate any longer, but to make a strong effort on behalf of their orphans, and in due time they would be sure to meet with their reward. He could not sit down without saying a word or two about gardeners and gardening. Gardeners found the earth a wilderness, and they were fast making it a Garden of Eden. With reference to the future of gardening, he contended that it had no limits and no bounds. Talk about finality, they knew nothing of it in horticulture. Gardeners who had done most were the readiest to tell them that they seemed like little children picking up pebbles on the sand while the great ocean of truth lay all unexplored. With the knowledge which their horticultural press was spreading broadcast around them they could not now have any stupid gardeners. He feared that their brothers of the knife and spade would be entirely driven off the course by their brothers of the pen; they were so wise and far-seeing, they could do the work so easily on paper. He himself found it much easier to garden on paper than at his own home. He believed there was a great future before gardeners, and they were only just beginning the great art of horticulture.

Mr. A. Dean proposed "The Vice-Presidents, Trustees and Auditors." He said that one of the speakers had referred to the eight children who had been elected to the benefits of the Orphan Fund, and he (Mr. Dean) had thought of the feeling of disappointment that would be experienced by unsuccessful candidates. Mr. Veitch had made a magnificent lead, and could not the other sixteen gentlemen who were associated with him, and included in the toast, make up the other £100? The President had also made a generous offer, and he trusted that others would follow his example.

Dr. Masters, who acknowledged the toast, said that from a list placed in his hands there had already been

a liberal response made to the appeal that had been addressed to them, and amongst those down in the list were the names of Messrs. Wills, Pollett, Gaymer, Shirley Hibberd, Alderman Hardy, and himself.

The CHAIRMAN then proposed "The Committee and Officers of the Fund." He said that Mr. Veitch's proposal would come before them as a matter of business. It had been suggested that each of the Vice-Presidents should subscribe £10 each, but they could not measure another man's corn by their own bushel. He should be glad to contribute £5 to the fund. The officers had had a tremendous task set before them, and it was not yet accomplished; but what they had done was a matter of surprise no less than of delight. He had not in his time seen any movement pushed along with such steadiness and energy as this had been. It was a significant fact that when a proposal had been made to gardeners for their own benefit they had been indifferent; but when something was proposed in which they had no personal interest, from which the element of selfishness was entirely eliminated, then they found them putting their shoulders to the wheel and accomplishing most wonderful things. No man there would derive the slightest advantage from the fund; they were moved by the demand made upon their sympathies by the young and tender, who could not help themselves. He had not seen in his time so magnificent an example of unselfishness in a great public movement as in the Orphan Fund. He knew that there were very many such institutions, but the point that seemed particularly interesting was that the gardeners who had not been particularly careful about themselves were careful, thoughtful, and energetic in the interest of these orphans. They hoped that the orphans in need of assistance would decrease rather than increase, that horticulture would have such a position that every man who practised it would be able to provide for his children so that they would not come upon any fund whatever beyond his own fund. That was their hope, and it was not a vain hope, for this country was rich, and was growing richer. The gardener was in a peculiar position. He did not earn much, he had no chance of becoming rich except by some accident; but between him and his work there was a beautiful sympathy which rendered his industry a most solid, substantial, and promising thing. He could understand an engineer loving his engine, but he could not understand an undertaker loving his work. They might pass through various occupations of men and see how much many of them must be tried in connection with their daily duties. Some of them had painful and horrible tasks, and in some cases tasks which were detrimental to health and morals. In the gardener's case it was different. In 999 cases out of 1,000 he loved his work, and was in sympathy with it. He loved it more than his wages. Mr. Fish had said it was very pretty to do gardening on paper; but they had to do it on paper, and Mr. Fish forgot for a moment that he had spoiled more paper than any other man who had ever lived. Another feature that was noteworthy was the wonderful sympathy that was cultivated between the gardener and his employer. He did not mean to say that gardeners were angels, but he was astonished to find that amongst criminals gardeners had no place at all. They did not come out with distinguished honours at all in the Newgate Calendar. The management of the fund derived considerable advantage from that circumstance. All the committee and officers had been trained in the practical school of business. From the first they had had the assistance of Mr. Deal. They wanted in the first instance a man of business. They found Mr. Deal, and they were wise enough to make use of him. Step by step the thing had grown to its present proportions, and certainly the management must have very much of the credit. Some things succeeded by a fluke—he did not know exactly what that was—but this institution had not succeeded by a fluke. This success was brought about by systematic, honest, steady work. He should ask Mr. Deal and Mr. Barron to respond.

Mr. G. DEAL, who first responded, referred to the careful manner in which the committee had worked in the interests of the fund. A great deal of the success of the fund was due to the indefatigable energy of the local secretaries throughout the country in obtaining subscriptions. Among those who had rendered special assistance was the gardener to the Duke of Marlborough, Messrs. Hughes (of Birmingham), D. T. Fish, Cummins, Wordsworth, Scott, Thomas, Greenfield, Head, Wood, Ward, Wilkins, and others. He only trusted that the zeal which had been shown on the part of those gentlemen would not flag.

Mr. BARRON, in responding, said he was not a little proud of his position as secretary to the Gardeners' Orphan Fund. So long as they continued to repose confidence in him, so long would he continue to work in promoting the interests of the fund. He had received from all parts of the country expressions of gratitude from those who were participators in the benefits of the fund.

Mr. A. H. SMEE next gave the "Local Secretaries." In the course of his remarks he said that in the Jubilee year they planted a Vine, which was bearing fifteen bunches of Grapes. It was a gardening axiom that they should not over-crop the young Vine, but a Vine required nutriment, and in answer to the appeal which Mr. Veitch had made, he should be happy to subscribe £5 towards growing another bunch of Grapes.

Mr. SHARMAN replied, and testified, as one of the executive committee, to the excellent work which local secretaries were doing generally throughout the country. They were most disinterested and unselfish in their operations. The chairman would excuse him if he mentioned that the institution originated to a great extent from the suggestion of Mr. Penny.

Alderman HARDY, who first responded, referred to annual subscriptions as being more acceptable than donations. He announced his willingness to give a donation of five guineas, and an annual subscription of a guinea.

Mr. BOURNE, who also replied, said it was gratifying to find that the fund was making such progress. Many of such movements often bubbled up and ended in bubble, but that fund was certainly taking good hold in the gardening profession. He felt a great desire to see the fund placed on a permanent basis. He thought they should endeavour to get a capital fund. It was not desirable to spend all that they got. They should endeavour to get such a fund, that if at any time there was a falling off in the subscriptions the pressure would not be felt by the Committee, and they could continue to meet any demands made upon them. For that reason he felt anxious that there should be an effort made to get a permanent fund. It was with that view that the nobleman whom he represented had given a large donation. His desire was to encourage others to do likewise, in order to establish a permanent fund for the gardeners' orphans.

Mr. R. DEAN proposed the health of those who had generously furnished the plants, fruit, and flowers with which the room was beautifully decorated.

Mr. JOHN WILLS acknowledged the toast, and in the course of his remarks said it was surprising to him to see what marvellous strides the fund had made in the two years. He did not think they would find in the records of any other society such an instance of success.

The CHAIRMAN said they were indebted to Messrs. Wills & Segar, Laing, Cutbush, B. S. Williams, Sanders (of St. Albans), and others for the plants, fruit, and flowers.

Mr. ASSBEE proposed "The Horticultural Press."

Mr. J. WRIGHT responded. He said that the horticultural press took the warmest interest in the welfare of the fund, and they had never neglected any opportunity afforded them of advancing its interests.

It was announced by Mr. Deal that £66 had been subscribed towards the second £100 in respect of which Mr. Veitch had made an appeal.

The proceedings terminated with a vote of thanks to the chairman.

ORCHID NOTES AND GLEANINGS.

STANHOPEA TIGRINA NIGRO-VIOLACEA.

THERE is a figure of this bold and striking variety in the *Annales de Gand*, I., t. 21; and at that time (1845) Morren, who described it, said that the plant probably was in the possession only of M. de Saegher, a horticulturist of Ghent. Last week a correspondent sent us from the Isle of Wight, a magnificent bloom of a variety, which closely approached that of the original S. t. nigro-violacea, as represented by the figure above quoted. The whole surface of the sepals and the petals, with the exception of the margins, tips, and the reverse or back, was of a dark violet tinted with purple, the parts mentioned as exceptions being yellow. The hypochile of the lip, and internally especially, was of the same rich colour as the sepals and petals. The huge horns of the messochile and the epichile were pale greenish white, and spotted with rose, while the broadly-winged column was closely similar. That sent by our correspondent differed in having some irregular-sized blotches of yellow on the lateral sepals; and the petals, which were more elongated and acutely pointed, were also marked with transverse yellow lines or blotches. The whole flower was larger than the more typical forms of the species, and the odour was exceedingly powerful, but although rather disagreeable in a closed room on that account, the smell was not otherwise offensive.

CYMBIDIUM TIGRINUM.

THE leafy part of this plant is very moderate in dimensions, while the flowers, on the contrary, are comparatively large. The leaves are about 6 ins. in length, and spring from small ovoid or nearly globular pseudo-bulbs. The flower stem rises clear above the foliage, and is erect, or nearly so, bearing a few blooms, the sepals and petals of which are yellow, and reddish brown externally. The lip is recurved, with two median ridges, and is brownish purple, with the side lobes purple and the terminal half white, striped transversely with purple. The whole plant can be grown in such small compass, that it might be more frequently grown. It is a native of Tenasserim, and requires, like the others, warm treatment. A flowering specimen might have been seen recently in the fine collection of A. H. Smee, Esq., Wallington, Surrey.

DENDROBIUM REVOLUTUM.

THE stems of this interesting little species do not exceed a foot in height, and bear flowers of medium size in the axils of the upper leaves. The sepals and petals are white, and revolute at the tips. The lip is much larger, broader, and three-lobed, and pale yellow; the middle segment is bifid, reflexed at the sides, and furnished along the middle with three reddish brown lines; the side lobes are also reflexed, toothed at the apex, and marked with reddish brown lines near the base. A plant was exhibited by Sir Trevor Lawrence, Bart., M.P., at the last meeting of the Royal Horticultural Society, when a Botanical Certificate was awarded it.

MAXILLARIA FUSCATA.

FROM the base of pseudo-bulbs, of small size, arise the flower stems, bearing each a solitary flower well above the foliage, or at least, more decidedly so than in the case of the majority of Maxillarias. The sepals and petals are fuscous-red, with revolute yellow tips, except the terminal one, which seems always to be quite straight. The lip is fuscous-red at the base, and yellow upwards; three-lobed, with the middle one somewhat plaited or undulated. It is quite an uncommon looking species, and was exhibited at the Drill Hall, Westminster, on Tuesday last, by Sir Trevor Lawrence, Bart., M.P., when the Orchid Committee accorded it a Botanical Certificate.

SOBRALIA XANTHOLEUCA ALBA.

THE stems of this beautiful Orchid are only about 18 ins. high, and the plant, in consequence, is more easily accommodated than S. macrantha. The lower leaves are ovate, the upper ones lanceolate, and all are leathery, rather strongly ribbed, and of a deep shining green, and persistent. The flowers are given off separately from some large bracts terminating the stems. The sepals are oblong, of good substance, and creamy white, while the petals are pure white, but otherwise similar. The lip has a pale yellow-tinted tube, and is of a clear pale yellow internally, while the large, expanded, undulated, or somewhat crumpled lamina is white. A fine specimen was exhibited by Messrs. J. Veitch & Sons, Chelsea, at the Drill Hall, Westminster, on Tuesday last, when a First Class Certificate was awarded to it.

THE GARDENERS' CALENDAR.

THE STOVE.

POINSETTIAS.—By striking cuttings at once, a late supply would be obtained for flowering in 48-sized pots. The cuttings should be inserted singly in thumb-pots, to avoid the necessity of disturbing the roots when giving a shift. Plants obtained thus late cannot possibly have bracts equal in size to those struck earlier, but they will be found very useful for conservatory work on account of their dwarfness.

WINTER-FLOWERING BEGONIAS.—Such things as Begonia insignis, B. semperflorens, B. s. gigantea rosea, B. Carrieri, and others intended for winter work, should now receive their final shift, and be kept somewhat close for a short time until the roots have taken to the new compost, after which they may be transferred to a light and more freely ventilated house. Encourage Centropogon Lucyanus with occasional doses of weak liquid manure, but otherwise treat similar to the Begonias.

THE GREENHOUSE.

As the stems of Salvias lengthen see that they are securely staked against storms of wind or rain. Their present treatment should be similar to that of Chrysanthemums in the open air. In neither case must the plants be allowed to flag or otherwise suffer for want of water.

Basket Plants.—During the summer months much use might be made of various plants for basket work. At present this system or branch of gardening might be more extensively and effectively used than it is at present. There is no lack of material, and amongst those that may be used in this way are Lythrum Græfferi, Fragaria indica, Convolvulus mauritanicus, Campanula garganica, C. isophylla, and other flowering plants, besides no end of Ferns, including various species of Adiantum, Davallias, Nephrolepis, Asplenium obtusatum lucidum, and many others.

Achimenes.—If not already done these should be neatly staked, in cases where there is an absolute necessity for doing so, otherwise it is better to avoid rendering them heavy and clumsy. In the case of those not fully in bloom they will derive much advantage by still being watered occasionally with weak liquid manure. Stage the plants in a well-ventilated intermediate house, and keep the atmosphere tolerably dry. The flowers will last all the longer for it, and the foliage will be kept from damping.

Vineries.—Keep a sharp look out for mildew on late-started Vines, and for insect pests, as well as red-spider, in earlier houses now subjected to drier treatment. If the latter pest gains a foothold on Grapes, and white varieties especially, the fruit soon gets damaged and disfigured beyond recovery. Applications of sulphur will in both cases prove effectual if done with care and accuracy.

Peach Houses.—Keep the foliage in early houses perfectly clean by frequent thorough washing with the syringe or garden engine. The borders in which the roots are growing, whether inside or out, should never be allowed to get dry with the object of ripening the wood, otherwise serious results will follow when the trees are started next spring or even before, by the dropping of the flower-buds. Trees whose fruits have finished stoning and commenced their last swelling should be encouraged by watering at the root with liquid manure. Close the house early in the afternoon, and allow the temperature to run up pretty high, syringing and damping down well at the same time.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*July 23rd.*

The meeting on Tuesday last being held in conjunction with the show of the National Carnation and Picotee Society there was a very varied exhibition of different subjects, bringing together a fair number of visitors. The exhibits brought specially for the committees were mostly small, and Orchids, as might be expected, were but sparingly represented. The larger exhibits consisted of ornamental shrubs and Conifers, hardy herbaceous plants, Roses, and a fine display of fruit, the greater bulk of which was Gooseberries.

A Bronze Banksian Medal was awarded to Messrs. J. Veitch & Sons, Chelsea, for a collection of various hardy shrubs and Conifers, amongst which were Spiræa callosa atrosanguinea, Clematis coccinea, C. crispa, Ceanothus azureus albicans, Sambucus racemosus serratifolius, a cut-leaved variety of the red-berried Elder, Astilbe Thunbergii, Veronica angustifolia, V. ligustrifolia, Cytisus nigricans, Philesia buxifolia, Quercus Americana macrophylla, with enormous leaves, and others. They also exhibited a collection of Carnations and Picotees grown in the open air at Chelsea, and the blooms, considering the locality, were of wonderful size. Amongst self-coloured kinds, the following were fine—namely, Jas. Wilkins, crimson; Raby, carnation; Cara Roma, purple; Didon, maroon-crimson. Wm. Toby, dark crimson, almost black; and Elaine, white. Earl of Beaconsfield was a rich dark bizarre, and Royal Visit and Favourite were beautiful Picotees. Some boxes of cut blooms of hybrid greenhouse Rhododendrons of the Javanico-jasminiflorum and Javanico-multiflorum types were also shown by them; and they had a group of Petunias, beautiful and very varied colours, self-striped and variegated. A Bronze Banksian Medal was also awarded to Mr. Wm. Rumsey, Joynings Nurseries, Waltham Cross, for an exhibit of Roses, consisting of nine boxes of cut blooms, arranged with Palms and Adiantums. Fine samples of H.P.'s were Eugène Verdier, Gloire de Vitry, Marie Verdier, aud Baroness Rothschild; while good Teas were Marie Van Houtte Caroline Kuster, Catherine Mermet, The Bride, and Viscountess Folkestone. He had also some Carnations and Picotees. A collection of Carnations and Picotees was shown by Messrs. Paul & Sons, Cheshunt. They were arranged in bunches with their leaves. Amongst the Carnations were Golden Fleece, yellow; Mrs. R. Hole, terra-cotta; Rosy Dawn, carnation; Corsair, rose; and Fiery Star, scarlet. Redbraes and Lothair are fine Picotees. They had also an exhibit of hardy herbaceous plants, including Shirley Poppies, Liatris spicata, Eremurus Olgæ, Telekia cordata, Eryngium giganteum, Rudbeckia purpurea, Lilium longiflorum Harrisoni, and others. Some new H.P. Roses were staged by them, including T. B. Haywood, Bruce Findlay, and the Dowager Duchess of Marlborough, for which they were accorded a vote of thanks.

A large collection of Capsicums was exhibited by Messrs. Sutton & Sons, Reading. The fruits of the different varieties were of all shapes and sizes, but the names describe many of them—such, for instance, as Mammoth Chili, red, and of great size; Sutton's Tom Thumb, erect scarlet fruits; Golden Dawn, large pendent, deep yellow; Long Red Chili, Long Yellow, Red Giant, Sutton's Mammoth, Prince of Wales, yellow; Yellow Tomato-shaped, East Indian Cayenne, twisted, crimson; and Sutton's Coral Red. The last-named has ovate, erect, coral-red fruits, which are so freely produced that it might well be used for decorative purposes in the same way as Solanum capsicastrum, to which it would prove a great change. It was raised by Mr. Mortimer, of Rowledge, from Capsicum Prince of Wales, and was awarded a First Class Certificate on the 9th inst. A Bronze Medal was awarded to-day for the group.

A collection of cut flowers, as well as plants of tuberous-rooted Begonias, were shown by Messrs. H. Cannell & Sons, Swanley, Kent, representing the newer and best types of this showy class of plants. They also showed an attractive lot of Verbenas, including Ball of Fire, brilliant crimson; Lilacina, lilac; Flocon de Neige, white; F. Delaux, scarlet, with white eye; Turquoise, turquoise-blue, with white eye; Paragon, purple, with white eye; and La Nature, purple, with a large white eye. A collection of Dahlias was shown by Messrs. J. Cheal & Sons, Crawley, Sussex, and some of them were arranged on Cheal's patent flower support. Fine single varieties were Duchess of Westminster, white; Henry Irving, maroon-purple; Mrs. Rose, striped red on a white ground; James Scobie, striped scarlet on a yellow ground; and Duchess of Albany, buff and yellow in alternate stripes. They also showed Pompon and Cactus Dahlias. A showy and beautiful lot of Sweet Peas in selected named kinds was shown by Mr. Henry Eckford, Wem, Salop. Some of the finest were Mauve Queen, mauve; Captain of the Blues, blue, shaded purple; Miss Hunt, rose and lilac; Mrs. Gladstone, pink and white; and Primrose, of that colour. An Award of Merit was accorded by the committee for the strain.

The other groups were smaller. Some Orchids were exhibited by Sir Trevor Lawrence, Burford Lodge, Dorking. Cattleya Eldorado Wallisii and C. E. Painted Lady were pretty, and Dendrobium revolutum and Maxillaria fuscata were interesting. H. M. Pollett, Esq., Fernside, Bickley, exhibited a beautiful form of Cattleya Eldorado, named C. E. albo splendens, with a rich purple laminæ to the lip, an orange throat and a white line between. A fine truss of Clethra arborea, and a huge flower of Cereus pentagonus were shown by Mr. G. Wythes, Syon House, Brentford. Large sprays of Bignonia Cherere and Tecoma jasminoides were shown by Mr. F. Ross, gardener to Sir George Macleay, Pendell Court, Bletchingley. A basket of Cyrtomium falcatum, and another of a yellow variegated variety of Marguerite, under the name of Halleri aureum compactum, were shown by Mr. G. Fensom, Tottenham. Mr. G. R. Johnson, Tottenham, showed a Chrysanthemum named Mademoiselle Leonie Lassali. Flowers of various seedlings of Lilium auratum, showing red, white and yellow central bands, and other markings, were shown by Mr. A. Waterer, Knap Hill, Woking. Large bunches of Sweet Peas were shown by Mr. Thomas Laxton, Bedford, exhibiting great variety of colour. Two seedling Cactus Dahlias were shown by Mr. J. Owen, The Gardens, Beaumaris. Messrs. Dicksons, Limited, Chester, had some trusses of Mrs. Reynolds Hole Carnation; and Mr. H. B. May, Upper Edmonton, showed a bouquet of different varieties of Bouvardias, and a basket of a new kind.

At a meeting of the Fruit Committee, a Silver Medal was awarded to Messrs. J. Veitch & Sons for a collection of Gooseberries consisting of 110 varieties, besides some early Apples and Pears, red, white, and black Currants. Besides those in dishes, there was a large number of branches or sprays with the fruit on them. Amongst red Gooseberries, were Dan's Mistake, Warrington, Forester, Ironmonger, Red Champagne, Companion, Keen's Seedling, and Conquering Hero; green sorts were Greenock, Green London, Gretna Green, Queen of the West, Village Green, and Green Gascoigne; while Garibaldi, Prince Arthur, Great Eastern, Gipsy Queen, Tiger, and others represented the yellows; and the good white sorts were Whitesmith, White Champagne, and others. A Bronze Medal was awarded to Messrs. Paul & Son for a smaller collection of Gooseberries, many of which were of very fine size. General, Freedom, Parkinson's Laurel, and Pitmaston Green Gage were good green sorts; Bang Up, and Lord Derby were good reds; and yellows were fairly plentiful. Idsworth Park Beauty Melon was shown by Mr. N. Fuller, Idsworth Park Gardens, Horndean. Messrs. G. Bunyard & Co., Maidstone, had red Astrachan, red and white Juneating Apples, that had been grown in an orchard house. A fine dish of Pride of Lincolnshire Peas was exhibited by Mr. Henry Marriott, Skirbeck, Lincolnshire.

Wolverhampton Horticultural.

July 16th, 17th, and 18th.

The tent in which the two collections of sixteen stove and greenhouse plants were placed was the chief feature of this exhibition. Mr. Cypher, of Cheltenham, was first, with a very first-class lot of plants; his magnificent Phœnocoma prolifera being especially interesting to old growers. He had grand Crotons Victoria, Thomsoni, and Sunset. Erica Parmentieri rosea, a noble specimen; some superb Ixoras, noble Palms, and other plants. Mr. Marriott, Coventry, was second, with a capital lot of plants of great merit. Two sixes of Palms also helped to fill the centre of this tent, and they were very fine plants. Mr. Cypher was first; and Mr. Marriott, second. Mr. Cypher was also first in the open class for six flowering plants, a very fine lot. For six Ferns, open class, Mr. Cypher was first, and Mr. Marriott was second; both superb lots. Mr. Marriott had the field to himself for Orchids; but his six plants were very fine—a large specimen Lælia purpurata, and Cattleya Gaskelliana, with smaller plants of Odontoglossum crispum, Miltonia vexillaria, Cattleya gigas, and Aërides callosum. In the gentlemen's gardeners' classes, Mr. Dyer, gardener to Mrs. Marigold, Edgbaston, Birmingham, took the leading honours, being first for large and small groups, both well arranged, which is much more than can be said about the others; and first for six stove and greenhouse plants, and in other classes. Mr. Barratt, gardener to R. Wilcock, Esq., was first for four Coleus, well-coloured, medium-sized, well-grown specimens; also first for six well-done zonal Pelargoniums.

Fruit was very poorly represented, but some good vegetables were staged in the three divisions of the show, in many cases of very fine quality. Roses were well represented by such well-known growers as Messrs. Cranston & Co., Harkness & Sons, Perkins & Sons, and Dicksons, Limited, Chester. Good prizes were offered, and for forty-eight blooms Messrs. Cranston & Co. were first with a very fine lot, Messrs. Harkness & Sons being a good second. For thirty-six blooms, first, Messrs. Perkins & Sons; second, Messrs. Cranston & Co.; third, Messrs. Harkness & Sons; fourth, Messrs. Dicksons, Limited. For twenty-four blooms, first, Messrs. Perkins & Sons; second, Messrs. Cranston & Co.; third, Messrs. Dicksons, Limited. The Roses were good all round in these classes. For other cut flowers, with the exception of stove and greenhouse plants, prizes were not offered, if we exclude Roses in the class for gentlemen's gardeners. Mr. Marriott was first with twenty-four varieties, very fine; and Mr. Dyer second.

Several honorary exhibits were sent. Messrs. Webb & Sons, Stourbridge, had a large collection of vegetables; Messrs. Sankey & Son a large display of pottery-ware, tastefully set up about an ornamental Swiss châlet; Messrs. Hewitt & Co., Birmingham and Solihull, staged a fine lot of Carnations, Picotees, cut herbaceous and other flowers, new Ivy-leaf Pelargoniums, &c.; Messrs. Vertegans, Edgbaston, set up a fine display of Carnations, Picotees, cut herbaceous plants, &c.; and the local nurserymen sent displays from their establishments.

The park is a most suitable place for a flower show, and it is in great beauty just now, reflecting much credit upon Mr. Thomas, the superintendent. The arrangements of the exhibition, which did not devolve upon Mr. Thomas, were faulty, and what might have been a good exhibition was spoiled by imperfect arrangements; but the experience of this year will be valuable. Fortunately very fine weather prevailed during the three days, and there was a very great attendance of visitors.

Obituary.

With deep regret we record the death of Mr. John E. Lane, of Berkhamstead, on the 17th inst., in his 82nd year. Mr. Lane, who had been in failing health for some time, was confined to his bed for abouta fortnight only before he died, and quietly passed away, free from pain, as he had always hoped might be his end. Thus, at a ripe old age, has passed from among us a man of mark in the horticultural world—one of the pioneers of floriculture, an able man of business, full of energy and industry while strength remained to him, strong-minded yet considerate to all, full of experience and of love for his vocation, and endowed with a kindly, generous nature—he was, indeed, in every sense a fine specimen of his race.

He was the son of the founder of the Berkhamstead nurseries, Mr. Henry Lane, who retired from business about 1853 and died in July, 1865, at the ripe old age of 88 years. He too was a man of wonderful industry,

and greatly respected through life for his urbanity of disposition and great kindness of heart. His commencement of business was in a very small way with Pansies, Fuchsias, Dahlias, Calceolarias, and a few other things; and to these specialties were soon added Roses, for the cultivation of which both father and son quickly became famous. Besides organising and building up the greatest industrial enterprise in the town, Mr. Henry Lane took great interest in the management of local affairs, and for a period of about forty years was one of the churchwardens of the parish. In this respect the son followed in the father's footsteps, for at the time of his death he was the oldest of the local guardians of the poor, for several years he had served the office of surveyor, be was a trustee of several local charities, and several years ago was appointed one of the town governors of the grammar school. He was closely concerned in the introduction of gas into Berkhamstead, and eventually became chairman of the directors of the gas company. He was also an original sharcholder and chairman of the water-works company; he established the Berkhamstead and Northchurch Cottage Garden Society; for over forty years he was the proprietor of the "King's Arms" Hotel, and was well known in Masonic circles, being a Past Provincial Grand Pursuivant, and Past Master and Treasurer of the Berkhamstead Lodge (504), of which he never missed a meeting for forty years. In the discussion of the horticultural questions of the day he never took a very active part, but did good service to the trade some years ago in fighting out a rating case, wbich was the means of bringing relief to others besides himself.

As an exhibitor he rendered good service, both in his early days and for many years afterwards, to the Horticultural Society of London, now the Royal Horticultural Society, and the Royal Botanic Society. Fifty years ago Henry Lane & Son were large growers of Roses, and some ten years later were about the first to thoroughly test the qualities of the Manetti as a stock on a large scale. It may also interest some to know that in those days, such was the primitive character of the modes of heating then in use, the pots of Rose cuttings were plunged in sawdust in a pit heated by an open gutter of hot water. They were exhibitors of the Rose at the old Horticultural Society's rooms in Regent Street, and subsequently at Chiswick; they took high honours for several years for cut blooms shown early in April—a great achievement in those days, and we believe that they were the first to show specimen Roses in pots in this country, some time previous to 1844, in which year (May) the Council offered prizes for Roses in pots, and Lane & Son took the Gold Banksian Medal in the first competition we have found a record of. About thirty years ago Mr. Lane had a fine lot of specimens of Sikkim Rhododendrons, which were much admired at the London shows; he also early took the hardy Rhododendrons in hand, and was one of the first to demonstrate on a large scale, in his nursery on Berkhamstead Common, the fact that Rhododendrons will grow as well in loam as in peat.

To the subjects which the business was commenced witb, and the Roses and Rhododendrons, hardy ornamental trees and shrubs and fruit trees were in due time added. Of Denyer's Victoria Plum Mr. Lane, perhaps, made more money than any other nurseryman, and as a specialty among ornamental trees should be mentioned his stock of Araucaria imbricata, which a comparatively few years ago was unrivalled. Fruit culture with Mr. Lane was a great hobby; he planted himself a large orchard on high ground behind the town, taking the best London market gardens as his model, and he excelled for many years in the culture of Grapes, notably Muscats, both planted out and in pots, samples of which have graced many an exhibition, and taught many a gardener a useful lesson. The Vines which used to give him the grand bunches which were seldom beaten on the exhibition table, were planted out in a house at the back of which ran a small rivulet, with the border only a few feet above its level, and thus for years they taught the useful lesson, still bnt very imperfectly learned by many, that the Vine is a water-loving plant, and rejoices in a plentiful supply.

Mr. Lane was—if not one of the founders of the Gardeners' Royal Benevolent Institution—at least one of its earliest supporters, and, next to Mr. John Lee, was the oldest subscriber on the books. He was also for many years a prominent member of the Fruit Committee. In August, 1868, he lost his eldest son, John Edward, junior, at the early age of thirty-one years (a young man of great promise, and who was the inventor of a new boiler — Lane's horizontal chamber boiler—which many practical men considered the nearest to perfection that had then been brought out) and is succeeded in the business by his only surviving son, Mr. Frederick Quincey Lane, who in a marked degree inherits the best traditions of his ancestors.

On the 17th inst. also, died at Belton, near Grantham, Mr. George Sage, who for many years was a neighbour and friend of Mr. Lane, at Ashridge. Mr. Sage for a long period had charge of the fruit and kitchen gardens at Ashridge, which he managed with an amount of skill that brought him high renown among his gardening friends, and gained for him the respect and esteem of his employer, Lord Brownlow, who several years ago transferred him to his other seat at Belton. Mr. Sage especially excelled as a fruit grower under glass, and the pot Vines which he grew for table decoration will be remembered by those who have seen them as perhaps the best of their kind ever grown. He was for some years a member of the Fruit Committee, and as an able, practical, and most unassuming man was much respected. He had been seriously ill for a long time, and so little expected to recover that his snccessor had been appointed in the person of Mr. Emerton, who for four years was general foreman to Mr. Lowe, at Ashridge.

The death is also announced, as having taken place on the 2nd inst., of Mr. David Dartnall, who was formerly manager of Messrs. Veitch & Sons' Nurseries at Coombe Wood, and latterly in business as a nurseryman and florist at Tunbridge Wells.

QUESTIONS AND ANSWERS.

Continental Nurseries.—*A. M. P.:* Antwerp: Mr. Charles Van Geert's. Ghent: Mr. Aug. Van Geert's, and Mr. Louis Van Houtte's. Brussels: L'Horticultural Internationale (Parc Leopold) and Mr. Peeters'. Paris: Messrs. Thibaut & Keteleer (Sceaux), and Mr. Truffaut at Versailles. The Botauical Gardens, as compared with Kew, are not wortb wasting any time upon, but the one at Brussels and the Jardin des Plantes at Paris may interest you.

Gloxinias Diseased.—*R. S. M.:* Your Gloxinias have been attacked with a species of Acarus, which is tbe sole cause of the leaves becoming brown and discoloured in places, cbiefly on tbe under snrface, as if tbey had been scalded. Tbe calyx and corolla of tbe flowers have also become punctured witb tbem, and when that is the case tbe buds never expand, or if they do so tbey are deformed. You cannot cure your plants now, as the evil has been done and tbey are past remedy. Tbe only thing you can do now is to ripen tbe tubers properly and make a fresh start next year. Keep a close watcb over tbe plants during the whole of the growing season, and wbenever the least trace of tbe enemy is discernible the leaves must frequently be sprayed all over, but particularly on the under surface, with a solution of soft-soap, Gishurst Compound, or otber insecticide, and the results will be all the more certain if you use a little sulpbur in tbe mixture. Remember always that the pest must not be allowed to spread, otherwise the leaves will get spotted and your labour for tbe season will be lost. If one application is not sufficient give another, and keep tbe atmosphere of your house moist. Use a syringe with a fine rose. The texture and hairiness of the leaves will not allow sponging to be done.

Grapes Damaged.—*Young Gardener:* The specimens you sent us appear to have been damaged or scalded, or injured in some way or other before attaining their present size, and tbe skin being injured while yet tender has not grown or swollen out in tbose places. Tbere is anotber way of accounting for it by tbe crowding and squeezing of the berries and bad ventilation, which would induce scalding by tbe retention of an undue amount of moisture. The short stalks of the branches of tbe bunches of Lady Downes would give rise to undue crowding more tban most other kinds of Grapes. We could detect no signs of a fungus whatever under microscopic examination, but the cells in tbe injured parts were very much flattened, and their contents partly discoloured. We would advise you to remove the damaged berries and leave a little air on at nigbt.

Names of Plants.—*Juno:* 1, Stanhopea tigrina var. (approaching the variety nigro-violacea, including the richness of its colouring): 2, Ophiopogon jaburan variegatus; 3, Aspidium (Cyrtomium) falcatum. *W. Stevens:* Botb the Odontoglots appear to be natural bybrids, which we will endeavour to identify by next week.

Roses.—*J. Wright:* Having planted tbem only last October they could not be expected to flower mucb tbis season, so tbat you ought to leave tbem where they are, and encourage tbem to make a good growtb. Your borders being well draiued, we suspect the Marechal Niel planted at the ends do not get water enough, and you should try more liberal feeding. Mulch tbe borders and apply liquid manure occasionally. To flower them in winter you must ripen them well in autumn, and in winter maintain a night temperature of 45° to 50°, with a rise in tbe day-time.

Seedling Hollyhock.—*Collis & Woodward:* The flower was bopelessly smasbed coming through the post. Send another bloom tied to the bottom of a small wooden box, with a little damp paper underneatb, and no other packing.

Communications Received.—S. B.—P. B.—T. L. D.—H. P.—S. T.—J. B.—J. L.—S. O.—L. C. A.—W. Jameson—T. H. R.—R.S.—W.S.

LONDON SEED TRADE.

July 22nd.

Messrs. Hurst & Son, 152, Houndsditcb, report a moderate demand for Rape and Mustard. The arrivals of new Rape are out of condition owing to showery weather. Values not yet established. English Trifolium incarnatum.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending July 20th was 29·68 ins.; the highest reading was 29·77 ins. on Thursday at noon, and the lowest 29·53 ins. at the end of the week. The mean temperature of tbe air was 58·7°, and 4·7° below the average in the corresponding weeks of the twenty years ending 1868. The mean was below the average throughout the week, the coldest days being Tuesday and Wednesday. The general direction of the wind was S.W., and the horizontal movement of the air averaged 9·0 miles per hour, which was 0·6 miles below the average in the corresponding weeks of sixteeu years. Rain fell on four days of the week, to the aggregate amount of 0·43 of an inch. The duration of registered bright sunshine in the week was 28·1 hours, against 29·2 hours at Glynde Place, Lewes.

COVENT GARDEN MARKET.

July 24th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Grapes .....per lb.	2 0	3 0	Strawberries.. per lb.	0 2	1 0
Pine-apples, Eng., lb.	1 0	1 6			

Canadian and Nova Scotia Apples, per barrel, 7s. to 17s.

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus ....per 100			Horse Radish, bundle	3 0	5 0
Beans, Frencb, per lb.	0 6		Lettuces ..per dozen	1	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages.... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, Englisb, per dozen	3 0	8 0	Radishes ..per dozen	1 6	
Celery....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers ....eacb	0 4	0 10	Spinacb, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos ....per lb.	0 9	1 0
			Turnips ....per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms..	2 0	4 0	Lavender, 12 bunches	4 0	6 0
Asters, Frencb, per bunch	1 0	1 6	MaidenhairFern, 12bns	4 0	9 0
Bouvardias, per bun.	0 6	1 0	Marguerites, 12 bun.	3 0	6 0
Carnations, 12 blooms	1 0	2 0	Mignonette, 12 bun.	2 0	4 0
Carnations, 12 bnchs.	3 0	6 0	Pansies ..12 bunches	1 0	2 0
Cornflower, 12 bnchs.	1 0	3 0	Pelargoniums, 12spys.	0 6	1 0
Delphinium, 12 bun.	3 0	6 0	— scarlet ..12 sprays	0 4	0 6
Eschscholtzia, 12bchs.	2 0	4 0	Pinks ....12 bunches	2 0	4 0
Eucharis ..per dozen	3 0	6 0	Primula, donble, bun.	0 6	1 0
Forget-me-nots.....	1 6	4 0	Pyrethrnm. 12 bucbs.	2 0	6 0
Gardenias, 12 blooms.	2 0	5 0	Roses, Tea, per dozen	0 6	1 0
Gladioli ..12 bnnches	6 0	12 0	— Red .....per doz.	0 3	1 0
Heliotropes, 12 sprays	0 3	0 9	— Saffrano ..per doz.	0 6	1 0
Iris .....12 bunches	6 0	12 0	Stephanotis, 12 sprays	2 0	4 0
Lapageria, 12 blooms	1 0	2 0	Stocks, doz. bunches	3 0	6 0
Lilium longiflorum, 12 blooms	2 0	4 0	Sweet Sultan, 12 bun.	3 0	5 0
			— Peas.....12 ,,	3 0	6 0
			Tuberoses, per dozen.	0 6	1 0

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	5 0	12 0	Heliotrope ..per doz.	4 0	8 0
Arum Lilies..per doz.	6 0	12 0	Hydrangeas..per doz.	6 0	15 0
Balsams .....doz.	3 0	6 0	Lilium auratum, doz.	12 0	24 0
Bedding plants, in var., per doz.	1 0	3 0	— longiflorum per doz.	18 0	30 0
Calceolaria ..per doz.	4 0	8 0	Lobelia .... per doz.	3 0	6 0
Cockscombs ....doz.	4 0	6 0	Marguerites per doz.	6 0	12 0
Cyperns, ..per dozen	4 0	12 0	Mignonette, doz. pots	3 0	6 0
Dracæna term., doz.	30 0	60 0	Musk ..... per doz.	2 0	4 0
— viridis, per dozen	12 0	24 0	Nasturtiums .... doz.	3 0	5 0
Erica, various ..doz.	9 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var. .,	6 0	24 0	Pelargoniums, scarlet,	2 0	6 0
Ferns, in var., per doz.	4 0	18 0	Pelargoniums, per doz	6 0	18 0
Ficus elastica ..each	1 6	7 0	Rhodantbe ..per doz.	3 0	6 0
Foliage Plants..eacb	2 0	10 0	Saxifraga, varions, doz.	6 0	18 0
Fuchsia.....per doz.	4 0	12 0	Spiræa .....per doz.	9 0	12 0
			Stocks ..... per doz.	2 6	4 0

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ONIONS—

Daniels' Golden Rocca, grand new variety for exhibition ...	0 6	1 6
Daniels' Giant Rocca, large and fine; our true stock	—	1 0
White Spanish .. 3s. 6d. per lb.	—	0 4
White Lisbon ...2s. 9d. ,,	—	0 4
Daniels' White Elephant Tripoli	0 6	1 6

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Barnes' "Great Eastern," the largest	1 0	7 6
ONION.		
Barnes' Giant Rocca, the mildest	0 9	6 0
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Tulips will be dearer and scarcer this year, owing to the great increased demand, but having made very advantageous purchases, my prices will be but little above those of last year.

I shall have a very select collection of Narcissi at reduced prices, and I shall have a grand lot of Scilla sibirica, Chionodoxa Luciliæ, Snowdrops, Crocuses, Winter Aconites, Ixias, English and Spanish Iris, Ranunculus, Lilium Harrisi, &c., &c.

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Next Week's Engagements.

MONDAY, August 5th.—Liverpool Horticultural Association Show. Mansfield Horticultural Society's Exhibition.

FRIDAY, August 9th.—Sale of Established and Imported Orchids at Protheroe & Morris's Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, AUGUST 3, 1889.

CURRENT TOPICS.

THE CHISWICK VEGETABLE CONFERENCE.—We are very desirous that our readers should bear in mind the coming Vegetable Conference which the Royal Horticultural Society purposes holding at Chiswick on the 24th, 25th, and 26th of September next. Various flowers may have their particular sets of admirers, but vegetables are for humanity, and know no denomination or sect horticulturally. For that reason it does seem natural that the conference referred to should receive at the hands of all vegetable growers, hearty welcome and assistance. The committee which has been charged with the arrangements, is not oblivious of the great help which the gardeners of the kingdom can render, and very cordially invites that help in a practical way.

The schedules should ere now have been in the hands of the public, and it is not the fault of the committee if they are not, but the Council exercises financial control, and sits heavily upon the arrangements. Still we can hardly doubt but that ere this is read, the full programme of the proceedings of the conference will be in our readers' hands. That there will be no difficulty in connection with the literary portion of the conference there can be no doubt; the papers are designated, the writers and readers have accepted, and so far all is plain sailing. The chief thing is to procure the exhibits, and it need hardly be said that for these the promoters look most hopefully to the gardeners, as they are not only the best cultivators, but have at their disposal appliances for the production of samples, which are not universal.

To them, therefore, the committee appeals warmly for help, to render the exhibition part of the conference a great success. We are having a remarkably fine vegetable season, samples, therefore, should be both plentiful and good everywhere, and we hope to see them abundantly at Chiswick.

A GARDENERS' GATHERING.—But whilst the Conference Committee looks hopefully to the gardeners for samples of their garden products, that body has not overlooked the provision of some sort of attraction in another direction. We learn that when the schedules are issued, it will be found that the Council of the Royal Horticultural Society has practically sanctioned the publication of an announcement that on one of the evenings of the conference a great gathering of gardeners for social and festive purposes will be held in London, which it is desired should be rendered so attractive and sociable, that gardeners generally should find special pleasure in taking part in it.

Gardeners have few opportunities to meet collectively in large numbers. Even the annual feasts of the Benevolent and Orphan Funds afford small opportunities for gardeners to come together, especially those from the provinces. The Vegetable Conference will fall at a time of year when work is getting light, and calls upon gardeners' time less urgent. The conference will also present good reasons why gardeners from the country should come to London, but the proposed social gathering, which will doubtless assume a festive aspect, will be an additional attraction. We want gardeners to realise that it is specially their festival, and that it is organised in their honour. We hope to find that the popular chairman of the conference, Mr. Harry J. Veitch, will be the chairman of the festival, and that it will be conducted on the most sociable and pleasant lines.

Dinners, as a rule, are too heavy and stereotyped; we must, therefore, have a gathering less stiff and formal. We should like to see a hearty personal welcome given to every comer, plenty of opportunity for intercourse, a good dinner at moderate cost, plenty of bright music and songs; few toasts and short pertinent speeches, and altogether a jolly gathering, minus a visit to Vine Street. Such will be, we trust, under efficient management, the outcome of the promised gardeners' gathering.

CARNATIONS.—In his admirable address upon the Carnation and Picotee at the Drill Hall on the 23rd ult., Mr. Shirley Hibberd advanced the proposal that these plants preferred a calcareous or dry soil. That may have been the experience of some growers, but there is abundant evidence that they like a stiff loam. We have seen thousands of plants half deluged

with water through the winter, the soil in the summer becoming baked hard like bricks, and yet growing with wonderful strength, and blooming beyond all praise. The fact is that whilst the Carnation may habitually in its wild state be found in association with stone and mortar, with old ruins, or in some localities with chalk and granite, yet it is in the cultivated form a very accommodating plant, and if it gets plenty of sunshine, pure air, and ample room, will do very well almost anywhere.

If the pot soil in which the plants are grown was made up on the calcareous notion, thousands of such plants would soon starve. Really the chief ingredient in Carnation potsoil is found in strong turfy loam, mixed with old decayed manure, and a little sand. A somewhat amusing hypothesis was put forth by Mr. Hibberd in relation to the calyx of the Carnation flower. He said, that as if Nature anticipated some later crowding of petals into the calyx when the process of doubling began, she had placed at the base of each calyx certain stout scales, as though for the purpose of supporting the tube when the pressure of petals became too great. Now, oddly enough, the calyx of Carnation flowers gives way in the cases of overcrowded petals, or as commonly called, burst flowers, just where the scales can render no help. Probably the scales do help to stiffen and sustain the calyx, but so far no benefit has resulted from their presence in preventing that abomination—the splitting of the pods. Growers find the best help to come from a piece of bast tied round the calyx, or a small india-rubber ring, but these are essentially artificial and not natural aids.

Carnation Development.—The exhibition by Mr. Hibberd of illustrations of a flaked Carnation taken reputably 350 years ago, leads to the inference that, after all, progress in the development of good double varieties has been slow indeed. Mr. Hibberd thinks that the Carnation has been under cultivation in Europe some 2,000 years. The flower portrait showed, that what presumably was a faithful likeness of a flaked flower of the date named, would certainly have passed muster to-day; and even under the form of culture in pots now in vogue, and specially beneath the dresser's art, might have even found a place in a prize group. We have perhaps got larger flowers, we have greater variety of hues and markings, we have in both flaked Carnations and in Picotees obtained greater purity of colouring and marking, and not least, we have learnt so to dress flowers that even indifferent ones may be made to look presentable.

Still it is very obvious that pace in development has been wonderfully slow; very likely there has been no period in the history of the cultivated Carnation when such interest in its welfare was created as now. It is not merely as a florists' flower that Carnations are admired, they have become one of the most popular and widely grown of garden flowers, and are being raised from seed yearly in such enormous quantities, that progress must be assured, even if still but slow.

The greatest modern progress has been made in the production of yellow-ground flowers, a very lovely break, and one open to considerable development. Especially do we wish to see the yellow selfs deepened in colour; at present our best, perhaps, is Germania, but it is a straw-yellow, and there is much room for the deepening of its colour. Rich yellow selfs are more useful than are flaked or edged yellows. The Carnation societies of to-day may find ample work in the further improvement of their particular flower, as well as in presenting the best samples of their culture on the show table.

Non-Warranty of Seeds.—The *American Florist* states that at the recent meeting of the Seed Trade Association, the following general disclaimer of responsibility for seeds sold was unanimously adopted to be used the coming season:—"While we exercise the greatest care to have all seeds pure and reliable, we do not give any warranty express or implied. If the purchaser does not accept the seeds on these terms and conditions they must be returned at once, and the money that has been paid for the same will be refunded.

Gardeners' Orphan Fund.—At the usual monthly meeting held on the 25th ult., the first after the annual meeting, Mr. George Deal was again unanimously elected chairman. After according votes of thanks to the president, Mr. Shirley Hibberd, Mr. Hudson, and the donors of plants and fruits at the late annual dinner, the committee resolved to invest immediately another sum of £500, bringing up the amount invested to £3,025 19*s.* 10*d.* It was also resolved in accordance with the new rule that forty special life votes be given to the committee of the Covent Garden standholders, for distribution amongst that body. Mr. W. Channing, Grosvenor Lodge, Thornton Heath, was appointed local secretary for that district.

The Scottish Centenary Chrysanthemum Exhibition.—We have before us a copy of the recently-issued schedule of prizes offered for competition at the great Chrysanthemum Centenary Exhibition organised by the Scottish Horticultural Association, and to be held in the Waverley Market from the 21st to the 23rd of November next. The schedule includes eighteen classes for plants—fourteen for gardeners and amateurs, and four for amateurs only. The greatest amount of interest, however, will be centred in the cut bloom classes, of which there are twenty-eight. The principal prize, open to all, is the City of Edinburgh Cup, value £20, for forty-eight Japanese, followed by awards of £7 and £3 10*s.* for the second and third. The Scottish Challenge Cup (to be held for a year by the winner) and five guineas are offered for thirty-six blooms, thirteen each of Japanese incurved and Japanese reflexed, open to Scottish gardeners and amateurs only. In classes open to all gardeners and amateurs, a well-varied selection of subjects is called for, and numerous special prizes of a useful character are offered. Various classes for fruits and vegetables are also included, so that if the fates only be propitious, an exhibition worth seeing should be the reward of those who are so spiritedly organising it.

The coming Fruit Show in Belgium.—We understand that the programme for the coming fruit show at Ghent, as finally revised, will shortly be ready for distribution. The exhibition will be opened on Saturday, 28th of September next, and in order to give the show an immediate import of general utility, there will be a special demonstrative exhibition in a room set apart for the purpose, where cultivators and amateurs will be allowed to show directly or in proximity exhibits covering a great number of points of the programme. For instance, there will be a collection of varieties of fruit trees most suitable for small gardens; a selection of Pears recommended for culture for exportation; a selection of Pears to plant along roadsides; an exhibit of Pears to be discarded from cultivation; a collection of Apples to cultivate by roadsides, for culture as bushes and as standards; an apparatus for the drying of fruits; a series of objects for the packing of fruits; a collection of destructive insects, and specimens of machines for the destruction of the same; and a collection of stuffed birds, useful or insectivorous. An explanatory prospectus will be placed gratuitously in the hands of visitors. The first meeting of the congress will take place on Sunday, September 29th, at 11 a.m., in the hall of the Academy of the University of Ghent. The subjects to be discussed are modifications of the operation of pruning in summer, in general, and in particular of the vineyard; means of developing the culture of fruit trees for great production and exportation; and the utilisation upon the spot of fruits of every kind from a commercial and alimentary point of view.

Lancashire Gardeners at York.—The members of the Manchester Horticultural Improvement Society had their annual outing on the 17th ult. Last year the trip was to Bolton Abbey, so that the trees for which the neighbourhood of that celebrated ruin is so remarkable might be examined; this year, in turn, it was to York, so that the little less celebrated nurseries, known almost all the world over as "Backhouse's," might be personally and deliberately explored. Mr. Robert Tait kindly undertook the arrangements, and that they were carried out in the most admirable manner needs no saying. Leaving Manchester by the 9.10 a.m., the party, about fifty-six in number, including Mr. Bruce Findlay, of the Botanical Gardens, and two or three personal friends, reached the famous old city at noon. Lunch disposed of, all moved on to the special destination, and truly a spectacle more delectable, not to say wonderful, it would be difficult to find. Messrs. Backhouse's nurseries were established, we believe, nearly, if not quite, a century ago. Not a year has passed without great and important additions and improvements being made, so that the grounds are at once a storehouse of the excellent old, and of all sorts of the new and curious. The hothouses, the greenhouses, the ferneries, some of the latter literally "under ground," so as to resemble the moist and shady caverns of New Zealand and the Indian Islands, teem, without exception, with the "rich and rare." The rockery is itself worth all the journey to see; to say that its contents are inexhaustible would be no exaggeration. Such of the party as had not previously visited York, devoted a portion of their time to the Minster and the old city walls. A prompt muster was eventually made for tea, and all were safe in Manchester again soon after nine.

Gardeners' Royal Benevolent Institution.—We have much pleasure in announcing that as a result of the recent most successful Jubilee celebration, the committee of management are able to carry out their original proposal to place on the funds of the institution all the candidates, seventeen in number, who were unsuccessful at the last election. We give below a list of the new pensioners, and may add that they have been placed on the fund as from the 24th of June last, so that the first payment to be made to them will be due on October 1st. The list itself is of interest to subscribers, as showing that with the exception of three, all the candidates come from the provinces, a fact which completely refutes the assertion, often made, that only Londoners stand any chance of getting on the fund. We would call attention also to the great ages of the majority of the candidates, as showing how deserving of support is the institution which enables so many old gardeners and their widows to end their days in comfort. The committee and Mr. Cutler alike deserve the hearty thanks of the gardening community for their unwearied labours on behalf of the charity.

James Browne.....	Aged	71	...Croydon
Edward Spivey	,,	76	...Sawbridgeworth
George Lambert	,,	71	...Chichester
Stephen Evans	,,	74	...Chichester
Thomas Morley	,,	80	...Cambridge
Joseph Norval.....	,,	63	...Chester
Elizabeth Snow	,,	74	...Taunton
James Manderson ...	,,	66	...Stoke Newington
Elizabeth Pollard ...	,,	76	..Croydon
Henry Berry	,,	73	...Dromore, Ireland
James Edmonds	,,	83	...Fulham
William Fowle	,,	69	...Southampton
George Fricker	,,	73	..Bourne Valley
John Grimshaw	,,	80	...Huyton, Liverpool
John Hooper	,,	80	...Bristol
Clement Preston.....	,,	77	...Bristol
James Priest	,,	65	...Long Eaton, Notts.

THE COMMON NETTLE.

It would appear from the incidental remarks of some writers that the much despised common Nettle (Urtica dioica) was formerly cultivated in some places as a culinary vegetable. Burnet mentions this circumstance, and Andrew Fairservice, in Sir Walter Scott's *Rob Roy*, says, "Nae doubt I should understand my own trade of horticulture, seeing I was bred in the parish of Dreepdaily, near Glasgow, where they raise large Kail under glass, and force *early Nettles* for their spring Kail." From this it seems that early-forced Nettles were not only grown in gardens, but must have been much appreciated in those days, or Sir Walter Scott would scarcely have noticed it in this way. They are still used largely at the present day. In their wild state the tops are gathered in spring, when young and tender, and when cooked are generally considered very wholesome, although a year or two back a man whom I knew was suddenly taken ill after partaking of cooked Nettles for dinner. The doctor who attended him said it was caused through the Nettles, as they were dangerous things to eat. Perhaps he had partaken of too many.

It has been shown by experiment that the fibres of Nettles can be used for the same purpose as Hemp or Flax, and that cloth of the finest texture down to the coarsest quality, such as sail-cloth, sacking, cordage, and so forth, also paper of various qualities, can be manufactured from it. It thus appears to be a most useful plant, and as it is so very common, thriving almost anywhere where nothing else will grow, it seems strange that its useful properties should not be more generally appreciated and utilised. Domesticated animals, except the ass, refuse to eat it in its green state; but as it is the home of many insects at their

larva period, this might account for it. After it is cut and dried, sheep and oxen will often eat it. It is a useful plant upon shifting banks, as its spreading roots will serve to bind and keep the soil together.—*Alfred Gaut.*

THE SWANLEY NURSERY.

At all seasons of the year the Messrs. Cannell & Sons have something in flower to interest their visitors, and it is seldom that a genuine lover of flowers cannot find something to interest him beyond any particular class of plants which may be his special fancy. The "Home of Flowers" at the present time is specially gay with hardy plants and such tender subjects as submit to summer culture in the open-air; still, it is the astonishing display of tuberous Begonias that is the great magnetic attraction, and which claims the greatest amount of admiration from those who go to see them. It seems but a few years ago since Mr. Cannell added the cultivation of the Begonia to his many other specialties, but what he has done for the flower, and for the double section more especially, is truly surprising. That the Begonia gets admirable cultivation at Swanley, all who have seen the immense collection during the last few seasons will readily bear testimony, but it will doubtless be a surprise to many to know, that this year the plants surpass in neatness of habit and grandeur of bloom any which Mr. Cannell has shown us before. House after house (each 100 ft. long), is filled with plants in all stages of growth, from seedlings in small pots and freshly-rooted cuttings by thousands up to the noble-flowering, second and third season plants, which fill the principal show houses, and produce such collective masses of brilliantly-coloured blossoms as completely puts the famous houses of zonal Pelargoniums in the shade. The latter will have their revenge in the winter, but there is no gainsaying the fact that in summer, in comparison with the Begonias, they have now to take the proverbial "back seat."

Begonia, Cannell's Triumph.

The strain of single-flowered varieties is an exceedingly good one—they are indeed all good, and consequently not so many as at first are receiving names—and we are specially pleased to see that all due attention is being paid to the multiplication of such types only as are now regarded of the highest quality. These comprise the essential points of merit in all useful flowering plants—*i.e.*, a neat, compact, yet vigorous habit of growth, a free production of flowers, and these of medium size, good substance, refined form, pure and bright in colour, and borne on stiff erect stalks. Flowers of immense size there still are; they are inseparable from good strains, and many growers will still have them, but the fashion we are glad to see is steadily setting in in favour of more moderate dimensions. Where all are so good it would perhaps be invidious to single out any particular section of colour for special mention, but we cannot well pass over the strain of whites without according a word of praise—they are so fine in habit, form and purity. Among the new ones of the present season Nellie Pritchard is a great beauty, and possessing every good quality, will certainly become a favourite. Albert George, among light scarlets, is also a flower of high character.

Perhaps the greatest amount of interest is centred in the double-flowering section, which includes the greater number of novelties. Here, too, we have a number of sorts remarkable for their monstrous size, but moderation happily prevails, and the greater number of novelties are characterised by high quality rather than undue proportions. Mrs. F. Jenkins is the largest yellow variety we have seen. It is of the Hollyhock type, being 4½ ins. in diameter and 3 ins. deep, and very clear in colour. It is one of last year's seedlings. Of the present season's batch Duchess of Fife takes high rank among the blush-whites. It is not one of the fullest flowers, but has grand petals, a fine robust habit, and short stiff flower stalks. Mr. Mills is the stiffest of the erect-flowering type, so much coveted—a fine salmon-red, of medium size. Charles Turner is an old one, but still one of the best of the heavy drooping type, having petals of great substance, and of a pretty shade of salmon-peach. A. F. Barron, rose-pink; Mrs. W. B. Miller, pink, salmon centre; Her Majesty, white, with a shade of saffron at the base of the petals; Mr. G. Bryson, a very compact-habited and free-blooming sort, with salmon-rose-coloured flowers of the Camellia type; and the Rev. E. Lascelles, a beautiful canary-yellow, with four striking guard petals, of good habit and free blooming, are all flowers of the highest merit. Among this season's novelties, Nancy Pritchard is a dwarf compact plant, with flowers of the Hollyhock type, very double, and white with a tinge of saffron at the base of the petals. Edith M. Wynne is a pure double white, of the flat Camellia type, it is very persistent on the stalks, and will become a specially useful variety for working into wreaths. Dazzler is well named, being a wondrously bright scarlet; Mrs. Matthews is a very taking flower, more resembling a closely-tied bunch of Perle d'Or Roses than anything else we can compare it to; Mrs. Cornwallis West is a very beautiful-saffron yellow; Mrs. James Whitehead, a rich deep yellow; and Cannell's Triumph (illustrated above), deep rosy pink, lighter in the centre, is of the Brobdignagian order, and large enough to satisfy the greatest stickler for size.

A CHILDREN'S FLOWER SHOW.

Almost satiated with the stereotyped form of horticultural exhibitions, it was with singular pleasure I assisted in the management of a purely children's flower show, which, organised under the auspices of the Egham Juvenile Floral and Industrial Society, was held on the borders of that town, and in the charming grounds of J. Macdonald, Esq., adjoining Englefield Green, on Thursday of last week. Readers of The Gardening World in the north will learn with interest that associated with me as fellow judge, was that noted orchid-grower, Mr. W. Swan, formerly of Fallowfield, and who is now located at Englefield Green.

Now the conditions of the society are such, that the plants, like the growers, must of necessity be youthful also. Started last year with some forty juvenile members, there has this year been an increase up to some 200 members, and it is hoped that next year, as the children of all classes, but especially those attending the elementary and Sunday schools of this large and populous west Surrey parish, are all cordially invited to join, that the present number of members will be doubled. The society has for its purposes two sections of members, the senior division—viz., children between twelve and seventeen years of age, paying 4*d.* annually, and children under twelve paying 3*d.* annually, and called the juniors. In the case of industrial members only, the annual subscription is 2*d.*

The membership fees are paid early in the spring, and then each floral member is entitled to receive, and does so on application, from one of the committee, a worthy and energetic florist, six rooted cuttings of various plants, and six packets of annuals. The annuals comprise Collinsia bicolor, Candytuft, Balsam, Nemophila, Mignonette, Linum grandiflorum, Ten-week Stocks, Dwarf Nasturtiums, &c.; whilst the plants include Calceolaria (shrubby), Fuchsias, Musk, zonal and variegated Pelargoniums, Lobelias, Gazania, Petunias, Isolepis gracilis, &c. These seeds and plants have to be grown in pots or small boxes by the children, and then be exhibited by them in sixes of each, or failing six, as many as possible in both plant and annual classes in both sections, making four classes. There is also a group class in which both annuals and plants may be shown as a sort of consolation class for those who can only thus jointly make a decent display. Farther, there are special prizes for the best plants in each division, and the best pot of seeds also, so that there is ample encouragement given by good prizes to induce the youngsters to grow their plants well. As a result, both to Mr. Swan and myself, the show was indeed a surprise.

In the two classes for juniors, the same for the seniors, and in one extra class for four plants, there were from twelve to eighteen entries each, as also a large number of groups, so that altogether hardly less than 500 plants or pots of flowers or boxes, &c., could have been staged. Curiously enough, in each case of plants and annuals we found those in the junior division the best; many of the specimens, indeed, would have

done high credit to adult cottagers, and no small amount of care in such odd and considerable competition was needed to ensure that the best exhibits won. As under the conditions enforced upon the members everyone has to start afresh with his seeds and rooted cuttings in the spring, the plants of the previous year are of no avail, and in no way can be made to assist the competition, as every care is taken to ensure that only the plants grown from those given out are shown.

We found Petunias, Pelargoniums, Musks, Fuchsias, Lobelias, Calceolarias, and Isolepis gracilis to produce the best specimens, and from seeds Collinsia bicolor, Candytufts, Linum, Rhodanthe, Mignonette, Nemophila, Stocks, and dwarf Nasturtiums to give the best effects in annuals. A strong hope has been expressed that a farther, or an adult section, may be added to the society next year: should that be the case, the plants shown so well by the children this year would make capital material for parents' specimens in future years. The addition of vegetables and fruit would also greatly help to lend interest to the show.

With the industrial section we had nothing to do, but that also was exceedingly interesting. A competition of quaint interest, however, was one for boys anxious to learn the art of digging. Portions of ground, in a rather rough spot, were set out 4 ft. wide and 12 ft. in length. These plots the several competitors were to dig; they were to be timed at their labour, and quickness regarded as points in their favour. We found several plots apparently well dug. The soil was gauged by means of a stick, and also the depth at which the weeds on the surface had been buried. The prize plots, each dug 1 ft. deep, were turned out in a way which would have done credit to old hands—the weeds well buried and the surface even. This formed technical teaching of a very practical kind, and it were indeed to be wished that every elementary school in the rural districts could have attached to it a quarter of an acre of ground, which might be thus devoted to practically training boys in the art of gardening, as girls are already taught needlework, knitting, &c.

The Egham Society is in excellent hands. It has very admirable aims. It endeavours, in the membership of children, to cultivate virgin soil, rather than to operate upon weedy or effete soils, and, without doubt, if the work be persevered with, the product presently will be one of great good.—*A. Dean.*

ANNUALS SUITABLE FOR LONDON GARDENS.—II.

Composites.

These constitute the largest order of flowering plants, many of which are weedy, while on the other hand several of them are among the most popular of garden plants. All the varieties of Chrysanthemum carinatum and C. coronarium flower freely in town gardens. Similar to those of a Chrysanthemum are the flower heads of Laya glandulosa, with broad, closely arranged white rays, with a yellow disc. Early and free-flowering dwarf annuals are Kaulfussia amelloides atroviolacea, with deep blue, and K. a. kermesina, with pale or deep purple flowers. An unnamed species of Crepis, with fimbriated soft yellow rays and velvety brown disc is very pretty. Very floriferous is Hymenoxys californica, a dwarf annual, about 6 ins. in height, and covered with bright yellow flower-heads. Coreopsis coronata is an annual species, with entire or slightly divided leaves, something in the way of Coreopis Drummondi, and having bright yellow heads, with a velvety crimson zone encircling the central portion.

Amongst the Centaureas, the Corn Blue Bottle (C. Cyanus) finds acceptance with all lovers of hardy flowers by reason of the utility of the blooms for cutting. The Yellow Sultan (Centaurea suaveolens) has recently been wrested from comparative oblivion, and now finds acceptance with a large number of the general public. The fringed florets, and their soft clear yellow colour, give the whole a refined appearance. The common Marigold (Calendula officinalis) flowers almost perpetually, and some very fine strains are now in cultivation. The heads of C. o. aurea are apricot, those of C. o. superba orange, and Meteor has lemon-coloured florets margined with an orange stripe. Dobbie's Selected is a darker variety of the latter, with much broader orange margins. Dimorphotheca pluvialis is a less common plant, often grown under the name of Calendula, and is a showy annual, but requires sunshine to keep the flowers open. The inner or upper surface of the rays is white, with a violet or blue spot at the base of each, and the outer surface is heavily stained with the latter colour. A variety having the outer surface of the rays sulphur-yellow is pure white internally. A double form is also grown at Chiswick.

Ten-week Stocks.

A large square of ground is planted with many different strains of Ten-week Stocks, which are mostly or all sown in mixture. Several kinds were deemed worthy of the usual award at the last meeting of the Floral Committee on the 18th inst. The Dwarf German are a free-flowering lot, about 10 ins. or 12 ins. high, of bushy branching habit. About fifty or sixty per cent. are double. The double large-flowering is of more robust habit, with larger flowers. There is a good admixture of colours in both kinds. There were two lots of the large-flowering Wallflower-leaved sort, and the carnation, blush, white, red, violet-purple, crimson, purple, and sometimes striped double flowers contrast prettily with the deep shining green of the leaves. The foliage of the Wallflower-leaved kinds is glabrous—that is, without the felt of hairs which gives the leaves of all the other kinds a hoary appearance. The strain is therefore very distinct and pretty. Another fine kind is the large-flowering Pyramidal Miniature, a dwarf race, in which the terminal spike is large and well developed. The whole plant does not exceed 6 ins. or 8 ins., and a large proportion is double, having blue, purple, rose, pink, blush, deep purple, and mauve flowers, the latter occurring pretty frequently. The Victoria Bouquet are a beautiful pyramidally-branching lot of plants, with crimson-red flowers, of which a large proportion are double, and their stems do not much exceed 10 ins. in height.

SHOWY SPECIES OF COREOPSIS.

A varying number of these are grown in gardens, and the majority of them are graceful and highly-ornamental plants. The genus is a large one, and widely scattered throughout both hemispheres in tropical and temperate countries. As a matter of course, all those grown in British gardens are natives of the more temperate parts of North America, and it may be noted that on the whole they are much more showy than those from warmer countries, many of which are weedy and coarse. Several of the annual species have been and still are grown in gardens under the name of Calliopsis, but botanically there are not sufficient characters to separate them.

One of the most widely-distributed species in gardens is C. tinctoria, an annual growing to the height of 2 ft. or 3 ft., according to the soil and the nature of the season. There is, however, a dwarf form, C. t. nana, which is much more suitable for bedding purposes. The leaves are deeply and pinnately divided into linear segments, and the stems branch freely, producing a great quantity of showy medium-sized flowers. The rays are usually bright yellow, with a large deep maroon blotch at the base of each; but there are varieties in which the dark colouring extends half way along the ray. Coreopsis bicolor is a synonym of the species, and is frequently applied in gardens to the variety having the rays equally divided by the two colours.

Another pretty common species is C. coronata, the rays of which have a transverse brown blotch below the middle, and the blotches of different rays unite in forming a wavy crown or ring surrounding a much darker yellow zone encircling the disc. The leaves are broad, spathulate, and entire or three-parted, with the terminal segment largest. It is an annual, flowering from June or July until cut off by frost. Similar in many respects to this is C. Drummondi, a very choice annual, with light green leaves, cut in a pinnate manner with broad, ovate, or lanceolate lobes. It is a dwarf, spreading species, generally about 1 ft. high, but in rich soil half as high again, when the leaves become twice divided. The flower-heads are large and bright yellow, with a zone of rich brownish crimson round the central disc. It merits extensive cultivation.

C. rosea, although introduced, is by no means common in cultivation. The stems are about 1 ft. in height, and furnished with linear entire leaves, the lower of which are generally three-toothed or lobed. The flower-heads are of a deep rose, and sufficiently large to recommend the plant to the notice of cultivators. It is a native of the United States, flowers here in summer, and certainly exhibits a very unusual colour for the genus, the species of which have yellow flowers, or zoned with brownish crimson in the manner above described.

C. aristosa is an annual species that was introduced in 1869 from the United States, but is as yet by no means a common plant. The flower-heads are orange-yellow, large, and freely produced in a terminal panicle. Unlike the above-mentioned species, the broad rays are narrowed to an undivided point. The stems are much branched, bearing deeply and pinnately divided leaves with serrated segments. A biennial species, with large golden yellow rays and a dull yellow disc, and that may be compared to C. aristosa for size is C. aurea. This is also a native of the United States, but the rays are narrower, more numerous, sometimes toothed, and are darker coloured at the base, forming a zone round the disc.

Much more slender in all its parts is C. Cardaminæfolia, varying in height from 6 ins. to 2 ft. The flower-heads are yellow, with a brownish-purple blotch at the base of each ray. The lower leaves are once divided, with broad segments resembling those of a Cardamine; hence the origin of the specific name. Those on the middle of the stem of strong-grown plants are bipinnately divided; while the uppermost ones are linear and entire, or but little divided. It also comes from the United States, and is an elegant moderately strong-growing species.

C. verticillata is a graceful and slender-stemmed perennial growing to the height of 1 ft. or 2 ft.; but although introduced from the United States in 1780 it is seldom seen in cultivation. The leaves are whorled and deeply divided into slender linear segments. The flower-heads are large, of a deep golden yellow, and borne singly but in great profusion at the top of the much-branched stems. They are produced in succession during the summer months. It is also known under the name of C. tenuifolia, the application of which is very obvious in reference to the slender divisions of the foliage.

Another choice perennial is C. grandiflora, an extremely variable species widely distributed in the United States, and cultivated more or less intermittently in British gardens since 1826. The stems vary from 1½ ft. to 4 ft. in height, according to the conditions under which the plants have been grown, and the foliage is equally variable in the size of the individual leaves and their divisions. They are opposite, usually glabrous, but occasionally distinctly hairy, and always furnished with a fringe of hairs at the edges of their short petioles. The flowers, as the name implies, are of great size, with golden yellow rays that are more or less deeply three to five-toothed. Like other hardy and choice species it comes from the United States. It flowers during July and August.

Of the perennial species none are better known nor more appreciated than C. lanceolata, which comes into bloom during July, and keeps on for many weeks, making itself a most conspicuous object in the herbaceous border, when bright and attractive flowers of that nature become scarce owing to the drought. The stems vary from 2 ft. to 3 ft. in height, and branch towards the top, bearing the blooms usually singly on the top of long peduncles, so that for cut-flower purposes the species is exceedingly suitable and useful. The rays are very long, bright yellow, four-toothed at the end, and the whole head measures from 2 ins. to 3 ins. in diameter. No collection of herbaceous plants should be without it. Being a native of various parts of North America, it proves quite hardy in all or most parts of this country.

VERONICA INCANA.

Several of the Veronicas, particularly the herbaceous species, are very liable to variation, so that many of the more distinct forms have been described as distinct species. The typical V. incana is a dwarf plant, with hoary stems and foliage and blue flowers. A tall and less hoary plant, varying from 18 ins. to 2 ft. in height, is often grown under the name of V. neglecta, while a dwarfer and almost white form is used for carpet bedding purposes under the name of V. candida; and it seems that the more densely felted and whiter forms are dwarfer, and are more adapted to live under dry conditions. For instance, the plant used for carpet bedding purposes seemed to enjoy the dry summer of 1887 as much as any of the succulents. Independently of this, any of the forms are adapted for culture in the rock garden or in the herbaceous border proper. They are neater in growth at all times than V. longifolia or V. teucrium and its forms, because the flowering stems are neat and erect, while the barren shoots, although decumbent at the base, never spread very rapidly. Good seeds, however, are produced in great abundance, and the different forms can be rapidly increased in this way.

THE FRANCOAS.

ONLY three species of Francoa are known to science, natives of Chili; but several other forms have appeared in gardens from time to time under specific names. The plants themselves are liable to a little variation, dependent a good deal upon the treatment they receive and the conditions under which they are placed. Seeds are occasionally introduced, and some growers not only raise them in heat but grow them in a stove temperature till they reach the flowering stage. Two out of the three species, when so treated, develop greatly elongated stems, and are so out of their usual character that they appear distinct from the old recognised forms. They form a small anomalous group or sub-order of the Saxifrage family, from which they were at one time regarded as distinct, and they certainly have a very distinct habit and different general aspect from the Saxifrages proper.

FRANCOA APPENDICULATA.—Of the three species this is the hardiest and the most widely distributed in British gardens, although it may not be grown in the greatest quantity, as the others, especially F. ramosa, are more popular for indoor cultivation. It is equally beautiful, however, as F. sonchifolia, and at the same time neater in habit, occupying less space because the leaves are all radical, and the stems never become elongated. The leaves are oblong or broadly strap-shaped, and lyrate-pinnatifid, while the flowering stalks arising from their axils attain a height of 1½ ft. or 2 ft., bearing a raceme of pale rose or pink-coloured blooms having a deep rose blotch on the base of each petal. It was introduced in 1830, and is quite hardy in this country, even 200 miles north of the Tweed—a fact which does not seem to be recognised by gardeners generally, who regard all the species as tender. It may be grown either on rockwork or planted out in the open border, where it thrives and flowers regularly every year, provided the soil is moderately open and well drained, under which conditions it requires no protection whatever. It is sometimes (though erroneously) grown under the names of F. rupestris and F. sonchifolia.

F. SONCHIFOLIA.—The flowers of this species are very similar in size and colouring to those of F. appendiculata, but they are more loosely or distantly arranged on the floral axis. The two may, however, be readily distinguished by the bases of the leaves being decurrent on the petiole to the base, and by their softer and duller appearance, arising from their being more decidedly hairy. The elongating character of the stem is even a better mark by which to distinguish this species. Plants of this are therefore more bulky than those of F. appendiculata, and yet the former is more frequently grown in pots, though why it should be so is not very obvious. F. sonchifolia is not quite so hardy as its congener, and is liable to get killed in severe winters when grown in the open border.

F. RAMOSA.—For indoor culture this is certainly the best of the three on account of its pure white flowers, which are always appreciable for cutting purposes. Its habit of growth is very similar to that of F. sonchifolia, the leaves being lyrate-pinnatifid, and decurrent on the petiole, while the stout stem also elongates to some extent like that of F. sonchifolia. The flower stems attain a height of 2 ft. or 3 ft., according to treatment, and branch more or less in the lower half, bearing racemes of flowers less compact than those of F. appendiculata, but none the less depreciated on that account. The species is not quite hardy, but sufficiently ornamental to merit cultivation in a greenhouse, cool conservatory, or hardy plant house. Any good potting soil suits them, and if a little peat is added they seem to like it. Propagation can easily be effected by seeds sown in heat during February and March, also by cuttings and division. F. appendiculata is most amenable to the latter mode of propagation because the stems do not rise above ground.—*F.*

NOTES FROM SCOTLAND.

The Botanists' and Naturalists' Conference at Alford.—The following papers were read at this conference on the 16th ult.:—

FERNS AND MOSSES.

Mr. McCreadie read a paper on "Ferns and Mosses of the Alford district," by Mrs. Farquharson, of Haughton. The Ferns of the district, it was stated, included nineteen species, exclusive of their varieties and of unrepresented species of the forty-two usually regarded as the number comprising the species proper to Great Britain, Ireland, and the Channel Isles. An enumeration of the Ferns followed, interesting particulars being given of the rarer specimens. Lastrea Filix-mas var. cristata (Murray), was discovered at Haughton in 1866 by Mr. John Murray, forester at that time. It had only lately been thoroughly examined by one of the greatest pteridetogists of the day, Mr. W. Masten, Chislehurst, who pronounced it as quite a new variety, and recommended the name of the finder being added. Lastrea cristata var. Spinulosa was also found. Few Ferns had caused so much controversy as this one, which commonly ranked as a variety of the Lastrea cristata, chiefly on account of its upright growth; but the great rarity of the species made it very improbable that it had ever been related to it. Many pteridetogists were of opinion that its constant and marked characters fully entitled Spinulosa to rank as a species. Having watched various plants of it for upwards of twenty years the writer could state he had never seen the smallest symptom of a return to its supposed species, nor of its varying materially from its own distinctive characters. Excepting the upright growth, this Fern in general habit resembled somewhat the Lastrea dilatata; it was found at Haughton, Whitehaugh, &c. The hope was expressed that the excursions in connection with the conference might be fruitful in extending the list of the Ferns of the district. The writer felt confident that one at least should be added, if only it could be hunted up—the Polypodium alpestre of Heppe, regarded as common to the highlands of Scotland. Then followed a long list of mosses found in the district, no fewer than 140 being named.

THE FLOWERING PLANTS, THE BIRDS, AND THE ANTIQUITIES OF DONSIDE.

The Rev. Mr. Bell, Keig, read a paper titled as above. The district embraced was Donside, beginning at Monymusk and extending to the source of the river Don in Corgarff, some forty or fifty miles in length, and from six to eight miles in breadth, and ranging from 400 ft. to 2,000 ft. (the Buck of the Cabrach) above sea-level. He laid on the table a list of all the plants found in the district, and he compared these with the list in Dr. Dickie's *Botanists' Guide* as follows:—

		Monymusk to Corgarff.	*Botanists' Guide.*
1	Plants to Carices ...	344	542
2	Carices	17	46
3	Grasses	42	62
	Introduced plants.....	24	

This, Mr. Bell thought, showed that as regarded numbers Donside had a very fair proportion of flowering plants. Very specially would they admit this when they bore in mind two thiugs—(1) that their list of 403 natives included no sea-coast plants, and none of those found at altitudes above 2,000 ft., whereas Dr. Dickie's list of 650 included a very long sea coast—namely, all round the coast from Elginshire to Forfarshire, about 100 miles in length, and also a large number of really Alpine plants, only got at 2,500 ft. and upwards. Their district was only a strip of country some fifty miles long and eight broad, while Dr. Dickie's embraced the three counties of Aberdeen, Banff, and Kincardine. There was no plant peculiar to the district. Amongst the rare plants were Ranunculus auricomus (Goldielocks), and Œnanthe crocata (Hemlock Water Dropwort). Both these were rare plants, and did not extend farther north than Morayshire. The former he had found in Keig and Glenbuck, the latter was found in the Den of Kildrummy. As to birds, he divided them into three classes—(1) permanently resident, 49; (2) summer visitors, 21; (3) winter visitors, 5; (4) occasional visitors, 15—total, 90. Then, as to antiquities, beginning at Monymusk and keeping to the basin of the Don, they had the church of Monymusk, which was very old. There was a reliquary in Monymusk House, of which a very interesting account was given by Dr. Joseph Anderson in his *Rhind Lectures in Archæology.* Dr. Anderson thought that this might have been the Breckbannock of Columba:—"It is a small wooden box, cut out of the solid, and plated with plates of bronze and silver. Its ornamentation is very fine, which shows its antiquity, and has that peculiarly Celtic form seen on the Celtic MSS. and memorial stones of the early Christian Church." Nothing was known of its history except that it had been in the house of Monymusk time out of mind. There was a sculptured stone there which figured in Stewart's *Sculptured Stones of Scotland.* It stood long at the farm of Nether Mains, east of the village of Monymusk, and was removed about two years ago and placed in the wall in one of the rooms in Monymusk House. The stone was about 5 ft. 6 ins. high above ground, and contained a cross, a figure of which was shown. Going up the Den to the Vale of Alford they had several of the so-called Druidical circles. In Tough there was one called the Auld Kirk o' Tough, but curiously enough it was not in what was now Tough parish. In Keig there were two very good specimens of these circles. They had also what was called the Barmekyn—a large circle of loose stones, about 156 ft. in diameter within. It resembled the Barmekyns of Echt and of the Caterthum of Forfarshire. There were examples of hill forts in Tullynessle, Alford, Leochel, and the other parishes in the Vale. There were also the remains of stone circles in Leochel, one of them having a good example of the cup-marked stone. Still following the Don, they had many objects of interest to the antiquary, as the yeird houses at Kildrummy and Glenkendy; cup-marked stone at Leys, Towie; the peel there; the crosses at Kildrummy Castle and in Kildrummy Churchyard; Kildrummy and Towie Castles, etc. Many objects of interest had been found in the locality, such as flints, arrowheads, and other stone implements, of which their president had a good collection.

REPORT ON FUNGI.

Dr. James W. H. Trail, Professor of Botany, Aberdeen University, contributed a report for 1889, on the Fungi of the east of Scotland. He was glad to be able to submit a larger number of additions than usual in the province of Dee, amounting in all to eighty-eight new records, of which sixty-four were new to Scotch lists. Several had not been put on record for Great Britain, some of the latter being new species. For the province of Tay he had seven new records, all from the neighbourhood of St. Cyrus, which, in truth, could hardly be reckoned as a part of Tay. One of these was also a new record for Scotland. A list of the names of the Fungi followed.

A RARE PLANT.

Mr. McCreadie read a short paper, by Dr. Roy, Aberdeen, on Sciadium Arbuscula, Braun. This very rare, interesting, and minute plant, Dr. Roy stated, was collected in the Curling Pond, Haughton, by Mrs. Farquharson, in the beginning of last winter. This, as far as he could make out, was the first time it had been found in Britain. True, Dr. Cooke, in his *British Fresh-water Algæ*, figured it; but in the text he had no reference to the locality, and hence the inference that he knew of none, and that he inserted it as a plant likely enough to be found in this country. It was originally discovered in Germany, and more recently in Sweden and in the United States of America. It was usually found among the leaves of Myriophyllum and similar plants. It was picked up this spring in a pool between Loch Kinnord and Cambus o' May, in a fragmentary condition, and no doubt it would be found in other localities.

THE ANTIQUITIES OF DAVAN AND KINNORD.

Mr. Alexander Hogg, road surveyor, Alford, read a paper on the above subject. After a reference to the geological formation of the district, and a brief sketch of the early inhabitants, Mr. Hogg went on to state that the small island in Loch Kinnord was the most perfect crannog in Scotland. It was situated in the deepest part of the loch, was 60 yards in circumference—the highest parts being about 6 ft. above the present water level—and had been artificially constructed. This rude structure afforded one of the most substantial proofs of the antiquity and particular importance of the district to the early inhabitants of the country. Allusion was made to the discovery of ancient canoes in the loch, and to the remains of old houses in its vicinity, as many as 200 of which could be pointed out along the northern slopes of Loch Kinnord—stray portions of what was formerly a great centre of population. Reference was then made at some length to the remains of extensive fortifications in the district, which was followed by a historical record and traditionary lore. The paper concluded with an account of the diatomite beds in Loch Kinnord, it being stated that Mr. Wilson, the present proprietor, was now proceeding with its excavation for commercial purposes.

REED CANARY GRASS.

Mr. William Wilson, Jun., sent a paper on "Reed Canary Grass." This grass grew on the wet soil at the borders of rivers, ponds, and ditches. On 5th May he sowed some of the grass, and it came above ground on 24th May. About 22nd June it began to fall behind other grasses sown at the same time, and by-and-bye it was seen to be struggling for existence. After a time it gradually went on advancing, and this year it reached a height of about 5 ft. and flowered, showing that this grass required four seasons to flower in dry soil. Mr. Wilson proceeded to give some interesting remarks regarding the value of such observations to field botanic inquiry.

FLORICULTURE.

The Carnation.

On the occasion of the exhibition of the Southern Section of the National Carnation and Picotee Society, July 23rd, Mr. Shirley Hibberd gave a brief discourse on the origin of the florists' Carnation. He began by assuming as a starting-point that Dianthus caryophyllus is a pure species, and the parent of all Carnations and Picotees. It has, on the other hand, been assumed by certain botanists that the Carnation is of mixed descent and a mere mongrel of the garden. Some such belief must have prevailed in the days of Shakespeare, for Perdita's objection to Carnations as "Nature's bastards" was intended to be understood by the mixed audience of the theatre, and it suggests not only the prevalence of the belief, but perhaps also the popularity at that time of the Carnation as a garden flower. The wild forms of Dianthus that might by any possibility be regarded as the parents of the Carnation are three in number only: The Sweet William may be regarded as the garden form of Dianthus barbatus, the Pink may be an improved edition of Dianthus plumarius, and the Carnation differs in no essential particulars from the wild form of Dianthus caryophyllus, though larger, fuller, richer, and immensely various in colouring. In its general character it stands distinctly apart from D. barbatus and D. plumarius as free from any taint of other blood, and Perdita's objection has no scientific truth; it is mere sentimentalism. The wild Carnation is registered as occurring at Rochester, Deal, Norwich, Rouen, and places thence southward to the Mediterranean. Bentham ignores it as a British plant, and Watson reports that D. plumarius has been mistaken for it, which is not surprising, seeing how nearly alike they are under some circumstances. But D. caryophyllus is constant in its characters (which were described), and it never produced Pinks nor Sweet Williams, however degenerate the seed might be, while as to time of flowering, it did not usually bloom until the Pinks and Sweet Williams had finished their season, a sufficient reason for their so seldom appearing side by side in exhibitions. We have mule Pinks, but no mule Carnations; all the several forms of the flower, whether Cloves, show flowers, fancies, or "tree" Carnations, were true to the leading characters of the species, the limits of variation being apparently sharply defined by nature.

As to the age of this flower, we have a pretty clear history of it for 300 years, but it is more likely to be 1,000 than 300 years old as a garden flower. Turner in 1550 spoke of it as less the child of nature than the product of the labour and the wit of man, a statement that certainly suggests that long ere Turner's time the florists had operated on the flower, and made it beautiful and popular. Beckmann's assertion that floriculture in Europe dates from the middle of the sixteenth century is simply ridiculous, for Turner and Shakespeare are witnesses to the fact that in their time certain flowers that had been long under cultivation, and had thereby been modified to suit the fancies of the florists, were no rarities, but were common in English gardens. A reasonable assumption in regard to the estimate of the flower by Turner is that it had been in cultivation as many years as have passed since he wrote the *Herbal* we now so greatly value. This assumption extends the career of the flower as a garden favourite to a period of 700 years. We may reasonably imagine its introduction to be coeval with the coronation of Richard of the Lion Heart, and this idea leads to another, that the Carnation was possibly introduced to Europe and this country by the Crusaders. It is, moreover, of importance to note that the Carnation was valued by the ancients for the flavouring of beverages, and this consideration gives a clue to the meaning of the assertion of Pliny in his 25th book, that the Cantabrica was obtained by the Romans from Spain in the days of Augustus, who entered on the consulship on January 1, B.C. 33, which carries back the history of the flower as nearly as need be to 2,000 years. When Gerard published in 1596, Carnations were plentiful in gardens, and he records obtaining a yellow variety from Poland through the kindness of a friend. Parkinson, publishing in 1629, speaks of the varieties as being so numerous that to describe them would be an endless task. Moreover, those figured by Parkinson are of great size and variously spotted and striped; in fact, so far removed from the wild form of D. caryophyllus as to assert for themselves long occupation of the garden as subjects of the florist's patient care. Rea, in his *Florilege*, 1676, gives a list of 360 sorts, remarking that they were raised in Holland, and brought thence to London.

Lately (said Mr. Hibberd) I have submitted to certain friends a list of 320 varieties of Carnations that were conspicuous in prize lists in the year 1822, and these friends declare there is not one of them in cultivation at the present time. And yet the improvement —or say alteration—of the flower is accomplished but slowly. The varieties figured by Parkinson show how in his time the stripes were passing outward to the edge to form the Picotee; and the bizarre Carnation, figured in the *Botanical Magazine* in the year 1788, is of such high quality that it might be put on the show table to-day with a fair chance of winning, proving that 100 years of work do not greatly affect the flower as regards its technical qualities, a fact strikingly illustrative of its possible high antiquity. And yet through the long period of its occupancy of the garden we have no evidence that at any time it has deviated in any degree from its typical characters as to suggest hybridisation; all the varieties we hear of and see appear to be genuine representatives of Dianthus caryophyllus alone; they are varieties resulting from cross-breeding without the aid of other blood. True hybrids of the Carnation may be said to be unknown.

The lecture was illustrated by plants and diagrams of an interesting nature, one object of which was to demonstrate that the wire-edge Picotee had been formed in precisely the same manner as the edged Auricula, by the gradual pushing out of the colour to the edge, and refining it there from radial spots to a sharp close line. —*From the Gardeners' Magazine.*

THE TULIP TREE.

Thanks for the kindly notice of our noble tree the Liriodendron tulipifera, which is, as Mr. Downing said, "the most stately tree in North America." What Mr. Gaut remarked is wonderfully true, but not absolutely so, or at least wholly so. In its "native heath"—dense woods—it is as straight as a column, remarkable among all other deciduous subjects, and as a timber tree it is exceedingly valuable. There are two distinct varieties of it, which are more marked than with many species of other genera. One kind has soft yellow fine-grained wood, fit for almost any work, and is generally used for piano legs, particularly carved ones, as no other wood takes a stain so well, no matter what wood is to be imitated. It is quite amusing to hear the dealers call white-wood piano legs "solid rosewood," which they do almost invariably. The wood is also used for nearly all purposes, except for shingles, and is more valuable than any of our soft woods. Your notice does not over-estimate its size. Not long since a tree was cut in the Maumee Valley which made a stick 60 ft. long, 54 ins. by 48 ins. square, and entirely free from knots.

The other variety is commonly called White Poplar; the wood is soft, tough and stringy, exceedingly liable to warp or twist, and is only used in the most common cabinet work. The variation in the species is said to be brought about by the soil, which, if dry, gravelly and elevated, produces the white wood, while if rich, deep and rather moist, the yellow timber. Our observation does not confirm this opinion, having seen the two varieties growing within a few feet of each other under the same conditions in all respects.

As a road-side tree either variety is desirable; the foliage is pleasing in summer and exceedingly rich in autumn, while in colour it is next to our Maples. In addition to size and form, which are perfect, its flowers are remarkable for their beauty. Its growth is rapid, and is absolutely free from insect enemies.—*C. L. Allen, Floral Park, New York.*

HARDY HERBACEOUS PLANTS IN FLOWER.

Verbena Aubletia.

Since the greatly-improved garden forms of this genus have been more widely disseminated less attention has been given to the hardy or half-hardy species, which, if not so refined as their more-favoured congeners, are still capable of producing a large quantity of flowers, and of brightening the herbaceous border. Like the bedding varieties, the flowers are here produced in dense corymbs, and vary from lilac to deep purple or red. The ovate leaves are more or less deeply divided. Propagation can be effected by cuttings.

Rudbeckia purpurea.

The comparative scarcity of this plant in gardens may no doubt be easily accounted for by its slow rate of increase by lateral extension. Unlike C. lucida, R. laciniata and others, it cannot be rapidly multiplied by division, and must be as little disturbed as possible, for it dislikes being moved when once established. Recourse might be had more frequently to propagation by seeds, thereby allowing the old plants to get thoroughly established. The large heads and long purple rays would be most effective in a mass, whereas a few stems are all that can be seen in most cases where the plant is grown at all. The leaves are lance-shaped or oval, and the stems vary from 2½ ft. to 4 ft. in height.

Buphthalmum cordifolium.

Amongst the bolder-growing herbaceous plants now in flower, this one, better known under the name of Telekia speciosa, must not be overlooked. Under favourable conditions the stems rise to the height of 3 ft. or 4 ft., and is to this genus what Inula Helenium is to the other species of that genus. Their vigour under favourable conditions gives them a tropical effect, rendering them highly suitable for the sub-tropical, the wild garden, or the back line of an herbaceous border. The heart-shaped leaves and the golden yellow flower-heads attain handsome dimensions.

Tritonia Potsii.

The flowers of this species are much smaller or less expanded than those of T. aurea, but are none the less attractive on account of their lively colouring. They are produced in a two-ranked spike, which, before the flowers have attained full size, is nodding at the tip. The perianth is curved, funnel-shaped, bright yellow, and heavily suffused with red externally. The foliage is copiously produced as in the case of T. aurea, and forms a fine background or setting for the flowers. It is hardy in light well-drained soils, and flowers freely every year. From its having been disseminated under the name of Montbretia Potsii, it is better known by that appellation in gardens than by the name above given.

Potentilla argyrophylla.

The silvery leaves of this species have given rise to the specific name; and the application is more appropriate to the under than the upper side, which is often almost white. This species has been largely used in the production of the double, semi-double, and other improved kinds, that are now more or less widely diffused in gardens. They would, no doubt, become more popular if their habit were better. Under conditions favourable to good growth, the flower-stems are more or less procumbent, and require careful staking and tying to make them appear sprightly. This fault is, however, common to a great many species, and militates against their extensive cultivation in gardens where neatness and order are expected to prevail. The typical form has yellow flowers, and is seldom cultivated outside of botanic gardens; whereas V. a. atrosanguinea has found its way into many gardens. Its flowers are of a dark crimson, and well shown off against the hoary or greyish white foliage.

Centaurea macrocephala.

The merits of this species lie in the great size of the yellow flower-heads, which are borne singly at the apex of the strong erect stems. It produces perhaps the largest flowers of any, and presents a somewhat curious appearance, on account of the mass of ragged, colourless and dry scales surrounding the flower-head, and crowded under the mass of yellow florets. The oblong-lanceolate leaves are of great size, and are crowded, not only at the base, but thickly clothe the stems right up to the flower-heads.

PLANT DECORATIONS.

The call for Palms and other decorative plants is decidedly on the increase, and they certainly are a most attractive feature in decorations supplied by the florist. A pair of handsome Palms judiciously placed adds an effect which is always admired, and the use of these stately and graceful plants in conjunction with arrangements of flowers gives the florist a much wider field in which to display his skill. A common error is to use them too freely. The parlour, church, or banquet hall should not be turned into a conservatory. While half a dozen specimen plants placed at effective points around the room are admirable, to mass them thickly everywhere is not only a waste of plants, but results in the creation of a heavy, sombre effect, which should be avoided. The too free use of flowers alone is equally objectionable; but when the more brilliant colours of the flowers are softened by contrast with the beautiful green of the Palms, the effect upon the eye is pleasing without soon becoming tiresome, as is apt to be the case where great masses of flowers alone are used.

The art of effectively arranging either plants or flowers lies in placing each individual plant or blossom where it will show all of its own grace and beauty, and at the same time assist in the general result without detracting from the effectiveness of any other individual plant or flower through the creation of inharmonious contrasts in either form or colour.

In the arrangement of Palms and like decorative plants, harmonious contrast in form is the main requisite. But how often do we see really handsome specimens crowded together in such a way as to form merely an even hedge of foliage without contrast, the grace of each individual almost entirely lost to the observer through being buried among a lot of others. Use your plants of doubtful quality for a background, but bring your specimens up where they may be seen and admired, and where they will form an harmonious contrast in form and foliage with others. By the exercise of taste and skill in arrangement a small number of plants can be made more effective and satisfactory to the customer than a larger number massed together without them, and this means good returns for a smaller cash outlay.

A mistake made by many florists is to rent out their decorative plants by the wagon-load. Palms and similar decorative plants should be rented by the pair or single specimen; and one-fifth of the value of the plants should be received for their use at a decoration; this ensures a fair profit after the cost of getting the plants into condition again is deducted. And the customer will not be so apt to find fault with the bill if it is made for the "rent of — pairs specimen plants," rather than for "one wagon-load" or more. Of course for small flowering and foliage plants rental by the wagon-load may be advisable, but specimens should be rented by the pair or single specimen only.—*American Florist.*

WASPS' NESTS.

Though it may be inferred from a note in your issue for July 20th that a wasps' nest in a Gooseberry bush is somewhat of an unusual occurrence—and it may be in certain localities—yet it is quite common in my experience here, as scarcely a season passes without my meeting with a case of the same kind. No longer ago than the morning of the previous day (Thursday, 18th) I removed one from a similar position to that recorded in The Gardening World, which I had killed on the day before, and, strange to say, it had not been noticed sooner, although passed and repassed within a few feet several times every day. The nest was quite a good size—perhaps 9 ins. or so in diameter—and would contain about a half a pint of wasps. It had three combs of which the cells were full, while the fourth and smallest was about one-third filled, so that in a short time it would have been quite lively. I had destroyed one on a wall Pear tree about 10 yards distant some six weeks ago shortly after commencing to be built, besides one in a hole at the back of the same wall the day before, so that I begin to think that my first surmise was correct—viz., that it would turn out a plentiful wasp season, as I never saw queens more abundant than they were this last spring. I have seen very few nests, however; but now that we have had a week of rather wet weather, causing a great loss to the Strawberry crop, which in a decaying state are proving a great attraction, they are showing themselves in great numbers.

The plan I adopt in killing these hanging nests is very simple and safe. A stick the height of the entrance to the nest, with a small cleft on the top to hold a piece of tin in position, on which and over the nest are scattered a few drops of Davis's Wasp Killer, is put down, and does its work effectually and quietly, so that it can safely be removed by the hand next morning, every wasp being dead, or at least in a state of torpor. The ground nests are done with a piece of wadding dipped in the same liquid, or with the old remedy of a sulphur and gunpowder cartridge; but I think the former the safest and least troublesome plan, because it can be laid down at the time the nest is found, and kills effectually, which the other does not, unless the nest is at once dug out and broken up, the wasps mostly recovering after a time if this is not done, as I have found it only stupifies in most cases, and does not kill them outright. By the way, the strangest nest I ever came across was during a hunt two years ago in a plantation at the back of the garden. The nest was quite open, and formed on the surface of the ground, being only partially covered from view at a few yards distance by the rank grass, and might never have been noticed by a casual glance.—*R. Stevens, Paston, Northumberland.*

CHOICE PENTSTEMONS.

The accompanying illustration represents nine very fine varieties of Pentstemon, as they are regarded at the present day. They are chiefly characterised by size, wide open throat, well-defined colours, or at least bold, striking, and novel or telling ones. The first in the upper left-hand corner is Olivier Pain, a bold flower, with rounded violet lobes, and a wide white throat pencilled with violet. The fourth, named John Cowe, resembles the first in the distribution of colours, but the darker one is a bright crimson-red. No. 5 is George Fisher, a beautiful rose-coloured flower with a large white throat; it grows vigorously, producing strong racemes of large blooms. Dr. Tuke (No. 3) has bright red flowers veined with crimson in the throat, and the latter is divided from the richly-coloured lamina by a white line. H. Cannell (No. 8) recalls George Fisher in the bright rose colour of its lamina; but the throat is heavily lined with crimson-maroon, producing a fine effect by the contrast of the two colours. The variety may be regarded as intermediate between those that belong to the dark and to the pale types. A very handsome Pentstemon is The Favourite (No. 2), which has large flowers with a rich carmine-rose lamina, and a white throat heavily pencilled or striped with a dark red colour. The variety is a strong grower, producing a large-sized inflorescence, and flowers of equal proportions. Emile Paladilhe is another strong-growing variety, producing large blooms of a deep amaranth colour and white throat, but the latter is greatly obscured by the rich pencilling. As may be seen by Fig. 9, General Nansouty is one of the largest and most richly-coloured flowers in the group. The segments are broad, well-rounded, and of a rich crimson shaded with maroon; the ground-colour of the throat is white, but that again is obscured by the maroon pencillings that closely line it. The palest flower of the lot, and likewise one of the most distinct, is Miss F. Hope (No. 6). The blooms are pure white, or more or less tinted with rosy pink. It should certainly find a place in a selection. The Messrs. Cannell have a good collection at Swanley, and to them we are indebted for the illustration.

Varieties of Pentstemon. (See text.)

The Amateurs' Garden.

Pentstemons and Phloxes.

These come into flower much sooner in the southern counties than in the cooler and northern districts, where they are more strictly autumn than summer-flowering plants, because they frequently do not come into full bloom till towards the end of August, and continue from that time till cut down by frost. Phloxes, because they are surface-rooting plants, require a large amount of moisture, and are very liable to suffer in this respect during July and August if the weather proves only moderately dry, while in seasons such as that of 1887 the whole plant flags, and the flowers are small, worthless, and perish early. It is, therefore, necessary to supply them liberally with water in dry weather, and more especially if the ground about them has not been mulched. Pentstemons, although they root more deeply, will also repay for the trouble of watering, and all the more if liquid manure is used. Cuttings of both Phloxes and Pentstemons if struck now, which they will readily do under a hand-glass, make fine plants for next year.

Antirrhirums.

It is not yet too late to sow seeds to obtain plants to flower well next year. A sufficient number to stock any garden may be raised in a box of moderate dimensions; but after germination they should be pricked off in other boxes, or if convenience allows it, in cold frames. In order to encourage the plants to make sturdy short-jointed growth they should be planted 2 ins. or 3 ins. apart in the row, and 4 ins. between the lines. This will allow of a considerable amount of growth till spring, when they may be planted where they are intended to bloom, towards the end of March or in April according to the state of the weather. This will afford them a long season in order to make strong growth before flowering. A pinch of seed of a good strain will afford a large amount of variety, but the diligent grower, whether amateur or professional, can improve his plants year by year, by always selecting seed from the best varieties, which should be marked and their quality noted while in flower. Cuttings of the very best kinds may be taken a little later on, and rooted in pots under a hand-glass, to be kept in a cold frame till spring.

Hardy Annuals in Flower.

There is practically no limit to the number of showy annuals which the amateur may cultivate successfully if he is in any way fond of gardening. Some may object to the annual outlay in obtaining a large number of kinds; but in such cases no difficulty will be experienced in ordinarily dry seasons in securing more than a sufficient quantity of seeds for home use, so that with a very small annual expenditure a large collection may be got together by those who have room to grow them. Many kinds are now very gay, including Convolvulus tricolor and its numerous beautiful varieties, Clarkia pulchella and its forms, C. elegans, Eucharidium grandiflorum, Shirley (Papaver Rhæas) and French Poppies (P. somniferum) in no end of variety, and the beautiful P. umbrosum must not be overlooked. The dwarf Tropæolums, popularly known as Nasturtiums, are a blaze of colour, and contrast with the paler but pleasing colours of the Ten-week Stocks in endless variety. Then there are Candytufts, Catchflies, Gillias, Chrysanthemums, Lupins, Mallows, Eschscholtias, and no end of others.

The Greenhouse.

Besides the ordinary occupants of the greenhouse, such as Pelargoniums, Fuchsias, Petunias, Begonias, Roses, and others, a gay effect may be maintained with hardy plants, such as Canterbury Bells (Campanula Medium), with its numerous varieties, Hose-in-hose, Cup-in-saucer, also the Chimney Bell flower (C. pyramidalis), together with the smaller species, C. garganica and C. isophylla, which may be stood along the front of the stage, or hung up as basket plants. Balsams are a little more difficult to the beginner, but they are showy even when only fairly well done. Monthly and Fairy Roses are easily grown and showy. The blue-flowered Agapanthus umbellatus is a bold object just now, whether grown under glass or out of doors. Liliums of the leading and popular kinds must not be omitted.

Ferns.

Adiantums, Aspleniums, Davallias, and similar Ferns that may have been kept close and warm for the purpose of starting them into vigorous growth must be more freely ventilated after the fronds have attained full size, in order to harden and render them capable of lasting in good condition through the winter. This applies to Fern cases in windows that are usually kept very close.

OXENFORD CASTLE.

This beautiful country seat of the Earl of Stair is situated on the banks of a small river called the Tyne, four miles from Dalkeith, on the Kelso road, in the county of Midlothian. The mansion is a noble structure, for the most part of recent origin, having been rebuilt about fifty years ago. Standing in front of the castle, and looking eastward over a trim lawn and two terraces, in front of which is the spring garden, what a charming place it is, being filled with Dutch bulbs and other choice flowering roots, whose lustre and beauty are passing for the present season! On turning the eye southward, and looking over a regular decline towards the river, one cannot help feeling struck with the admirable arrangement and the exqnisite blending of colours of the various trees—purple Beech, Sycamore, Ash, Thorn, &c., each tree having its position, and being a picture in itself. The combination produces a grand effect, and clearly shows to present-day gardeners that the laying-out of grounds and blending of colours were well understood by the gardeners of the last century.

Looking westward, a long walk is presented to the view, known by the appellation of the Pinetum, or Pine walk, along the sides of which are some glorious specimens of Wellingtonia gigantea, towering to the height of 60 ft. Continning the journey westward through the Pinetum, the kitchen garden is reached, and on the right, upon entering, is the pretty residence of the gardener, Mr. Smith. A few minutes were spent here in examination of some fine Cupressus and native Heaths.

Small fruits are abundant crops, and the like has not been seen for many years, in fact there are many bushes absolutely weighed to the ground with their immense burden of fruit. Wall fruits are likewise specially fine, Plums, Cherries, and Apricots not having had such crops for years. Apples are a poor crop, excepting Lord Suffield, King of the Pippins, and Keswick Codlin, these sorts bearing full crops. Pears are a failure, not having been so poor for many years.

Vegetables of all kinds look remarkably well, the hot dry summer we have experienced being suitable, as the subsoil is of a cold damp nature at Oxenford. The range of vineries is now reached, which occupy a prominent position in the kitchen garden, facing due south. Upon entering and looking roofwards one is struck once more with the quantity and quality of the Grapes, the fine-flavoured kinds being in greatest demand, viz., Madresfield Court, Mrs. Pince, Muscat of Alexandria, and Muscat Hamburgh. The last-named is not on its own roots, having been inarched on Black Alicante, and is considered by Mr. Smith to be a great improvement, in not being so liable to shank, and sets more freely. This Grape was recently on the exhibition table in Edinburgh; it received the premier award, and created quite a commotion among Grape growers. Peach trees have excellent crops; for flavour, size, and colour I have seldom seen finer. Royal George, Lady Falmouth, Dr. Hogg, and Stirling Castle are principally in demand.

Orchids are not extensively grown, but I am pleased to say that a collection is in course of formation, and that considerable alterations are to be carried out in appropriating several houses for their accommodation during the coming winter. Stove and greenhouse plants receive due attention, the demand for plants and flowers for house decoration being great, as the family reside for the most part of the year at Oxenford. The entire establishment reflects great credit upon Mr. Smith for his able and energetic management.—*J. McNab.*

MUSA CAVENDISHII.

The Rev. George Turner, LL.D., has communicated the following interesting remarks on the distribution of this plant by missionaries among the Polynesians to *The Buxton Advertiser* of July 13th:—"Before leaving England in 1838, John Williams, the martyr of Eromanga, received many expressions of kindly interest in his mission work from his Grace the Duke of Devonshire, and among these were some cases of plants, carefully selected and packed at Chatsworth, to be taken in the missionary ship to the islands of the Pacific. It is not generally known the large extent to which missionaries have introduced new plants, and additions to the food of native tribes in the Pacific and elsewhere.

"Before leaving the Samoan Islands, a week or two before he was killed on Eromanga, in 1839, Mr. Williams put on shore at the harbour of Apia one of the cases from Chatsworth, the contents of which were apparently dead from long exposure on board ship. When I reached Samoa in 1841, I saw that case, and close by it a fine Banana plant growing. This was from a root which was found at the bottom of the box, still containing the germ of life.

"This plant was watched in the garden of Mr. Mills, the missionary, with no small interest by the natives, and soon their curiosity rose to amazement, when they saw that it commenced to bear while yet only about 5 ft. high, and that the very first bunch weighed close upon 100 lbs. The Samoans had already upwards of thirty species of Banana, but this new one far excelled them all. The neighbouring chiefs begged Mr. Mills for some of the young shoots, and soon they spread from village to village.

"On my second voyage to our out-stations in Western Polynesia in 1845, and in our missionary barque "John Williams," I got a number of plants of this rare Banana packed in a large iron pot, and fastened up on the cross-trees away from the waves and spray. At each of the larger islands visited on our cruise I sent on shore one or more of the plants. When I visited these places again in 1848, the new Banana was greatly prized and fast spreading; and again, when I was there in 1859, '63, and '82, there was hardly any other Banana brought on board ship, or to be seen on shore. When I was last in Sydney, I saw a cart passing along laden with great bunches of this very Banana from a Fiji steamer just arrived. They are now spread over Eastern, Central, and Western Polynesia, and all have come from that one root which went out from Chatsworth in 1838. It is called the Chinese Banana, and is known in botany as the Musa Cavendishii, having been introduced to Chatsworth from China by his Grace the Duke of Devonshire in 1829, and can be seen in the conservatory there now.

"The great value and rapid spread of this Banana in the Pacific has become quite proverbial. I have heard native orators, for instance, in speaking of the rapid spread of Christianity, comparing it to that wonderful plant, and well they may do so. In the early part of the century the Gospel first took root on Tahiti, and now it covers and gladdens Eastern, Central, and, to a large extent, Western Polynesia as well, with an aggregate of 600,000 converts from heathenism, and of these 60,000 at least in full communion with the mission churches. It is destined still to spread through the Papuan and Malayan Archipelago, until, in the not distant future, the missionaries of Polynesia shall unite stations, and shake hands with their brethren in India, China, and Japan."

Gardening Miscellany.

Gardeners and Gardening—the Pen and the Spade.

The splendid achievement attained by the Gardeners' Orphan Fund reads more like a romance than a reality, and amongst the sympathetic and good-humoured speeches spontaneously delivered at the annual meeting on the 19th inst., Mr. Fish somewhat mars his otherwise excellent address, in the allusion to the gardeners of the future, which needs some still further explanation from such a talented gardener. Mr. Fish is reported to have said that he feared the pen would drive the knife and the spade from the field. Such fear appears to me groundless, existing only on paper. If the wilderness is to be converted into a beautiful Garden of Eden, which I do not for a moment doubt, we cannot dispense with either knife or spade. We are all familiar with the words, "Give me the spade, and the man that can use it. A fig," &c. We all know the mind must co-exist with the material; whoever the workers may be, who use the practical tools, they are inseparably bound one with the other. I am perfectly aware that the pen and the press are a mighty power—all honour to them; but we may safely adopt the advice of Mrs. Glass, "First catch your hare, then cook it." The pen, however well it may answer on paper, will perforce have to wait for the knife and the spade for practical development, and that where there is one paper gardener, there must necessarily be twenty gardeners to carry out the work practically. We may safely infer that the time for horticultural revolutions performed by the pen alone has not yet come.—*B. L.* [Mr. Fish's remark was a humorous one, and must not be taken seriously.—Ed.]

Pewits and Plovers in the Garden.

HAVE any of your able correspondents ever tried pewits or plovers in their gardens for destroying slugs, &c.? If so, I shall be glad if they will give their experience of them in your valuable paper. Being very much pestered with slugs this spring, our gamekeeper asked if I would try a few pewits. Of course I was willing to try anything to do away with the pest, and save the labour of going over the garden night and morning hand-picking them. Well, I have six of them, and they do undoubtedly feast upon the slugs, but I am not quite sure they do not also eat the leaves of young Cauliflowers. I have not seen them doing so, but I suspect them, as I have had to replace so many that have been devoured by a bird of some kind. I am quite sure they will eat Strawberries, because I have seen them doing so. If I could be so convinced of their eating the young plants I should dispense with them at once, as in that case the cure is worse than the evil. However, I should like to hear the opinion of some of your correspondents, and it may be interesting to others in a similar position to myself.—*A. B. D.*

Twin Vegetable Marrow.

WE have received from Mr. M. McLean, Vintners Park, Maidstone, a curious malformation in the shape of what appeared to be two Vegetable Marrow fruits grown together. On examination, however, it proved that there were at least five different organs more or less completely amalgamated. Three of these were flowers and two of them leaves. Two of the flowers had given rise to fruits of unequal size, but united almost to the top; the third flower had not expanded, but it appeared of full size and quite normal, while its stalk only had become united with those of the others. In the sinus between the two fruits a leaf was united to the latter throughout its length, the blade only being free and of no great size. A similar leaf-stalk ran along the back of another fruit, and the blade, together with a short length of its petiole, was free. Both leaves appeared to spring from near the top of the fruits. The petioles of the two leaves and the peduncles of the two fruits and the flower were united in one common piece, and a transverse section of this showed that the fibro-vascular tissue had united to form one vascular ring—that is, the bundles arranged themselves in one continuous series, but wavy in outline, as were the external surfaces of the different organs composing the whole.

Two Choice Helianthemums.

SEVERAL of the species of Helianthemum have a dark-coloured blotch at the base of each petal similar to what occurs in Cistus ladaniferus maculatus, now well known for the great size and fugaceous nature of its flowers. Reference may also be made to the beautiful Persian Rosa berberidifolia as another striking instance, specially applicable in the case of Helianthemum formosum and H. ocymoides, because the flowers are yellow in all three. The petals of H. formosum have a black blotch at the base of each—a singular and rather uncommon combination; those of H. ocymoides are very similar, and a dark red or crimson line is discernible bounding the black blotch. It is evident, both from the stem, the flowers, and the foliage, that they are closely allied species. The stems and under side of the leaves—less distinctly so on the upper surface—are felted with hoary pubescence and small scales, but H. ocymoides is distinguishable by its being furnished with long, loose and somewhat woolly hairs in addition. The leaves of the latter are also somewhat larger, with broader and shorter petioles, or they are narrowed to the base and almost sessile. Both are hoary, much-branched, free-flowering shrubs, varying from 1 ft. to 3 ft. or 4 ft. in height, and are natives of south-western Europe, H. formosum being perhaps confined to Portugal. They would prove hardy and suitable for the more favoured parts of Britain.

Dwarf Cornel.

THE name given here would be applicable to other species of Cornus besides C. canadensis, but most of the species cultivated in gardens are shrubs, whereas that under notice is herbaceous like our native C. suecica, but rather taller and stouter. The upper leaves are whorled, and terminating the stems when in flower is a whorl of four large white bracts, resembling a single bloom, constituting one of the most ornamental features of the plant. The fruit consists of a cluster of red berries about the size of peas, and when mature they are very attractive during late summer and autumn. The plant delights in a semi-shaded position, and will succeed all the better if a good quantity of peat is mixed with the soil in which it is grown. It makes a beautiful carpet to beds planted with taller naked-legged subjects, and if American plants of the Heath family are planted along with it, the association constitutes a very happy one. It was originally introduced in 1774, but is yet rather sparingly distributed in gardens.

Nature-pruned Currant Bushes.

THIS, I suppose, is no pruning at all. The current article, even among Currant bushes, is the knife. "Hallo, just look here," said a brother gardener to me the other day, when going the round of his garden; and stooping down he lifted up what appeared to be a mass of green boughs and leaves, out of a patch of several yards square. Here were to be seen beauty, usefulness, and, I suppose, harmony, for I never saw such negligent pruning, yet, withal, such a crop of fruit. The bushes were merely stuck there in the first instance to blind an unsightly object, and eventually the fruits were accidentally found. They are annually our best cropping trees in the garden. Herein lies a moral.—*B. L.*

Saxifraga diversifolia.

WE have an exceedingly wide range of variation in this genus, some of which may be witnessed even amongst our native wildings. The species under notice, a Himalayan representative, is quite distinct from any other in cultivation, and at a casual glance more resembles a Hypericum than a Saxifrage. The radical leaves are spathulate, and arranged in a rosette around the upright stems, which are about 15 ins. high, and furnished with shorter and broader oval or oblong ones clasping at the base. All are soft in texture, deep green, and apparently suited for wet or marshy places, such as that in which we find the Parnassias, which it greatly resembles in habit. The flowers are borne in terminal corymbose cymes, and are large and bright yellow. Several other species of Saxifraga have yellow flowers, such as S. Hirculus and S. azoides; and these it may be remarked frequent marshy and wet mountainous places. A well-flowered piece may be seen in the rockery at Kew.

Cabbage Lettuce, New York.

BY the description of this Lettuce it must be a decided advance on existing sorts, and likely to become a boon to the gardener in furnishing the salad bowl, especially if, as Mr. Kipling says, it is a non-rolling stone, not bolting off and producing seed before hearting as some do. Will Mr. Kipling kindly inform us whether it had special or ordinary treatment, as the soil must have been in good heart previously to effect such results?—*B. L.*

Ficus repens.

THIS is a most useful and accommodating plant, and will grow in almost any out-of-the-way position in the stove or greenhouse. For rambling over and covering up any old rough pieces of wall or bare place at the back, for rockwork, or in ferneries, however dark or covered in, there is scarcely any plant more suitable; and although it will grow most luxuriantly in warm, moist, shady places, it will most readily accommodate itself to almost any position. As a pot plant it is useful for furnishing. Darwin, in his interesting work on *Climbing Plants*, mentions a very curious thing in connection with this plant. It illustrates how Nature, under peculiar circumstances, can furnish her subjects with means suitable to their requirements. In the case of a plant of Ficus repens that he observed climbing up glass (or upon any other smooth surface—which it will readily do), the young rootlets emitted minute drops of a clear fluid, not in the least milky, like that exuded from a wound; and a most remarkable thing in connection with this fluid was that it did not soon dry, for he placed some drops about half the size of a pin's head upon some slips of glass, over which he scattered some small grains of sand. This he left in a drawer during hot and dry weather. If the liquid had been really water it would have dried in a few minutes, but Darwin says it remained in a fluid state, closely surrounding the sand, during 128 days. How much longer it would have done so he could not say. After a period of twenty-three days from the time the rootlets came in contact with the glass they were firmly cemented to it, showing that the rootlets first secreted a viscid fluid, and then absorbed the watery parts, ultimately leaving a cement, which bound the plant to the glass. How very interesting are the works of nature, and how much Darwin has done in opening up and showing to us so many of her wonders!—*Alfred Gaut.*

Primula calycina.

THE hardy Primulas mostly flower in spring or early summer, but many of them by different methods of cultural treatment may be made to bloom much later. This applies to P. calycina amongst other species. A batch planted in the open ground at Kew has been flowering freely for some time past, and owing to the cool and moist nature of the season it is still in beauty. The leaves are oblanceolate, pointed, bright green, and shining, and arranged in a dense rosette or tuft, from which the scape arises to the height of 4 ins. or 6 ins., bearing a close umbel of deep purple flowers with a white eye. The plants are quite young, and owing to this fact, as well as to their being planted in the open ground, must be attributed their flowering so late. It is a native of the Alps of Lombardy, and like many other Alpine species, does not enjoy a wide distribution in this country, except in botanic gardens and in the collections of hardy plant specialists. In habit and foliage the plant may be compared to P. spectabilis. It is sometimes grown under the name of P. glaucescens.

Tomato, Laxton's Open-Air.

AMONGST several varieties grown by us in a cool pit, this sort was the first ready to gather. It is a remarkably free setter, of good size, and prolific, fruiting to within several inches from the ground, and continuing up the plant for several consecutive joints, reminding one of the exaggerated engravings we often see in print, but seldom attained, except by the aid of the engraver and printer's ink.—*B. L.*

Oswego Tea.

THE darker-flowered forms of Monarda are the most appreciated in gardens, because the leafy bracts surrounding the compactly arranged inflorescence are also more or less highly coloured, and add greatly to the conspicuous appearance of the flowers themselves. The species under notice (Monarda didyma) is generally admitted to be the best of all the cultivated species at least. The latter are by no means numerous it is true, but they labour under a very complicated synonymy, arising no doubt in part from the variable habit of some species in a state of nature. In moderately moist seasons the flowering period is much more prolonged than when the soil gets hard, dry, and baked. The flowers are of a bright reddish scarlet, and the bracts are more or less intensely coloured like the flowers.

Emilia coccinea.

To many gardeners, perhaps, this old-fashioned annual is better known under the name of Cacalia coccinea. In general appearance it bears a strong resemblance to Hieracium aurantiacum when seen a short way off, but the flower-heads are in reality smaller, and the leaves larger and differently shaped. It is closely allied to the Hawkweeds in the vast order Compositæ, of which it is a member. The larger leaves are arranged in a radical rosette, while all are of a rich dark green colour, and together with the unusual hue of the flower-heads, should warrant it a place amongst a collection of annuals. It was introduced from South America in 1799, but is by no means common, at least in this country. A good-sized patch or bed of it has been sown with the rest of the collection of annuals now on trial in the gardens of the Royal Horticultural Society, Chiswick.

Castillega indivisa.

THE coloured bracts of the various species of Castillega recall what occurs in Salvia Horminum and its varieties. All are difficult to cultivate, a fact apparently due to their being semi-parasitic in their native habitats like other members of the Scrophularia family, such as Euphrasia, Melampyrum, and Bartsia, which are natives of this country. The best plan in growing them is to raise a fresh batch from seeds every year, grow them on and plant out on the rockery, in the open border, or to cultivate them in pots for the decoration of the hardy plant house. They must on all occasions be freely exposed to light, and in houses must be well ventilated. The species under notice has flower-stems varying from 6 ins. to 12 ins. in height, bearing small flowers in a terminal spike. The blooms are greenish yellow on first expansion, but as they get older, become white, tipped with pink or rose. The large leafy bracts, however, are of a bright carmine-red, or the lower ones tipped with that colour, constituting by far the most ornamental part of the plant and giving it a very lively appearance when grown in tufts. The leaves are narrowly oblong and generally entire, but occasionally exhibit a few coarse ragged teeth or lobes. It may be seen in the herbaceous ground at Kew.

Spiræa kamtschatica gigantea.

SEVERAL forms of S. kamtschatica have been introduced at different times, but do not seem to have got widely distributed in British gardens. The form under notice when strongly grown by being planted in good soil, and within reach of plenty of moisture, attains bold and striking dimensions, and would therefore prove an acquisition for the wild garden or pleasure grounds, but especially in the vicinity of water. Most of the herbaceous species in general cultivation are semi-aquatic in their nature, so that when planted in gardens where the soil is naturally dry and a warm summer intervenes, the plants not only become poor and stunted-looking, with short-lived flowers, but they lay themselves liable to mildew. The terminal leaflet acquires great prominence from its size, and because it assumes a horizontal position, thus hiding the small lateral leaflets. The flowers are moderately large for a Spiræa, and produced in terminal cymose panicles, similar to those of our native Meadow Sweet, and likewise in colour. The stems vary according to vigour from 5 ft. to 8 ft. in height.

THE GARDENERS' CALENDAR.

THE PLANT HOUSES.

REPAIRS.—Before the summer is over every plant house should be inspected, with a view to determine what repairs or painting are needed. The present is the most convenient time to do it, because the plants can readily be moved from one house to another, whereas this would be more difficult in winter on account of the low temperature to which stove plants, for instance, would be subjected. Then, again, if new boilers are required, or other parts of the heating apparatus want renewal, the winter time would be extremely inconvenient. Before painting is commenced it is necessary that the woodwork should be thoroughly cleaned and dried, otherwise the paint will afterwards become blistered and come off in scales. The best way to proceed is to turn out the plants into another house, then wash the woodwork, and throw all the ventilators open to create a good draught. When watering and damping down is left off every part of the house will soon get into the proper condition. All moveable sashes had better be removed and placed in some shed where they can be painted during showery weather.

LACHENALIAS.—Before the bulbs show any signs of fresh growth they should be shaken out of the old soil, and re-potted in a compost of two-parts light fibrous loam, one of leaf-soil and well-rotted cow-manure in about equal proportions, and plenty of clean silver-sand. Drain well, and pot rather firmly, covering the bulbs with about ½ in. of soil. When finished, stand the pots on a bed of ashes in a cold frame, and should the soil be rather dry, as it frequently is at this period of the year, give a watering in order to settle the soil about the bulbs, after which, unless exposed to drying sunshine and wind, no more will be required until they have made some growth. A cold frame will be sufficient, but as winter approaches the bulbs must be placed beyond the reach of frost, and at the same time receive plenty of light and ventilation.

MIGNONETTE.—In order to get a batch of good plants for early winter use, a sowing should be made in pots now. The compost should consist of good rich fibrous loam, to which some old mortar, well broken up, and a little well-decayed manure has been added. A sprinkling of soot with the manure will add greatly to the rich dark green of the foliage—always a desirable quality. The size of pots to be used will very much depend upon the convenience and requirements of the grower. That good Mignonette can be grown in 5-in. pots is amply demonstrated by the market growers and the admirable stuff which they turn out; but 6-in. or 7-in. ones may also be used at discretion, sowing the seeds thinly and directly into the flowering pots. A small quantity of pigeons' dung put into the bottom of the pots will stimulate the plants greatly to make good growth.

CALCEOLARIAS.—If not already done, a sowing of these should now be made, in order to get the plants moderately strong before the advent of winter and dull dark weather. Sow the seeds in pans of light rich soil, which should have been well watered a short time previously. A light sprinkling of the same compost should be given to fix the small seeds in position without covering them. Cover with a pane of glass, and stand in a frame or house kept warm, but in a shady position.

THE FRUIT HOUSES.

PEACHES IN POTS.—Now is the best time to re-pot such trees as are required for early work. Good substantial and fibrous loam is indispensable, and this may be further enriched by a liberal use of wood ashes, which may always be obtained where the prunings of trees and other rubbish are occasionally burnt in heaps. Trees in the open border, if wanted for forcing purposes, may also be lifted without delay, and after being firmly potted, they should be stood in a house kept close, moist, and shaded for some days till the roots take to their new quarters, after which they may be grown and ripened naturally.

MELONS.—The stormy weather that has prevailed more or less during the latter part of July has been very unfavourable for Melons, especially those in unheated structures, and unless there is a material change presently, fire-heat must of necessity be applied wherever there is the means to do so. The nights are getting longer and much colder, so that fires will at least have to be lighted at night. Attend regularly to tying, stopping, and watering. Very much depends upon the state of the weather as to the amount of damping down required. Close early in the afternoon to economise the solar rays in cases where the crops have to be pushed on vigorously. Houses containing ripe and ripening fruit must be kept drier and more freely ventilated.

THE KITCHEN GARDEN.

SEED-SOWING.—Cabbages, Cauliflower, Brussels Sprouts, Onions, and other subjects for spring and early summer use must be sown at once in the northern and colder districts, while a week or ten days later will be early enough for the southern and warmer districts. Cabbages may be planted in their permanent quarters as soon as ready, but Cauliflower must be transferred to a cold frame or covered with hand-lights to stand the winter. Onions must not be influenced in any way by the shade of trees, otherwise they will be so weakly that most of them will perish during the winter. Sow Lettuces during the second and third week of the month.

ORCHID NOTES AND GLEANINGS.

THE ORCHID GROWERS' CALENDAR.

AMONG the great number of cultivators of Orchids, there are comparatively few who can devote a house to Dendrobiums entirely, although such a house is a decided advantage where this section of plants are grown extensively; but, in smaller collections, it generally happens that the most convenient place in which to grow them is the East Indian house, and where this is the case, the varieties of D. nobile, D. Ainsworthii, D. heterocarpum, D. splendidissimum, and others, which began to grow early in the season, will now have nearly finished growing, and will be benefited by being removed into a lighter and somewhat drier atmosphere, so that the bulbs may become well ripened and induced to flower freely later on.

Generally speaking, one good growth, well ripened, is better than allowing the plants to stay in the growing-house and start again into growth at this season of the year; and perhaps no better position could be found for those plants that have finished growing than a vinery where the fruit is ripe, which will afford sufficient shade at first and will admit more sun and air as the Grapes are cut and the foliage is reduced. It will be necessary to attend to the sponging of the plants before they are transferred to the vinery, especially if there is any mealy-bug on them, for it is an easier matter to get it on Vines than to get rid of it.

Dendrobium densiflorum, D. thyrsiflorum, D. Farmeri, and others of that section which are now making active growth, should be allowed an abundance of water and a light position in the warmest house, as they make their season's growth in a very short time, and then take a long rest before flowering, while D. rhodostoma keeps on growing and flowering all the year round. Where Dendrobes are grown in a structure by themselves, they can be allowed more light and heat than when in a mixed house, the shading being of a lighter description, and as the growths lengthen, and the sun gets less powerful, very little shade is necessary.

Any plants of Cattleya gigas, or C. Sanderiana, which have flowered, and require re-potting, may be attended to during the present month, which is the best time for re-potting this section.—*W. P.*

MORMODES PARDINUM UNICOLOR.

NEITHER this nor the typical form are often seen in cultivation, although there is no reason why they should not receive the attention that is now being rightly accorded to Stanhopeas. Acinetas, Catasetums, and others of that group of exceedingly curious, interesting, and often showy Orchids. The typical form has yellow sepals and petals heavily spotted with rich brown, as implied by the scientific name signifying panther-spotted. The whole-coloured variety under notice at a casual inspection would appear something distinct, but the curious structure of the lip at once establishes its identity. This organ is wedge-shaped, three-lobed, and the lobes are all acute and similar except that the lateral ones are smaller. The column is curiously twisted to one side as in the case of the species of Mormodes generally; and what seems peculiar in this species, or at least in the specimen we examined the other day at Devonhurst, Chiswick, the pollinia are all thrown out apparently by the agency of the lip on the expansion of that organ. The whole flower is of a uniform deep lemon-yellow, and strongly fragrant, possessing a peculiar and pungent odour when approached too closely, but by no means disagreeable at a short distance off. It scents a whole house when at its best, and lasts some considerable time in good condition.

A PERPETUAL-FLOWERING LYCASTE.

MR. W. STEVENS, De Montfort House, Streatham, sends us what appears to be a small-flowered variety of Lycaste Skinneri, which has the wonderful quality of blooming all the year round. The ordinary form of that species is in flower from November to March, and blooms from the old pseudo-bulbs; but the plant in the possession of Mr. Stevens, he informs us, flowers both from the old and the young pseudo-bulbs, and is hardly ever without a bloom. Coming as it does in the fourth week of July is rather an unusual phenomenon, if it indeed occurs regularly in any other variety. The flowers, it may be stated, are rather below the average size, and have pure white sepals, while the petals are closely mottled all over the inner face with soft rose on a white ground. The lip is similar but darker, and the crest yellow. Although smaller than L. Skinneri, it is pretty and interesting, but we very much doubt its identity with that species at all.

HORTICULTURAL SOCIETIES.

Woodford Horticultural.—*July 24th.*

THE seventeenth annual exhibition of this society was held in the picturesque grounds of the president, H. F. Barclay, Esq., Monkhams, Woodford, and the exhibits, both as regards quantity and quality, were equal to what had been shown before. Mr. Nicholson, gardener to W. Melles, Esq., Chingford, took the chief honours with plants, his six flowering specimens comprising Plumbago capensis, Clerodendron Balfourianum, Bougainvillea glabra, Anthurium Scherzerianum, and Brassia verrucosa. For six distinct foliage and six miscellaneous plants, and also for six Achimenes, the same exhibitor was again first, while for the single specimen flowering plant Bougainvillea glabra gained him the coveted position. Mr. J. Williams, gardener to H. F. Barclay, Esq., was awarded first prizes for six Ferns (stove and greenhouse), which included Cyathea medullaris (9 ft. in diameter), Phlebodium aureum, Platycerium alcicorne, Adiantum gracillimum, Dicksonia squarrosa, Neottopteris australasica; for six Fuchsias, small well-flowered plants; for four Ericas; for single foliage plant, staging Croton Queen Victoria; and for Caladiums, &c. Mr. Cade, gardener to B. Warner, Esq., Wanstead, was successful with four stove and greenhouse Ferns, which included a fine Lomaria gibba, and for six fine-foliaged Begonias.

Mr. Farmer, gardener to B. B. Fatt, Esq., was accorded the premier position for six Gloxinias, which were superbly flowered and in splendid condition. Mr. Daniels, gardener to P. Lloyd, Esq., Loughton, took the special prize for six Orchids, given by T. R. Roberts, Esq., and Mr. Willingale gained a similar award for three Orchids.

Groups call for no special comment. Mr. Nicholson took the lead out of six lots; but the committee would do well to consider the advisability of naming the area rather than the number of plants, so that the unsightliness of the pots may be obviated. The same exhibitor was first for a basket of plants.

Vegetables were shown in quantity, and of fair quality. Mr. Jezeph, gardener to C. Warner, Esq., Highams, Woodford, had the best six varieties. Mr. Langlands had the finest eight varieties, which were excellent throughout, whilst Mr. Farmer staged six varieties of high merit.

The fruit section was well filled, Grapes being staged in quantity rather than quality. The white varieties especially were short of colour, and in some cases unripe. Mr. A. Grove, gardener to E. N. Buxton, Esq., Knighton, Woodford, secured first prizes for three bunches of black Grapes in the open division, and also in that for gentlemen's gardeners. Mr. A. Smith, gardener to W. H. Sewell, Esq., Buckhurst Hill, was first for three bunches in the open division, and in the same position for three bunches of Muscats in the gardeners' section. The last-mentioned exhibitor was also to the fore for six varieties of fruit, staging three dishes of Peaches.

Cut flowers call for no comment, the Roses being past their best and staged in an unusual manner. When foliage is added, it ought to be other than Rose leaves, as the effect of Teas on H.P. foliage is hardly to be desired. The ladies' exhibits were a special feature, and were much admired. Miss Ada Bosc had an effective combination of vases filled with Maidenhair Fern, Gypsophila paniculata, grasses, and Iceland Poppies; Miss Ziegle was a good second. For a single vase, Miss Walker had a light and beautiful arrangement. Button-holes were numerous, but too large.

Mr. E. P. Point and his committee are to be congratulated on their successful exhibition, but they should impress upon the competitors the desirability of uniformity in the plant classes, by raising where required the individual specimens, but using stands that do not mar the exhibits, and are unobtrusive to the eye. Large numbers of visitors favoured the society with their patronage, and availed themselves of the pleasure of viewing the lawn, flower gardens, and conservatories of the president, which were in themselves an horticultural treat. Special exhibits, not for competition, of cut Roses, herbaceous cut flowers, &c., were shown by Messrs. W. Paul & Son, Messrs. Paul & Son, Cheshunt, and Mr. W. Rumsey.

Tibshelf Floral and Horticultural.

The fourteenth exhibition of this flourishing society was held, in a field adjoining the station, on July 23rd, and again proved to be very successful. The show was a good one in every respect, the groups arranged for effect especially being a most attractive feature. These occupied the centre of the large circular tent, and the stages on the outside were devoted to the Roses and fruit exhibits. Six good groups were put up, each occupying 160 ft., and most of the competitors were old rivals. The first prize of £10 and the Veitch Memorial Medal was awarded to Mr. Webb, gardener to Mrs. Sutton, Kelham Hall, Newark, who was closely followed by Mr. Lyon, Ossington Gardens, and Mr. G. Williams, of Didsbury, who were second and third, Mr. J. Ward, Riddings House Gardens, being fourth, and Mr. Haslam, fifth. These groups were a decided improvement on those previously put up by the same exhibitors.

The cut Roses were excellent. First for seventy-two, Messrs. Harkness; second, Mr. Robert Mack; third, Mr. Prince. For forty-eight, Mr. Merryweather, Southwell, was first with good clean blooms. Fruit was fairly good, especially that shown by Mr. Edmonds, The Gardens, Bestwood, Notts, who was first for the collection, and Mr. J. Ward, who was a good second. The latter was also first for a collection of vegetables, with a clean lot nicely put up. Mr. Ward, amongst other prizes, also secured the first for six Ferns—good well-grown clean specimens, and for box of cut flowers, &c.

The amateurs' and cottagers' classes were well filled, the competition being very keen and the quality of the exhibits first-rate. The attendance of visitors was very large, and the pleasures of the day were only marred by a heavy downpour of rain about five o'clock.

Trentham Horticultural.—*July 25th.*

The second annual exhibition of the above society was held in the splendid grounds of Trentham by permission of his Grace the Duke of Sutherland, and was in every way a success. A more beautiful spot than this could not be found for holding an exhibition, the magnificent undulating grounds, fine hills clothed with lovely foliage, the grand lake, fine terrace, and princely mansion all adding to the attractions of the day. The honorary secretaries, Mr. John Tayler and Mr. P. Blair, are to be congratulated upon their admirable arrangements, which left nothing to be desired. The show was formally opened by the Duke of Sutherland, who in a few well-chosen words spoke most encouragingly of the prospects of the society.

The groups arranged for effect were the principal features of the show, and the whole of one end of the largest tent was occupied by a collection of plants most artistically arranged by Mr. Blair. The fine Orchids and fine-foliaged plants were not overcrowded, and consequently were seen to the best advantage. In a competition open to all the first prize was awarded to Mr. Stevens, gardener to W. Thomson, Esq., of Stone, for a group which contained many fine Orchids; second, Mr. Harris, Stone; third, Mr. Adams, gardener to the Marquis of Stafford.

Roses were good, and made a grand display. Messrs. Dickson & Son, Newtownards, secured the highest award for thirty-six, Messrs. Harkness & Son, Bedale, coming in second, and Messrs. Perkins, of Coventry, third. For twenty-four, Messrs. Dickson were again to the fore, Messrs. Perkins being this time second, and Messrs. Dicksons Limited, Chester, third. For twelve bunches of stove and greenhouse flowers, Mr. Stevens, of Stone, was easily first with a superb lot. For bridal and ball bouquets, Messrs. Perkins, of Coventry, were first in both classes, also for button-hole flowers, while the premier award for an epergne was easily secured by Mrs. Blair with an elegant combination. Wild flowers were shown in quantity, and were greatly admired.

Fruit and vegetables were shown in quantity, and the quality was quite up to the usual standard. The first prize for a collection of eight dishes was awarded to Mr. Thorpe, of Newark, who was closely followed by Mr. Gilman, of Ingestre, and Mr. Edmonds, of Bestwood. Mr. Wilkes, gardener to G. Meakin, Esq., was first for three bunches of black Grapes, and Mr. Edmonds for three bunches of white. The same exhibitor (Mr. Wilkes) was also first for two bunches of black, and Mr. Edmonds again first for whites. For a collection of vegetables, eight varieties, Mr. Fitzherbert was first in a strong competition. The other classes were well filled, the quality being excellent.

The weather was splendid, and nearly 20,000 people visited the show, all of whom appeared to much appreciate the privilege of being allowed to ramble through the beautiful gardens; and it is pleasing to hear that not the slightest damage of any description was done.

QUESTIONS AND ANSWERS.

Chrysanthemums and French Beans.—*Edwin Beevers:* We could detect no fungus or insects on your Chrysanthemums, and we have been familiar with the diseased aspect presented by them for some time. So far as we have been able to determine at present, the ailment is a constitutional one, brought about by high culture under rather unnatural or unfavourable circumstances, sometimes by excessive propagation, and especially from cuttings that have not been sufficiently exposed to the light to render them firm before taking off. Cool treatment would be more favourable to their general well-being when struck, than if they were subjected to a high temperature; weakening in this manner renders them liable to disease or to malformation in their development. We should advise you to examine the roots and see whether they are not infested with nematoid worms, and whether the drainage is good. Plants affected in the way that yours are have afterwards become healthy and strong. If the soil and roots are in good condition, then try them with some stimulating food, either artificial or liquid manure. Some of the specimens sent were injured by something altogether different, and the same applies more forcibly to the Beans, the leaves of which have been punctured in their early stages by some insect, most probably Frog Hoppers (Aphrophora spumaria), which have been plentiful this season. When you observe the Cuckoo spit early in summer brush it off during a bright day and the larvæ will get dried up and killed, or syringe with tobacco-water in which one ounce of soft-soap to a gallon of water has been mixed.

Early Chrysanthemums.—*W. S.:* You might exhibit the cut blooms of Madame Desgranges at one of the meetings of the Royal Horticultural Society, but whether the Floral Committee would notice them we cannot say. We know the position in which your plants are growing, and there is nothing unusual in this variety doing well in such a place.

Florists' Flowers to Name.—*W. W.*, and *F. S., Pembroke:* Sorry we cannot oblige you. Single flowers of Pinks and Fuchsias are quite beyond our powers of identification.

Forget-me-not and Silene.—*Omega:* Seeds of the former may be sown at any time. You do not say what species you refer to, but we presume you mean Myosotis sylvatica. If so, then sow the seeds at once, and assist their germination by watering in dry weather. The seedlings will attain some size before winter, and flower in spring. They would be considerably hastened in germination if you sow in a box, and place them in a cold frame or under a hand-light, keeping close till the seedlings are up. They are quite hardy, and will stand the winter without protection. Sow your seeds of Silene immediately in the beds or borders where they are intended to flower, or you may sow them on some spare piece of ground, and afterwards transplant into their permanent quarters during autumn or open weather in winter. Do not bury the seeds too deeply, and water till the seedlings appear above ground. If they come up too thickly you must thin them out, unless you intend transplanting them.

Lady Downe's Grape.—*Constant Reader:* The berries you sent us are affected with what is known as the spot in Grapes. It commences by showing a whitish or dull-coloured spot in the young and growing stage of the berry, and the affected part ceases to grow, thereby producing a depression or cavity as the fruit develops. Sections failed to show any signs of fungus or other visible cause. The cells of the affected parts have been very much flattened, the walls of the outer ones nearly touching one another so as to obliterate the cavity, and the contents in places are more or less discoloured. The skin of the young fruit of Lady Downes is very tender and liable to scalding if the conditions with regard to ventilation are in any way favourable to it. The only thing you can do now is simply to remove the spoiled or affected berries, as they can never swell out in the usual way. The exact cause has never been determined, but the general impression is that the ventilators are too rapidly opened on the mornings of bright days when the berries are still moist, thus giving them a chill or check with the result as you now see it.

Melons Splitting.—*T. O.:* The treatment you give your Melons would suit them very well in a young and growing condition, but as the fruits approach maturity you should keep the atmosphere of the house in a much drier condition, by giving a freer ventilation and avoiding the use of the syringe. Less water should be given at the roots, or almost none if they are planted out, from the time they attain full size, and certainly before the skin commences to crack. Seeing that you have been giving them a liberal supply of water up to now, you could hardly expect the fruits to finish off without cracking. After the skin ceases growing, the fruits get overgorged with water, when the plants continue to be watered, and splitting must of a necessity ensue.

Names of Plants.—*W. Stevens:* Both the Odontoglossums you sent are supposed natural hybrids allied to O. mulus, and between O. odoratum and O. luteo-purpureum. Neither appear to have been named, but both may be considered as small forms of O. mulus, itself a hybrid. *Omega:* 1, Codlins-and-Cream, or Epilobium hirsutum; 2, Common or Wood Hedge Nettle, Stachys sylvatica.

Worms and Cuttings.—*Omega:* The best remedy you can apply at present, if your frame is already occupied with cuttings, is to dissolve a few lumps of quick-lime in a pail of water, and when the sediment has subsided pour off the clear liquid into a watering pot, afterwards diluting with more water. Then give your bed of cuttings a watering through a rosed pot, and a great number of worms will get alarmed and leave their burrows, when they may be caught. Before making up a bed for cuttings on another occasion remove the soil, and place a layer of clean sifted coal-ashes in the bottom to the depth of 3 ins. On the top place the soil intended for the cuttings, and then make firm. The ashes will check the progress of worms from beneath upwards into the beds. See that the soil you put into the frame contains no worms—at least, no large ones.

Communications Received.—G. P., Junr.—Visitor.—A. B.—D. P. L.—C. L. A.—R. D.—A. G.—Pathfinder.—W. B. H.—M. McL.

TRADE CATALOGUES RECEIVED.

W. B. Hartland, 24, Patrick Street, Cork.—Catalogue of Daffodils, Oxlips, Cowslips, Primroses, and Hellebores.

W. Cutbush & Sons, Highgate, N., Hyacinths, Tulips, and other Bulbous Roots.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending July 27th was 29·59 ins.; the lowest reading was 29·38 ins. on Thursday evening, and the highest 29·83 ins. at the end of the week. The mean temperature of the air was 58·1°, and 4·7° below the average in the corresponding weeks of the twenty years ending 1868. The mean was below the average throughout the week, the coldest day being Tuesday, when the mean fell to 56·4°, and was 6·4° below the average. The general direction of the wind was W.S.W., and the horizontal movement of the air averaged 12·9 miles per hour, which was 3·1 miles above the average in the corresponding weeks of sixteen years. Rain fell on six days of the week, to the aggregate amount of 0·90 of an inch. The duration of registered bright sunshine in the week was 26·5 hours, against 29·2 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

July 29th.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a moderate sale for Trifolium incarnatum, Mustard and Rape seed. Deliveries of the latter article are still out of condition. Values all round are unaltered. Bird seeds dull.

COVENT GARDEN MARKET.

July 31st.

Vegetables.—Average Retail Prices.

	s.	d.	s.	d.		s.	d.	s.	d.
Artichokes, Globe, doz.	3	0	6	0	Herbs ....per bunch	0	2	0	4
Asparagus ....per 100					Horse Radish, bundle	3	0	5	0
Beans, French, per lb.	0	6			Lettuces ..per dozen	1		2	0
Beet .....per dozen	2	0	3	0	Mushrooms, p. basket	1	3	2	0
Cabbages.... per doz.	1	6			Onions....per bushel	7	0	9	0
Carrots....per bunch	0	6			Parsley....per bunch	0	6		
Cauliflowers, English, per dozen	3	0	6	0	Radishes ..per dozen	1	6		
Celery....per bundle	2	6			Small salading, punnet	0	4		
Cucumbers ....each	0	4	0	10	Spinach, per strike ..	2	0		
Endive, French, doz.	2	6	3	6	Tomatos ....per lb.	0	9	1	0
					Turnips ....per bun.	0	6		

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Grapes .....per lb.	1 3	3 0			
Pine-apples, Eng., lb.	1 6	3 0			

Out Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms..	2 0	4 0	Lavender, 12 bunches	4 0	6 0
Asters, French, per bunch	1 0	1 6	MaidenhairFern,12bns	4 0	9 0
Bouvardias, per bun.	0 6	1 0	Margnerites, 12 bun.	3 0	6 0
Carnations, 12 blooms	1 0	2 0	Mignonette, 12 bnn.	2 0	4 0
Carnations, 12 bnchs.	3 0	6 0	Pansies ..12 bunches	1 0	2 0
Cornflower,.12 bnchs.	1 0	3 0	Pelargoniums,12spys.	0 6	1 0
Delphinium, 12 bun.	3 0	6 0	— scarlet ..12 sprays	0 4	0 6
Eschscholtzia,12bchs.	2 0	4 0	Pinks ....12 bunches	2 0	4 0
Eucharis ..per dozen	3 0	6 0	Primula, double, bun.	0 6	1 0
Forget-me-nots.....	1 6	4 0	Pyrethrum, 12 buchs.	2 0	6 0
Gardenias, 12 blooms.	2 0	5 0	Roses, Tea, per dozen	0 6	1 0
Gladioli ..12 bunches	6 0	12 0	— Red .....per doz.	0 3	1 0
Heliotropes, 12 sprays	0 3	0 9	— Saffrano ..per doz.	0 6	1 0
Iris .....12 bunches	6 0	12 0	Stephanotis,12 sprays	2 0	4 0
Lapageria, 12 blooms	1 0	2 0	Stocks, doz. bunches	3 0	6 0
Lilium longiflorum, 12 blooms	2 0	4 0	Sweet Sultan, 12 bun.	3 0	5 0
			— Peas.....12 ,,	3 0	6 0
			Tuberoses, per dozen.	0 6	1 0

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	5 0	12 0	Heliotrope ..per doz.	4 0	8 0
Arum Lilies..per doz.	6 0	12 0	Hydrangeas..per doz.	6 0	15 0
Balsams .....doz.	3 0	6 0	Lilium auratum, doz.	12 0	24 0
Bedding plants,in var., per doz.	1 0	3 0	—longiflorum per doz.	18 0	30 0
Calceolaria ..per doz.	4 0	8 0	Lobelia .... per doz.	3 0	6 0
Cockscombs ....doz.	4 0	6 0	Marguerites per doz.	6 0	12 0
Cyperus, ..per dozen	4 0	12 0	Mignonette, doz. pots	3 0	6 0
Dracæna term., doz.	30 0	60 0	Musk ..... per doz.	2 0	4 0
— viridis, per dozen	12 0	24 0	Nasturtiums .... doz.	3 0	5 0
Erica, various ..doz.	9 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var. .,	6 0	24 0	Pelargoniums,scarlet,	2 0	6 0
Ferns, in var.,per doz.	4 0	18 0	Pelargoniums,per doz	6 0	18 0
Ficus elastica ..each	1 6	7 0	Rhodanthe ..per doz.	3 0	6 0
Foliage Plants..each	2 0	10 0	Saxifraga,various,doz.	6 0	18 0
Fuchsia.....per doz.	4 0	12 0	Spiræa .....per doz.	9 0	12 0
			Stocks ..... per doz.	2 6	4 0

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Next Week's Engagements.

MONDAY, August 12th.—Members of National Chrysanthemum Society visit Hatfield and Knebworth.

TUESDAY, August 13th.—Royal Horticultural Society: Meeting of Fruit and Floral Committees at 11 a.m. Clay Cross Horticultural Society's Show.

WEDNESDAY, August 14th.—St. Albans Flower Show.

THURSDAY, August 15th.—Taunton Deane Flower Show.

FRIDAY, August 16th.—Cheadle Flower Show (2 days). Haverfordwest Flower Show.

SATURDAY, August 17th.—National Co-operative Flower Show. Keighley and Darlington Flower Shows.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, AUGUST 10, 1889.

CURRENT TOPICS.

MODEL GARDENS.—We have rarely met with a more misapplied term than is this when used in relation to those wretched constructions called model gardens, which are so commonly found and stupidly encouraged at provincial flower shows. Nine-tenths of these things exhibit misapplied energy and industry, which sadly need to be diverted into a more useful direction. Who ever saw one of these constructions which was not tawdry and of almost impossible design, when practically applied? They represent imaginative gardens, conceived by persons who appear to be devoid of all practical knowledge of what a garden should be like.

The constructor probably thinks that a tennis net with tiny dolls, imitating players, is the correct thing; or a tin squirt with a pint cistern to supply water, presents a serious imitation of a fountain, with stickle-backs floating in the saucer of water to imitate fish. Perhaps we find an imitation cascade where not a drop of natural water can be found, or a conservatory where no one familiar with construction would dream of putting such a building; carriage roads or paths without beginning or end; flower-beds of such tawdry and absurd combinations of colours as to make one's hair almost stand on end—in fact, the constructions indicate poverty of idea and incapacity to design.

Would that flower show committees would abolish these ridiculous things from their schedules, and substitute, in these days of education, technical and artistic designs for good gardens, of definite dimensions, on paper—these being coloured or not, at the option of the competitors; but they should represent, to scale, really good sensible gardens, with flower and vegetable departments, shrubberies, paths, and all complete; also houses, frames, and other erections essential to a residence and garden. Such designs would have technical and artistic value.

THE FRUIT CROPS.—The returns of the fruit crops from all parts of the kingdom tell the same story of comparative failure of tree crops, and comparative excellence of small fruits. Here at once do we find a lesson for planters that they must never put all their eggs into one basket, but should have trees and bushes alike if they would have some sort of a crop of fruit every year. Whilst the wet and cold of the previous year did undoubtedly harmfully affect the setting of mature bloom-buds on trees, it did no appreciable mischief amongst bushes, for these latter not only seem to love plenty of moisture, but at least ripen their wood and buds much earlier than trees do.

It is true we saw on the trees a grand bloom last spring, but there was the knowledge beforehand that the preceding year had not been a ripening one, and the bloom would probably prove illusory. Events showed that such was the case, and therefore except on certain early kinds of Apples there is little fruit. Pears and Plums are also very thinly cropped. Cherries have been a moderate crop, but then it is a very fugitive one. Currants and Gooseberries have been plentiful, though in some districts thin, yet generally excellent crops. Strawberries have been universally abundant, and very fine. Raspberries have been good. Nuts are thin. With regard to wall fruits, there is little to boast of, and house trees have shown the value of glass coverings by contrast.

Fruit culture would have served to break more backs than to stiffen them this year, but for the fact that most persons have some other crops and find compensation in them. So far, in fact, it has been a profitable vegetable season, so that if one branch of gardening has suffered, another has gained.

THE POTATO DISEASE.—We are now enabled to say definitively that our old visitor, the Peronospora infestans, is running riotously amongst our Potato breadths, and we may soon expect to hear of lamentations over the mischief wrought by the fungus. Some heavy rains, cold winds, strong variations of temperature, and even occasional excessive heat have helped the Peronospora immensely, and now there is hardly a breadth of Potatoes anywhere, except very late growths, which is not showing the black spot generally. A fortnight hence, thousands of acres of the earlier kinds will probably not have a green leaf left on them.

Still, the disease comes late, and far less virulent in form than last year. All early kinds now have full-grown tubers, only needing firmer skins to fit them for lifting, although, when it is purposed to store them, it is doubtful whether it is wise to lift until the haulm

and the fungus are both dead. But even with a disease visitation, we have little to fear. Last year, when the attack was a very bad one, it was all the same—never were Potatos cheaper, and now there is such a splendid crop that thousands of bushels may presently be purchased at literally absurd prices. It is the knowledge that, somehow or other, there will always be plenty of Potatos, in spite of the ravages of the disease, which leads us to regard its attacks with considerable philosophy.

On the whole, perhaps, it will be found that the raiser of new robust kinds has proved to be the saviour of our Potato crops. But for those who have laboured in that direction, we might not have had a variety which could have withstood the effects of the fungus for a season; now we have plenty of robust kinds, and, as seen everywhere, plenty of Potatos. Thus all attacks of the Potato disease give us no cause to despair.

IMPORTED APPLES. — It will comfort home growers of Apples but little to learn, on the authority of Canadian papers, that Apples in that colony are thin—indeed, comparatively a small crop. In such case it seems probable, unless the American States are better provided, that imported Apples will presently be dear, and if we had a good crop at home an additional couple of shillings per bushel at least, if not more, might have been possible. As it is, we have a very thin crop of Apples at home, and those we have are chiefly of the early kinds. A good price in the autumn will lead to early gatherings and marketing, therefore it looks as if we should find Apples scarce and dear during the winter. It is not infrequently said that no matter how short our crops at home, we shall always find an ample supply coming from somewhere; but, so far as Apples are concerned, it does seem as if all the world over the crop is a short one.

LATE PEAS.—Those who took the trouble to make late sowings of Peas are this year being rewarded. Sowings made so late as June will this year give a good supply up to the end of the month, and even later if of late sorts, although it is wisest on the whole to sow for the latest cropping, kinds which are rather precocious, because less liable to mildew. Still, this season the heavy rains which fell so liberally a few weeks ago so thoroughly moistened the soil, and established the plants, that they can hardly suffer, especially as any appreciable return of drought is no longer probable. As Runner Beans, which next to Peas constitute the best pulse crop, are shorter than usual this year, late Peas will prove more than ordinarily useful, whilst the cooler weather will render the crop sweet and good.

Wolverhampton Horticultural Society.—We are pleased to hear that the recent flower show in the Public Park, at Wolverhampton, noticed in our issue for July 27th, and which was the first held by the newly-constituted society, resulted in a net profit of £600.

Lobelia, Granite City.—This is a very fine white of the Pumila type, a neat compact grower, very free, and the flowers a fine clear white.

Phlox, Joan of Arc.—In the Swanley collection this proves to be the finest of all the whites as a bedder, growing only to the height of about 2 ft., and producing grand heads of bloom.

Zonal Pelargonium, Minuit. — This fine French-raised variety, as seen at Swanley, is a grand beat in colour on Henry Jacoby, being of a much darker shade of crimson, while of the same free-growing and floriferous habit. The Jacobys, Sam, William, and Henry, all dark-coloured varieties, have proved such useful bedding plants, on account of their fine deep colours, that it seemed well nigh impossible to get anything to surpass them, but Minuit (*Anglicé*, Midnight) is a decided step in advance.

Paris Universal Exhibition.—It has been decided that the awards which will be made in connection with the International Horticultural and Flower Shows to be held between August 2nd and September in connection with classes eighty and eighty-one of the Paris Exhibition will be included in the general distribution of awards to be made at the end of September. These shows include fruits and flowers, either cut, in pots, or planted out.

The Dutch Bulb Growers Union.—The General Royal Union for promoting the cultivation of flower roots at Haarlem has just issued a schedule of prizes for its sixteenth flower show, and the fourth large exhibition held at Haarlem. These larger displays are held every five years on the same system as obtains at Ghent. The show promises to be even more attractive than the last, which was held in 1885. The prizes offered number 253, consisting of gold, gilt, silver, and bronze medals offered in 105 classes for Hyacinths, Tulips, Narcissus, Crocus, Amaryllis, and all sorts of miscellaneous bulbs and roots, as well as for bouquets, &c., consisting of flowers of the same class of plants. The show is organised to promote the cultivation of bulbs in the Haarlem country, and will doubtless prove a great attraction for foreign horticulturists and amateur growers of bulbous flowering plants. It will be open from the 21st to 25th March, 1890. Further information can be had from the general secretary, Mr. D. Bakker, Gedempte Oude Gracht No. 110, Haarlem, Holland.

Show of Workmen's Flowers at the Crystal Palace.—The show of flowers, fruit and vegetables, the produce of cottagers' gardens, which is to be held in connection with the Great National Co-operative Festival at the Crystal Palace, on August 17th, appears likely to be the largest exhibition of the kind ever held. Last year, with a much more limited schedule, the exhibits numbered over 3,500, and filled the long central nave of the Palace from end to end. This year, in accordance with suggestions made by the judges and stewards, the prize list has been very greatly extended, both in number and value of rewards. The prize list amounts to about £500 in money, besides medals and honorary certificates, and this sum is divided into about 700 prizes, in 245 classes. The prizes vary in amount from 2*s*. up to three guineas each. It is expected that, at the close of this remarkable show, there will be from twenty to thirty van-loads of choice flowers, fruit and vegetables, to be given to the London hospitals.

Veronica spicata alba.—A rather robust variety, seemingly intermediate between V. spicata and V. longifolia, and is occasionally seen in nurseries and private gardens under the name of V. amœna. When well grown the stems reach the height of 12 ins. or 15 ins., and when seen in mass it is very pretty and well deserving of the name Amœna, which means lovely. The flowers are pure white, a very unusual occurrence in the genus, blue being the most frequent or constant colour in the genus, while purple and rose are less common. There is, however, a rose-coloured variety of V. longifolia, an old and rather widely distributed plant, having a pleasing effect when grown in association with the ordinary kind. Owing to its dwarf habit, V. spicata alba is suitable for cultivation in the rock garden.

Claytonia alsinoides in Edensor Wood.—In the Edensor Wood (Chatsworth) there was lately a sight of remarkable novelty. Wherever the ground is not occupied by bracken, it is thickly covered by a pretty little plant with white flowers, the Claytonia alsinoides of the catalogues. The interest of the occurrence consists in the Claytonia being no Briton by birthright, but a native of Nootka Sound, whence it was introduced as a garden curiosity in 1794. How it got into the Edensor Woods is not known. Whatever the story may be, the little foreigner took so lovingly to the spot that by 1835 it was thoroughly naturalised, and so plentiful that Mr. (afterwards Sir Joseph) Paxton, head gardener to the Duke of Devonshire, sent it to Oxford as a new claimant to be considered one of the proper flora of our islands, and Mr. Baxter at once figured it, abreast of the Cowslip and the Bluebell, in that beautiful work, the *British Flowering Plants*, as may be seen at the City Library (Manchester). Everywhere in and about the villages of North-western America the Claytonia grows like Chickweed in England, producing seed beyond calculation, as would be expected of so near a relative of "pusley" (one of the Portulacas), the irrepressible weed to which so many facetious allusions are made in that charming little American book, *My Summer in a Garden*. Several other American plants have similarly established themselves in England, the Claytonia perfoliata and the Impatiens parviflora being particularly noted. Seeing that the "collectors" (not the botanists, who, with all their failings, are never selfish), are rapidly exterminating so many of our prettiest and rarest native wild-flowers, there is solace in the fact that others come from the uttermost parts of the earth to take their places. Nature, the incomparably patient, always smiles through her tears and finds balm for every hurt.—*Manchester City News.*

Prunus semperflorens.—The name of Ever-flowering Cherry is given on account of its flowers being developed much later in the season than are those of other species, which mostly flower in spring before and during the development of the leaves. The flowers are produced singly in the axils of the leaves of a shoot produced in summer, and the inflorescence then resembles a leafy raceme, and as such it may well be considered. The flowering is therefore continued over several weeks, and the fruit continues to ripen over a lengthened period of time. The latter is globular, of good size, deep red when ripe, sweet and agreeable to the palate. When grafted standard high the tree forms a round head, with numerous slender drooping branches abundantly hung with its brightly coloured fruit, constituting a handsome object for the lawn. If planted near dwelling houses, birds which are very fond of the fruit will be scared away for a time. Under favourable conditions it will prove highly ornamental for the greater part of the summer, from the time the flowers commence to open till the last of the fruits drop from the tree or are eaten by birds. It is believed to be a garden production, and was cultivated as early as 1700.

Lysimachia Clethroides.—There are several white-flowered species of Lysimachia, but this plant may be considered the most generally useful. It is certainly an ornamental species, both for the decoration of the herbaceous border or for cut flowers, and commences flowering in July. Under favourable conditions as to soil and moisture it will continue in bloom to September. The stems are erect, 12 ins. to 18 ins. high, bearing a terminal raceme of flowers, varying from 6 ins. to 12 ins. in length. Before the expansion of the flowers, the apex of the racemes droops and gradually straightens itself, as the blooms open from below upwards. The leafage is ample, the lower leaves being the largest. The flowers are perceptibly and agreeably fragrant, and for that reason, as well as for their purity, are to be recommended for cut-flower purposes. In order to get the best results from the plant, it should be grown in moderately rich and tolerably moist soil. All the Lysimachias are moisture-loving plants, and although comparatively few of them are decidedly aquatic in their habits, yet in a state of nature they are generally or nearly always found in tolerably moist localities.

Anthurium Dickii.—A very curious species is grown under this name by Mr. B. S. Williams, The leaves are of considerable length and pointed, but otherwise greatly resembling a bat, such as is used by cricket players. The petiole may be considered the handle of the bat, and owing to its curious structure the resemblance is not inapt nor far-fetched. It is lanceolate in outline, semi-cylindrical—that is, flat above and rounded on the back and of great thickness, while the long blade itself is quite flat. It would be an interesting plant to grow in a collection of others, and would even find many admirers on account of the singularity of its thick and curiously-shaped petioles.

Beaufortia purpurea. — The old-fashioned hard-wooded subjects are at a discount at present, a fact which is rather to be regretted for more reasons than one. Many of the plants are, indeed, beautiful objects when in flower, and are at all times very distinct from the soft-wooded subjects with which the greenhouses everywhere are mostly filled. Then another fact that must not be lost sight of is, that young gardeners now have seldom an opportunity of making themselves acquainted with the culture of this class of plants, which is entirely distinct from that of the many soft-wooded subjects which have now usurped their place. Beaufortia purpurea belongs to the Myrtle family, and has a slender, branching, somewhat Heath-like habit, and the stems are densely clothed with small lanceolate leaves, not unlike those of an Epacris. The flowers are individually very small, but are aggregated in dense heads or spikes close to the apex of the shoots, and are purple, with long exserted stamens of the same colour. The axis continues to grow after a time, so that the spikes of fruit or flowers get left behind, encircling the axis, as in the case of Callistemon, Metrosideros, and others. The plant forms a dwarf, compact bush, and is very floriferous, even in a small state.

CHOICE AND DISTINCT IXORAS.

A GREAT number of the wild species, as well as the numerous hybrid Ixoras that have originated in gardens, are bright red, orange-red or scarlet, as the popular expression goes amongst gardeners. There is, however, variety and beauty amongst the undermentioned that justly entitle them to a place in stoves where distinct colouring is an object, which it certainly ought to be. To get the best results and the largest amount of bloom, a high temperature, plenty of sunshine and good ventilation is required by all of them. It is true that several kinds, either species or garden hybrids, will thrive satisfactorily with a lower average temperature than I. coccinea for instance; but all are essentially stove plants, and must be treated as such. They are often shaded—sometimes unavoidably so—in a mixed collection, but they really enjoy a large amount of direct sunshine, which ripens the wood and encourages the production of a profusion of bloom. Propagation is easily effected by means of cuttings of the young wood just as it is getting firm. Insert them singly in small pots, and plunge the latter in a bottom-heat of about 80°. A compost of fibrous peat broken fine, leaf-soil and silver-sand given freely answers all their requirements. The same material will also serve for adult plants, but it must be employed in a much rougher state. After the cuttings are rooted the young plants should be shifted on. Many of them will flower while still in a small state, and are then highly appreciated for stove decoration.

I. COCCINEA is nearly always included in collections, and although it requires a high temperature, it furnishes a great amount of bloom that is highly suitable for cut-flower purposes; and in some private establishments where a large quantity of Ixoras are grown for the sake of their cut flowers, the stock consists almost entirely of this species with a sprinkling of other kinds. The flowers are produced in compact trusses, and although moderate in size individually the segments of the corolla are broad and rounded, and when at their best are of a rich or brilliant red colour. It will flower in a small state, although it ultimately attains a height of 3 ft. or 4 ft., and is a native of the East Indies.

I. WILLIAMSII.—Of garden hybrids this is one of the most popular, free-growing, and free-flowering Ixoras. Both flowers and trusses are of great size, and the former have long red tubes. The lamina on first expansion is of a pale orange shade deepening to a lively salmony red; and as the flowers are successively developed the different shades of colour are much mixed or blended till the whole truss is fully expanded.

IXORA MOSSEI.—In general habit this may be compared to I. Williamsii, but the leaves are of handsome proportions, and the flowers darker in colour. The latter are produced in large compact trusses, and the segments of the individual flowers are broad and rounded, reminding one of I. coccinea, which there is reason to suppose is one of the parents. The progeny, however, is a great improvement upon the original if the above supposition of parentage is the correct one. The plant also flowers in quite a small state, and the expanding blooms change from a deep orange to orange-scarlet. Indeed, small plants may be considered quite floriferous.

I. WESTII.—Of the pale varieties this may be considered both distinct and pretty. The flowers are produced in large trusses, and have long red tubes and a lamina which on first expansion is white, changing to blush, and ultimately rose-pink. Should they have remained pure white from first to last, the variety would have been even a greater acquisition from that point of view; but as it is, the effect is so distinct that it might well be included in every collection where showy and pleasing flowers are in request. It also flowers quite freely.

I. COLEI.—The flowers of this garden form are pure white, and freely produced in large compact trusses. They are smaller than in any of the foregoing kinds, with short rounded segments, and in shape similar in all respects to those of I. coccinea. It is in fact a hybrid between that species and I. stricta alba. There are other white kinds in cultivation, but the flowers are, as a rule, very small, with slender tubes, and they are but sparingly produced. I. Colei, however, blooms freely while still in a small state—say about 1 ft. in height. We noted it the other day in the Victoria and Paradise Nurseries of Mr. B. S. Williams at Upper Holloway. All the others mentioned are also grown there in considerable quantity in houses devoted to this class of plants.

THE REV. M. J. BERKELEY.

JUST too late for announcement in our last issue came the intelligence of the death, at Sibbertoft, near Market Harborough, on the 30th ult., of our old and estimable mentor the Rev. Miles Joseph Berkeley, at the greatly advanced age of eighty-seven years. Oddly enough, just about simultaneously with his death disappears also the scene of his former horticultural triumphs, for some years ago when the old council chamber at South Kensington rang with the clear and lucid utterances of the old veteran from month to month there can be no doubt but that he then wore a crown of laurels. A few years elapse, the resonant voice is no longer heard, the venerable presence is withdrawn, and the old worthy of Sibbertoft and South Kensington is soon forgotten, except by some old admirers who remember so kindly the many excellences of the now departed.

Mr. Berkeley was an enthusiastic botanist, fungologist and horticulturist. He had a wonderful knowledge of plants—in fact, seemed to know something of everything. It was his misfortune to have been thrust into the Church; but for that he might, with his deep scientific love, have been a second Darwin, but naturally his scientific studies were tainted by his clerical duties. However, the church found him poor and left him poor, in spite of his great ability and many virtues. Had he been a scientist wholly he might have attained to a distinguished position and some wealth.

THE LATE REV. M. J. BERKELEY.

In those old days when Wilson Saunders, James Bateman, Trevor Clarke and M. J. Berkeley were the leading spirits of the South Kensington meetings the afternoon talks were of a most enjoyable and singnlarly instructive kind. These real gentlemen of the old and genuine school seem to have found few, if any successors like themselves. Their savour still lingers in the mouth, but is fast disappearing. We have for them nothing but kindly words and loving remembrances.

BLUE HYDRANGEAS.

IT is most frequently the case that the desire is to obtain a blue-flowered Hydrangea, although the contrary sometimes holds good. An instance occurred at a place situated on the flanks of the Grampians, where Hydrangeas were obtained from different places with a view to obtain the pink one. The cultivator at first believed that the two were distinct varieties, but as the newly obtained ones flowered they turned out to be blue. The secret was, of course, some chemical ingredient of the soil used in potting that determined the particular colouration; and this has generally been regarded by cultivators as the case.

The cause has frequently been regarded as due to iron in the soil, but when iron filings have been mixed purposely with the potting soil the results have frequently, if not always, been negative. Of course, iron filings might not always produce the same results, even granting that the presence of iron was productive of blue flowers, because so much might depend upon the particular oxide or chemical combination of the metal in question. As long ago as 1818 blue-flowered Hydrangeas were regularly sold in Covent Garden Market, and they are occasionally sold there yet, although the growers of them, who have hit upon the plan accidently or otherwise, are anything but common. Those sold at the early date mentioned were grown in ordinary soil till the plants attained some size, when they were transferred to other pots containing bog soil in winter. Other cultivators tried the same experiment, but were generally very far from being successful.

Bog soil obtained from Hampstead Heath failed to produce the desired colour; but it was accidentally discovered that plants in open borders often produce blue flowers, and on close examination the soil proved to be a pale yellow loam inclined to a light brick earth, and when they were potted in soil of this description, which was then obtained in abundance from Hampstead Heath, the results were entirely satisfactory. Different batches of plants were accordingly grown in the ordinary potting soil, and also in this yellow loam, producing pink and blue flowers respectively. It was also determined that plants producing pink flowers, if transferred to the loamy soil, bore blue ones only, and *vice versâ*, even after having produced blooms of one particular colour for one, two or more years.

Common salt, saltpetre and iron filings give negative results, or, at all events, cannot be depended upon with certainty to produce blue flowers; while some bog soils will bring about the desired results and others will not. It would be interesting to know whether pure yellow loam from any district or part of the country would infallibly give rise to blue flowers, but it is more than likely that such would not be the case. Some modern cultivators use a weak solution of alum applied at intervals, and their efforts meet with more or less decided success.

Under apparently ordinary methods of culture some growers with large plants in tubs obtain masses of flowers varying from the ordinary pink to a deep blue on the same plant. The necessary ingredients must have been in the soil from whatever source it was obtained. In the warmer and more favoured districts of England, and particularly on the sea coast, as many have no doubt observed in gardens at Swansea and eleswhere on the coast of Wales, Hydrangeas thrive magnificently in the open ground, producing the richest combinations from the palest pink, through dark pink to purple and blue.—*F.*

PARSLEY FOR WINTER.

So constant is the demand for this herb that it is a matter of no small importance for the gardener to be able to keep up a supply all the year round. There is usually no difficulty with it except during the winter and spring, although in some gardens the failure of an entire crop will often ensue without apparent cause. To keep up a supply throughout the year it is sometimes convenient to make three different sowings, one in February or March according to the state of the ground and the weather, another in April or May, and the third in the last week of July. Sometimes, however, the spring sowing proves quite sufficient in places where Parsley succeeds well.

In cases where the main crop is more than sufficient for present needs, a quantity of it may now be cut over to encourage the development of fresh leaves, which better stand alternate freezing and thawing in winter to which they are subjected, than would the old leaves. Somethiug more must be done in cold districts and smoky localities within range of large towns or smelting furnaces. The leaves in such places are very liable to be completely destroyed by deleterious influences in the atmosphere, acting in conjunction with frost and snow. A sowing must then be made in beds which can be covered with handlights or a frame; or the roots may be transplanted for the same purpose. Another expedient resorted to is to pot up a number of good strong roots, and stand the pots in a frame. Ventilation under these circumstances must not be neglected, otherwise the whole of the crop may be destroyed in a short time by the rotting of the leaves, rendered tender by the close and confined atmosphere. The foliage must be kept as dry as the conditions will permit.

For the early and main crop, an east or west aspect will answer quite well; but that intended for winter use should be sown under a south-aspect wall when convenience admits of that being done. In such a situation a good supply of Parsley can often be obtained well into spring without using any artificial means of protection; and the warmth afforded by the wall starts the plants into growth earlier in spring than is the case with Parsley grown in open quarters or used as an edging to walks in the kitchen garden.

For garnishing, Parsley must be used in a fresh state, but for flavouring soups and other culinary preparations the leaves may be dried or preserved in various ways. If slowly dried in an oven, the foliage will retain much of its green colour and also its flavour. After being thoroughly dessicated, the leaves may be hung up in some dry, cool, and airy place, or pulverised while still dry and brittle, and stored in jars or wide-mouthed bottles until required for use. This drying process may be carried out now while there is an abundance of leaves that can well be spared. The portion cut down so that fresh foliage may be produced for winter can be utilised for drying.

Before making the last sowing, which should be accomplished at once, the ground should receive a heavy dressing of good farm-yard manure, and then be deeply dug. Parsley to do well must have deep rich soil, into which its long tapering tap-roots may strike deeply. The seeds take a long time to germinate, and should the weather prove unusually dry an occasional heavy watering would prove very beneficial. As the seedlings attain size they should be well thinned out, in order to encourage strong growth and consequently large leaves. The distance that the plants should be apart at this period of the year will depend upon the mildness or open nature of the autumn.

In making a selection of seeds it may be well to bear in mind that the plainer-leaved kinds are much hardier for winter use than the finely-curled kinds. The latter are invaluable and in great request for garnishing, but even plain-leaved kinds are preferable to none at all. Notwithstanding this fact, it is difficult to convince the *chef de cuisine* of it. The finely-curled leaved kinds are not only more delicate in constitution than the less-improved sorts, but are more susceptible of injury in winter by the retention of water on their leaves.—*J. R.*

POTATO DISEASE.

Fears for some time anticipated are now fully realised, and it is possible, should we not be favoured with a change in the weather, the dire pest may assume a very serious aspect, more especially perhaps amongst the early kinds. I have some very good Beauty of Hebron which I have been using for some time, and last week I found unmistakable evidence of the attack of fungus, and as the skin of the tubers is well set, I am losing no time in lifting my crop before matters become worse. I never saw a finer crop, taking size and quantity together, and it really seems sad for the hopes of even little growers who cultivate sufficient for their own consumption to be blasted by so dire a calamity, which becomes a national one should it become general, for in such a case all man's skill and painstaking is of no worth whatever.

Having been only too familiar with the Potato disease ever since it made its first appearance in 1845, I have had ample opportunities from time to time of studying the character of the enemy, and of the best means of combating the same; but although various methods have been adopted and promulgated, all attempts to prevent or arrest the evil have proved futile, as when the conditions of the atmosphere are favourable to the spread of this destructive form of fungi, man's power however skilled and clever he may be, is wholly wrested from him, and he at once becomes the creature of circumstances. I am here speaking of the disease in its worst form—when the attack is general throughout the country.

I stated in the *Gardeners' Chronicle* in August, 1855, that the disease in that year appeared simultaneously with mildew which attacked my crops of Peas, and that it was a fungus analogous to that form of mildew which in certain seasons was known seriously to affect Peas, wall trees, Vines, Roses, &c., and so sure that this is experienced, it may be at once prognosticated that should there not be a decided change in the atmospherical elements the enemy is lurking in ambush fully prepared for its deadly attack, by infusing poison in a wholesale manner into the finest and most useful esculent ever introduced into this or any other country. We cannot dispense with the Potato; it forms the staple food for the many. Good milk, bread and Potatos will build up the baby man to his normal and healthy state and proportions, even without the aid of other kinds of food. As may have been by many observed, the kind of weather that favours the Potato is also alike congenial to the maturation of the Wheat. After these crops have reached a certain stage in their growth, dry bright weather and a pure atmosphere is absolutely essential to ensure a successful ingathering. In the cultivation of all plants, whether indigenous or tropical, no successful issue is arrived at without or in the absence of healthy surroundings, more especially as regards the air imbibed, whether it be inhaled by plant or animal.

It has been asserted again and again that diseased Potatos, either the haulm or tubers, should never be left to decompose on the ground, so that the spores may become incorporated with it, to avoid which is assumed to be sound practice, and advocated by all practical men upon scientific principles. I myself agree as to the importance of these views, but have had ocular demonstration during my lengthy experience of the very reverse practice being carried on with the most successful results. I knew a piece of ground that was cropped with Potatos yearly for six consecutive seasons. The ground being rarely used for any other crops, the seed was saved from the Potatos thus grown, and on two or more occasions the crops proved more or less a failure. The sound tubers were selected, and the affected ones with the haulm left on the ground to rot, but not dug in until after subjected to the action of the autumn and winter frost. Grand healthy crops have followed this seemingly unwise practice—in fact, in the sixth year the ground produced the finest crop of Magnum Bonums, sound and healthy tubers being lifted. What is the inference to be drawn from this as bearing on the perpetuation of the disease? Why, it seems to my mind that the primary cause is, I may say, purely atmospherical. We know well, or rather ought to know, that that kind of atmosphere which is conducive to the generation of numerous species of fungi is not of the most healthy description, and brings with it in some form or other the constituents of disease inimical to both plant and animal life. This has been proved by the presence of the Potato disease, and from this cause alone can its origin be traced. Mildew is generated, and lays hold of the plants, impedes healthy action, prevents assimilation in the functions of the plant, poisoning and decomposing the very life blood, and owing to the very succulent nature of the plant itself the effect is instantaneous in its progress, unless some great change takes place in the atmosphere, from humid and sultry to very hot and dry, or even cold and dry. All fungi are peculiar; only under certain conditions are they seen to thrive. If an uncongenial change takes place, the whole tribe soon ceases to exist.—*George Fry.*

PLANTS AND FLOWERS IN OUR HOMES.

While it is a certainty that the admiration for plants and flowers as features in the decorative art of our homes is fast developing, it is a pity that a knowledge of their proper arrangement, care, and culture does not grow proportionally. It would be incredible, were it known, the vast amount of popular ignorance evinced by the ordinary lover of flowers and plants in their tasteful arrangement and mode of culture. How often are exquisite flowers seen stuck into vases without the faintest effort at design in such a soulless and unnatural way as to almost obliterate altogether every vestige of their inherent beauty? We are aware that the true arrangement of flowers is necessarily reserved for the few; nevertheless, we believe that very much can be acquired by the many in making their flower vases more graceful and effective. Moreover we feel disposed to say that the imbecile style of massing colours, not unfrequently met with, betrays not only vulgarity but exceedingly bad taste.

I am afraid that the education of our taste has not received the due amount of attention that it ought in our hurry to gain more prominent ends. Assuredly as long as we persist in taking delight in masses of strong untoned colours, we shall stand, as far as taste is concerned, on the same platform with the American Indian. There is always a possibility of deciphering the mental qualities of an individual from the arrangement of a vase of flowers. And from this fact alone there appears sufficient reason for ladies to make this art worthy of every attention.

This, as well as table decoration, is undoubtedly the rightful province of ladies, but as yet it must be confessed with regret that so far as it has grown in their hands, too often natural beauty is sacrificed to the vagaries and absurdities of the ruling fashion. Some may be of opinion that this is excusable as an auxiliary aid, or a kind of index to the advancement of society. Whatever arguments can be put forward in favour of this in other spheres of life philosophically, none can be advanced where the arrangement of flowers clearly demonstrates a perversion of nature. Our chief object, therefore, should be to reproduce in the vase a faithful copy of nature, if we would succeed in effective and intelligent decoration. Most people will intuitively discover the power of attraction in the one over that of the other, though they may be quite oblivious to the real nature of the cause occasioning the distinction.

Plants, as a means of assisting decorative art in our rooms, have of late years taken a prominent position, and few indeed will be inclined to dispute the relevancy of such a laudable step, provided it is not carried too far. Plants lend an enchantment and freshness to our rooms unparallelled by any other mode of decoration. To the sick who are unable to go beyond the threshold of their room the presence of plants must be an endless source of pleasure. The thoughts that arise through past associations with any particular plant will draw the invalid out of himself, as it were, and he finds himself once more (in mind of course) roaming in health and youth in the woods and green fields.

There is one very important point in connection with room plants which demands the attention of cultivators, that is, the care with which we should select those that are likely to succeed under the conditions they are about to be subjected to. It is not reasonable to expect that a soft stove plant will give any lasting satisfaction in the cool atmosphere of a heavily-curtained drawing-room, where from one end of the year to the other a single ray of sunshine is never admitted. Such conditions, with the exception of the Cryptogamia, are at variance with the laws of vegetable life, and the result sooner or later is failure and disappointment. It is strange that so many otherwise intelligent people are ignorant of this fact.

We have been often invited to go and examine the wrecks of delicate stove plants placed in a cold sunless room, and when we explained that no flowering subjects could exist under such conditions, the answer invariably was that sunshine on no account could be admitted, owing to its injurious effect on the carpet and other household goods. It was then clear that one of two courses only remained to be adopted—either to admit the sunshine or abandon the growing of flowering plants. As will be presumed, neither was followed. Until we forego this unphilosophical and highly unhealthy notion we shall unmistakeably reap disappointment and failure in the culture of our room plants. Watering is another thing that seems to be little understood among growers of popular house plants.

The tendency to work by rule of thumb is very prevalent. The only fact a great many seem to know is that plants do require water, but the reason why does not appear to be so clear, and consequently they are liberally supplied with the nourishing beverage as frequently as are their pet animals with food. The benevolent attention thus bestowed upon the plants in a short period terminates their existence. The honest plant vendor, on his first appearance at the door, is loaded with a round of abuse for the questionable nature of his wares, and pointedly informed he need not call again; but, the next consignment fares not a whit better. The verdict is, "Bother these vendors and plant growers!"—*Gamma, Edinburgh.*

THE COMMON LING OR HEATHER.

In traversing a moor or hillside covered with this interesting wilding, varieties may frequently be found differing considerably in their particular shades of colour, and albinos more or less decidedly pure are by no means rarities in some districts at least, and from a remote date the meritorious varieties now in cultivation have been picked up by different amateurs and collectors. No doubt some of these have been lost to cultivation, and others have taken their place. Many of the finer kinds have been cultivated for a long series of years, so that in one garden or other there are many distinct kinds.

Some amateurs who take a fancy to this class of plants have carried their hobbies too far, including in their collections varieties which, although interesting from a botanical point of view, are of no value at all horticulturally. Nevertheless, after weeding the worthless kinds out, there is a considerable number of very pretty forms, sufficiently ornamental even to be admitted into small gardens, and for cultivation on rockwork. The chief requisites for the successful cultivation of Calluna vulgaris and its varieties is a soil rich in vegetable matter, such as leaf-soil, well-rotted farm-manure, or better still a quantity of peat or bog earth, when it can be obtained. A soil that is rich in humus is naturally a cool one, unless it be very black, when it is liable to become quickly warmed up by the heat of the sun. It is capable, however, of retaining a large quantity of moisture, and this is peculiarly grateful to the Heath tribe.

Although essentially a mountain plant the Ling is by no means confined to high elevations, but will even descend to sea level when the other conditions requisite are present. It is pre-eminently the feature of many a mountain side, especially on old geological formations such as red sandstone, granite, quartz, and other palæozoic formations. On the other hand, it dislikes all limestone formations; and for this reason Ling is almost or entirely absent from the chalk downs of the south, and which it may be noted are geologically much more recent. From these facts the cultivator should avoid the use of lime or chalk in the soil in which he intends growing Heather. Stiff clay should also be avoided or ameliorated before planting it with this class of plants, because such a soil is liable to get baked during periods of drought in summer, when the slender and fibrous roots would certainly perish, as happens in the case of Ericas, Rhododendrons, Azaleas, and other plants of that nature. These are usually spoken of as American plants, although in the case of Ling it is not an American subject at all, but is admirably suitable for cultivation in the American garden so called.

The more brightly-coloured varieties of Calluna vulgaris that may be picked up on any heath are ornamental enough for cultivation; but in the face of numerous fine varieties already in gardens they may be discarded for the choicer of the latter. Amongst the darker-flowering kinds C. v. Alportii may be considered one of the best, forming erect bushes about 12 ins. or 15 ins. in height, and bearing a great quantity of crimson-red flowers in long terminal spikes. C. v. coccinea, with deep red flowers, is also pretty; and C. v. purpurea has purplish red flowers. Somewhat similar in colour to the latter is the bloom of C. v. tomentosa, but the plant acquires a peculiar and distinctive hue from the branches and leaves being pubescent or woolly.

Another very choice form is that named C. v. spicata, which is characterised by the great length of the flowering portion of its stems and branches. In this respect it may be compared to C. v. Alportii above mentioned. There is a white variety of it equally choice, from the boldness of its habit, namely C. v. spicata alba. There are different white forms, characterised no less by the particular shade of colour of their flowers, as also by their habit. C. v. alba has white flowers rather thinly arranged along the upper portion of the stems and branches. C. v. Serlii and C. v. Hammondi are other beautiful white sorts. A late-flowering variety with white flowers and pubescent branches has been distinguished as C. v. serotina. Another similarly hairy variety with deep red flowers is the C. v. atro-rubens of the botanist. The double variety, C. v. flore pleno, must not be neglected, because, although the flowers do not differ in colour from the ordinary wild type, they are very double, rather large and globular, producing a fine effect when seen in a healthy thriving state. Nor is it any more difficult to cultivate than the bulk of the kinds, and is usually very floriferous.

The silver variegated Ling (C. v. argentea) is very distinct in its way, and might be included in collections for the sake of variety. Some would even consider it pretty. The same might be said of C. v. aurea, a golden-leaved form, which assumes its finest golden tint in the summer time just after the young growth has been made. It is most effective in a mass, or used as an edging to a bed of the other kinds.—*F.*

CONVOLVULUS (CALYSTEGIA) PUBESCENS FLORE PLENO.

A goodly number of these plants are in bloom as I write, and have been flowering for some time past in the Brompton Cemetery, at the Fulham Road entrance. They are exceedingly pretty, with their fine, light rose-coloured, double flowers, and the plants, twining up tall stakes, are very conspicuous as seen from the road. Although this is one of the prettiest of our hardy climbers it is by no means common. It has the habit of the climbing Convolvulus, and as it flowers all through the summer, is very hardy, and will grow in any position and in almost any soil, however poor, it should be in every collection of border plants. It looks well at the back of odd corners, with dwarf plants in front. The plants are readily increased by division of the roots, which should be done during the winter months while they are at rest, but they seem to take a year to fully establish themselves and gain sufficient strength to send up strong annual growths, unless they are obtained in pots in winter or early spring, and planted out. This plant belongs to the natural order Convolvulaceæ, or Bindweeds, and was introduced from China in 1844.—*Alfred Gaut.*

BEDDING PLANTS.

It is pleasing to see so many classes of plants doing well this season. Where Pansies have had a fair chance they especially are giving much satisfaction. Fancy and other kinds, both from seed and cuttings, are very gay, and have been in flower ever since they were planted during the early part of April. Among the varieties generally used in beds, Blue King, Robin Hood, Sovereign, a good yellow, have been all we could desire. Bullion is a dense mass of bright yellow, and of fine habit. We have reduced our stock of named bedding varieties, some of which have finely formed flowers, but are not so lasting and effective during autumn; some purples and others from seed have been equal to good Petunia blooms.

Pelargoniums of the variegated classes have scarcely bloomed at all. Bronze Harry Hieover has been very distinct, and has made excellent growth. Crystal Palace Gem, as a yellow, is very bright, and without flowers its foliage is most satisfactory. Mrs. Turner is the best pink variety. The most brilliant scarlet we had last year was Little David, and so it is this season, showing its usefulness and value in all weathers. Vesuvius and a number of old favourites are comparatively insignificant. Having seen more flower gardens this year than usual, I am able to state that the useful class of summer-flowering plants which are easily propagated and require no protection during winter, are such as stand highest in favour in northern parts.—*T. F.*

NOTES FROM SCOTLAND.

The National Wild Flowers of Scotland.

Show in Aberdeen.

The third of the national wild-flower exhibitions and competitions promoted annually by the proprietors of the *People's Friend*—a Scottish magazine—was opened in the Music Hall, Aberdeen, on Thursday, August 1st, by Annie S. Swan, the well-known Scottish novelist. For the last three years the promoters have held wild-flower exhibitions in Scotland, the proceeds of which are put to some deserving purpose. This year the whole drawings taken at the doors, and the proceeds from the sale of flowers, go to the Aberdeen Sick Children's Hospital. It is gratifying to have to record that a scheme so deserving was an unqualified success on Friday and Saturday in Aberdeen—so much so, in fact, was this the case, that the exhibition was the most successful of the kind yet held.

From most of the parishes in every county throughout the length and breadth of Scotland contributions came pouring in. Some of the bouquets contained a rich assortment of flowers, arranged with admirable taste, and gave evidence of having been collected in parts of the country where Nature has been most lavish in the bestowal of her gifts. Other humble lots appeared to have been culled by sympathetic little hands from some bleak muir or hillside, where the choice was limited to one or two varieties. The whole of the contributions, numbering in all over 1,500, were beautifully arranged. It was only necessary to take a glance round the music-hall to realise what an amount of thought and labour was expended upon the selection of the bunches of wild flowers. Their fragrance filled the air the moment one entered the spacious portals of the music-hall, and it need hardly be added that they represented the hopes and fears of more than a thousand of the young folks of the country, for it was an out-and-out children's show.

One may conjure up mentally the eagerness with which they rambled over hill and through dale in search of the choicest floral treasures; and in order that their efforts might be fittingly rewarded there was a liberal provision of prizes and prize certificates, though none too many for the merits of the case. At the opening ceremony on Thursday there was a very large attendance of ladies and gentlemen, the platform being crowded with representative citizens of Aberdeen. Lord Provost Henderson presided, and introduced Miss Swan. Previous to doing so his lordship intimated letters of apology from Lady Aberdeen (who was to have opened the exhibition), Sheriff Dove Wilson, &c. Lady Aberdeen wrote to the effect that she regretted very much being unable to be present at an exhibition, the object and nature of which she was so much in sympathy with. Lord Aberdeen also expressed regret at the fact that the expected visit to Aberdeen to open the exhibition had had to be put off. Both the Earl and the Countess wished the exhibition every success.

Lessons from Wild Flowers.

Annie S. Swan (Mrs. Smith) then stepped forward and said—"My Lord Provost, ladies and gentlemen, in spite of the kindness of your reception this morning, I am conscious that I am but a poor substitute for the gifted and public-spirited lady whose absence we all deplore to-day; but though I am no speech-maker, I am very glad to be here to-day to express in a few words my interest in and my sympathy with the object of this undertaking. I do not know where my friend Mr. Stewart (editor of the *People's Friend*) got his idea, but I am sure you will agree with me that there has never been seen in this city of Aberdeen a more unique and beautiful exhibition than we see before us to-day. We are all accustomed, both in cities, and certainly in every country district, to annual horticultural displays, at which we are called upon to admire the great beauty and perfection to which human care and skill can bring both our garden and greenhouse plants, but it is not often we are called upon to admire the wild flowers; and I hope that there are not in this hall many persons whose artistic tastes are so educated and refined that they are indifferent to that fair garden of the universe which is open to all without money and without price, and where the wild flowers fresh from the hand of God bloom for us year by year, and will read for us, if we only keep our eyes open, daily lessons by the way. It is but a step, my friends, from nature up to nature's God, and if we will allow nature to lead us,

"The Primrose by the river's brim"

will be something more than merely a yellow Primrose for us; it will be a message of hope, of courage and comfort from Heaven. We are bidden, "Consider the Lilies of the field how they grow; they toil not, neither do they spin;" and I am sure that we will get from the wild flowers, if we only keep our eyes open, lessons of courage and comfort to help us in the battle of life. If this exhibition has done no more than to send hundreds of children, as it must have done during the last few days, into the fields and woods to seek out the haunts of the Harebell and the Heather, and to look for the Daisy and the Buttercup, and the graceful wild grass on sunny meadows, it will have fulfilled a great end; but it has done much more than that. It has awakened in these young hearts a tender sympathy and compassion for the children less blessed than themselves, to whom such institutions as a sick children's hospital must be a great boon. I don't know that I need add much more to what the Lord Provost has so well said already. I think these three words, "sick children's hospital," must touch a chord even in the very hardest heart. There is an exquisite affinity between the children and the flowers. They are both gleams of sunshine sent from God, and while all are anxious to cherish the children, it remains a sad fact that there must be some sick, sad and suffering, and to these, as I have already said, a sick children's hospital is an inestimable boon. I have only to say to those who have not been through a sick children's hospital that if they only pay one visit I am sure they will go away with their hearts touched and saddened, their sympathies enlarged, and, if I mistake not, their purses considerably lighter. I have only to express again the very great pleasure I have in being here this morning, and to wish this beautiful exhibition every success."

On the motion of Mr. John Leng, who spoke on behalf of the promoters of the exhibition, a hearty vote of thanks was accorded Annie S. Swan, and on the motion of Mr. James J. Todd, chairman of the directors of the Aberdeen Sick Children's Hospital, a similar compliment was paid to the promoters of the exhibition, and to all those who by their services or donations had contributed to its success. A cordial vote of thanks was then awarded the Lord Provost for presiding.

During the two days the exhibition remained open thousands of persons visited the hall, and all expressed their admiration of the magnificent collection of wild flowers which had been gathered together.

Shortly before the close of the show on Saturday evening, Mr. Stewart, of Dundee, on behalf of the promoters, thanked the people of Aberdeen sincerely for their generous support. Although he was unable to state the financial result of the exhibition, he thought he might venture to say that it was likely to prove a greater success than the previous one held in Glasgow. He mentioned that the first and second-prize bunches of white Heather were purchased by a gentleman for a marriage in London. He also stated that a little girl, who had been a competitor at the exhibition, had died in the course of that week, and the first-prize cross was purchased by a gentleman to place upon her grave. It has been announced that the total drawings amounted to £160. The promoters deduct nothing for the expenses in connection with the exhibition, so that the entire proceeds will go towards the funds of the Aberdeen Sick Children's Hospital.

FLORICULTURE.

The Carnation and Picotee Union.

It was a happy thought of Mr. Dodwell's to change the Oxford show day from the 6th to the 1st inst., for on the former date there could hardly have been a decent bloom left, while on the 1st he had the pleasure of seeing a really first-class show—some thought, indeed, the best of the five annual displays which have been held in the well-known garden at Stanley Road. The competition was certainly stronger than ever, and the smaller classes were unusually well contested. The leading features were the bizarres, the selfs, and the yellow grounds, the two latter sections especially being remarkably strongly represented, while the Picotees, excluding, of course, the yellow grounds, were hardly up to the highest standard. Mr. Tom Lord, of Todmorden, and the Birmingham growers—Messrs. Sydenham, Thomson, Brown, and Jones—were in strong form, and secured the lion's share of the awards. Mr. Dodwell, whose garden seemed to contain more plants than ever, was past his best for cutting by some days, and so also was Mr. Lakin, the Reading men, and Mr. Rowan, but all of them managed nevertheless to secure awards. Mr. Dodwell we were glad to find in better health than he has been for a long time, and it was evident from the hearty greeting accorded by him and his family to the many visitors—old-time friends and doughty opponents in many a hardly-fought contest, and new-comers smitten with the charms of the lovely Gilliflowers—that the day was one of real enjoyment to them, as it undoubtedly was to those who accepted their hospitality. The proceedings at the annual luncheon in the afternoon, so genially presided over by Mr. Samuel Barlow, were of a most enjoyable social character, and the health of our old friend, the presiding genius of the Union, was received with every mark of cordiality and good feeling. To the Carnation fanciers the Oxford day is the red-letter day of the year. Long may it continue to be so!

Carnations.

Flakes or Bizarres.—Twelve blooms, dissimilar: A very fine class with eleven competitors. First, Mr. Tom Lord, Todmorden, with a fine stand comprising Master Fred C. B., Reginald Power, John Harrison P. P. B., George S. B., Admiral Curzon S. B., Deedie P. P. B., Biddie Malone R. F., William Skirving P. P. B., Shirley Hibberd C. B., John Ball S. F., Squire Trow P. F., and R. Houlgrave S. B. Second, Mr. R. Sydenham, Birmingham; third, Messrs. W. B. Thomson & Co., Birmingham; fourth, Mr. J. Lakin, Temple Cowley; fifth, Mr. A. R. Brown, Handsworth, Birmingham; sixth, Mr. M. Rowan, Clapham; seventh, Mr. S. Barlow, Stakehill, Castleton; eighth, Mr. G. Chaundy, Oxford. Six blooms, dissimilar: There were thirteen competitors in this class, and the nine prizes were awarded as follows: First, Mr. T. Helliwell, The Hollies, Todmorden, with Master Fred C. B., George Melville P. F., Squire Llewelyn P. P. B., Robert Lord S. B., Christa Galli R. F., and Sportsman S. F. Second, Mr. J. Whitham, Hebden Bridge; third, Mr. T. Bower, Horton Green, Bradford; fourth, Mr. J. Edwards, Blackley, Manchester; fifth, Mr. C. Phillips, Earley, Reading; sixth, Mr. W. H. Midgley, Siddle, near Halifax; seventh, Mr. J. S. Hedderley, Bulcote, Notts; eighth, Dr. Benson, Steeple Clayton; ninth, Mr. J. P. Sharp, King's Heath, Birmingham.

Picotees.

White Grounds: Twelve competitors entered the lists in the class for twelve blooms dissimilar, and Mr. Tom Lord again headed the prize list with good blooms of J. B. Bryant H. R. E., Lady Louisa H. R. E., Zerlina H. P., Brunette H. R. E., Seedling 250 H. R, Thos. Williams L. R., Nellie L. R., Mrs. Sharp H. S., J. Smith H. R., Ann Lord L. P., Baroness Burdett-Coutts L. P., and Medina H. P. Second, Mr. Rowan; third, Mr. R. Sydenham; fourth, Messrs. W. B. Thomson & Co.; fifth, Mr. A. R. Brown; sixth, Mr. G. Chaundy; seventh, Mr. W. L. Walker, Earley, Reading; eighth, Mr. T. E. Henwood, Earley, Reading. With six blooms, dissimilar, there were no less than eighteen competitors, and Mr. J. Whitham secured the highest award with a stand comprising Mrs. Sharp H. S., Brunette H. R. E., Ann Lord L. P., Zerlina H. P., John Smith H. R., and Thomas Williams L. R. E. Second, Mr. T. Helliwell; third, Mr. A. W. Jones, Handsworth, Birmingham; fourth, Mr. J. P. Sharp; fifth, Mr. W. H. Midgley; sixth, Mr. J. S. Hedderley; seventh, Mr. Thomas Bower; and eighth, Mr. C. Phillips.

Selfs, Fancies or Yellow Grounds.

Twelve dissimilar: The eight prizes in this competition went as follows;—1st., Mr. Read, g. to E. S. Dodwell, Esq., with Gladys, the most beautiful rose-pink in cultivation; Joe Willett, a grand scarlet; Schlieben (Benary), Emma Lakin, the best white yet sent out; Theodore (Benary), and the remainder unnamed seedlings. Second, Mr. T. E. Henwood; third, Mr. R. Sydenham; fourth, Mr. J. Lakin; fifth, Mr. T. Lord; sixth, Mr. J. Anstiss, Brill; seventh, Messrs. W. B. Thomson & Co.; eighth, Mr. G. Chaundy. For six dissimilar, Mr. A. W. Jones was first with Mrs. McLaren, Terra Cotta, Mrs. Price, Sir Toby Belch, Mars, and the Bride. Second, Mr. Hedderley; third, Mr. F. Hooper, Bath; fourth, Mr. A. R. Brown; fifth, Mr. C. Phillips; sixth, Mr. S. Barlow; seventh, Mr. H. Startup, Bromley, Kent.

Yellow Grounds, Kilmurry Seedlings, &c.

For six Kilmurry seedlings, Mr. Read came in first with Alford Grey, Tournament, Patrician, Queen of Hearts, Exile, and Nancy. Second, Mr. F. Nutt, Southampton; third, Mr. G. Chaundy; fourth, Mr. R. Sydenham; fifth, Mr. W. Bacon, Derby; sixth, Mr. J. S. Hedderley; seventh, Mr. J. Lakin; eighth, Mr. Storrer, Stranraer, N.B. Six yellow grounds, any raisers: First, Mr. Read with Dodwell's 180, 191, 202, Mrs. Milner, and Lemon Drop (Rawson); second, Mr. F. Hooper; third, Mr. J. Lakin; fourth, Mr. T. E. Henwood; fifth, Mr. R. Sydenham; sixth, Mr. G. Chaundy; seventh, Mr. Hedderley; eighth, Mr. F. Nutt; ninth, Mr. A. R. Brown.

Single Specimens—Carnations.

Scarlet bizarres: Mr. Tom Lord secured all the awards but the fifth in this class, with Robert Houlgrave, Admiral Curzon, Fred, Robert Honlgrave, Alfred, Admiral Curzon, and Master Stanley, in the order named, the fifth prize going to Mr. Barlow for Robert Houlgrave. Crimson bizarres: First, Mr. Sydenham, with Master Fred; second, Mr. Lord, with the same variety; third, Mr. Lord, with Joseph Lakin; fourth, Mr. T. Bower, with Master Fred; fifth, Mr. G. F. Lee, with W. Bacon; sixth, Mr. Lord, with Master Fred; seventh, Mr. Sydenham, with J. Lakin; eighth, Messrs. Thomson, with J. Merryweather. Pink bizarres: First and second, Mr. Lord, with J. Harrison; third, Mr. Sydenham, with T. Anstiss; fourth, Mr. Lord with William Skirving; fifth, Messrs. Thomson, with Sarah Payne; sixth, Mr. Lord, with W. Skirving; seventh, Mr. Sydenham, with S. Payne; eighth, Mr. Edwards, with W. Skirving. Purple flakes: First, Mr. Robert Lord, with Mayor of Nottingham; second and fourth, Messrs. Thomson, with G. Melville; third, Mr. Sydenham, with S. Payne; fifth, Mr. Rowan, with G. Melville; sixth, Mr. Barlow, with Mayor of Bath; seventh, Mr. Bower, with Juno; eighth, Mr. Lord, with G. Melville. Scarlet flakes: First, Mr. Sydenham, with Alisemond; second, Mr. Lord, with Ivanhoe; third, Messrs. Thomson, with R. Marris; fourth, Mr. Lord, with Matador, and fifth with Ivanhoe; sixth, Mr. Sydenham, with Matador; seventh, Mr. Lord, with Henry Cannell; eighth, Mr. Hedderley, with Tom Lord. Rose flakes: The first four prizes were taken by Mr. A. R. Brown, with Thalia, Mr. Lord being fifth with Christa Galli; sixth, Mr. T. Bowers, with Sybil; eighth, Mr. Lakin, with Christa Galli.

Selfs.

First, Messrs. Thomson, with Germania; second, Mr. Lakin, with Emma Lakin; third, Mr. Read, with Gladys; fourth, Mr. Hedderley, with the same variety; fifth, Mr. Lakin, with Emma Lakin; sixth, Mr. Read, with Gladys; seventh, Mr. Henwood, with Germania; eighth, Mr. Reed, with a seedling.

Fancies.

First and second, Mr. Read, with seedlings; third, Mr. Henwood, with Dorothy; fourth, Mr. Read, with a seedling; fifth, Mr. A. W. Jones, with Mrs. McLaren; sixth, Mr. Hedderley, with a seedling; seventh, Mr. Henwood, with Agnes Chambers; eighth, Mr. Hedderley, with a seedling.

Picotees.

Heavy red-edged: First, Mr. Read, with Lakin's Seedling; second to fifth, Mr. T. Lord, with Brunette; sixth, Messrs. Thomson, with Dr. Epps; seventh, Mr. Lord, with Dr. Epps; eighth, Mr. Sydenham, with Brunette. Light red-edged: First, second, fourth, fifth, and seventh, Mr. Lord, and third, Messrs. Thomson, with Thomas William; sixth, Mr. Rowan, with Mrs. Gorton; eighth, Mr. Barlow, with Thomas William. Heavy-edged purple: First and second, Mr. Lord, with Mrs. Chancellor and Amy Robsart; third, Mr. A. W. Jones, with Muriel; fourth, fifth and sixth, Mr. Lord, with Zerlina, Alliance and Zerlina; seventh Messrs. Thomson, with Mrs. Chancellor; eighth, Mr. Lord, with Muriel. Light-edged purple: First, Mr. Henwood, with Jessie; second, Mr. Lord, with Baroness Burdett-Coutts; third, Mr. Rowan, with Mary; fourth, Mr. Lord, with the same variety, fifth with Ann Lord, sixth with Mary, and seventh with Ann Lord; eighth, Mr. Edwards, with Ann Lord. Heavy rose or salmon-edged: First, third and sixth, Mr. Lord, with Lady Louisa; second, Messrs. Thomson, with Companion; fourth, Mr. Read, with a seedling; fifth, Messrs. Thomson, with Edith D'Ombrain; seventh, Mr. Lord, with Mrs. Sharp; eighth, Mr. Sydenham, with the same variety. Light rose or salmon: First, fourth and eighth, Mr. Rowan, with Nellie; second and third, Mr. Lord, with Favourite and Nellie; fifth and sixth, Mr. Read, with Nellie; seventh, Mr. A. W. Jones, with Favonrite.

Yellow Grounds.

First to fourth, Mr. Read, with Almira, Dodwell's 180, Almira, and Germania; fifth, Mr. Lakin, with Germania; sixth, Mr. Henwood, with Agnes Chambers; seventh, Mr. Read, with Tournament; and eighth, Mr. Lakin, with Agnes Chambers.

Premiers.

The premier bizarre or flaked Carnation was Mr. Tom Lord's Robert Houlgrave, the first-prize bloom in the single class; the premier self, Messrs. Thomson's Germania, first-prize bloom in the class for single selfs; the premier fancy, Mr. Dodwell's 167, yellow ground flaked with slaty purple; the premier Picotee, white ground, Mr. Tom Lord's Lady Louisa; and premier yellow ground, Mr. Lakin's Annie Douglas, a pretty rose-flaked flower.

A Growl from Oxford.

Let me frankly say at the outset that I am a disappointed exhibitor. I left home on Thursday, 1st inst., with some four dozens of what I fondly thought were very superior blooms, and I returned from the exhibition without a prize. I want to know the reason why. I am a young exhibitor, and I do not profess or expect my inexperience to be put in the scale against the pretensions of my elder fellows; but there were some things done by my older friends which I cannot understand. I was behind the scenes; I had a good opportunity of noting events, and I am not only disappointed, but perplexed.

The arrangements in advance were all that could be desired—a printed programme gave the names of the judges, reporters with judges, assistants, &c., with our venerated leader as referee. No hitch occurred until the premier flowers had to be selected. For this duty certain gentlemen had been appointed, and the election of the self, Germania, a magnificent flower from a non-winning stand, was unanimous. Similar unanimity also followed the selection of the premier fancies—a magnificent bloom of Mr. Dodwell's yellow-ground, S. 167, shown in the first stand. For the bizarre or flake two flowers were selected—Robert Houlgrave and Master Fred—the referee electing the former; but it was an open secret that he thought the best flower of Master Fred had not been submitted for his choice. For the Picotee also two flowers were named—Nellie, a young flower, with the colour scarcely sufficiently toned to its most winsome beauty, but of perfect form and outline; and Lady Louisa, a heavy-edged rose of great refinement, but imperfect in outline, and above all of *reflexed habit*. The referee named Nellie, and that I supposed was final; but some of my older friends have ways of their own, and one pertinaciously insisting Lady Louisa was the better, Lady Louisa was elected to the throne. The case of the yellow-ground was yet more remarkable. The premier, both in the fancy and self section, had been chosen from the yellow grounds. It was open, therefore, to choose the better of the two, or select from others, of which there were several examples of glowing colour, flamed or edged with shades of rose, of red, or of scarlet—notably the Kilmurry kinds, Alfred Grey and Tournament; Mr. Dodwell's No. 180, a magnificent flower, but with fimbriate edge; Mr. Douglas's Almira, smooth, refined, and rich in colour; and a flower I saw for the first time, named Lemon-drop, a seedling of the Rev. M. Rawson's, which pleased me highly. Here the gentlemen who judged the yellows made their selection; it was confirmed by the referee, and then some older brother interposed, and the award was assigned to Annie Douglas, surely, if I have any appreciation of colour, the least satisfactory of the six fine varieties bearing Mr. Douglas's name, for in all the examples I have seen, the ground and marginal colours are thin,

and combine to express poverty rather than richness and refinement. Further, it is too flat in its outline.

Now I want to know, Mr. Editor, how I am to read these things? Will anyone who was present at what, despite my disappointment, I felt to be the most glorious show I had ever seen, whether older or younger, help me to a solution? I thought we were emancipated from hard and fast lines and old floral prejudices, but it seemed to me that the "elder" brethren enforced themselves with a more than usual emphasis on the 1st; and I want to know whether negations of colour and monotonous uniformity are to prevail, or whether I may not go, at least in the fancies, selfs and yellow-grounds, for the higher elements of a picture—the wealth and glory, the contrast or combination of colour?—*A Disappointed, but Inquiring Novice.*

Yellow-ground Picotees.

Within recent years the yellow-ground varieties, whether reckoned Picotees or Carnations, for they are one and the same thing, have been greatly improved and popularised; but they originated, however, many years ago, and the growers of them had as much difficulty with them then as now. About seventy years ago, or perhaps even more recently, they were spoken of as Piccatee Carnations, which simply meant that they were painted or *picated* Carnations, as mentioned by Mr. Hibberd in his lecture on Carnations at the last meeting of the Royal Horticultural Society. The markings were then as variable as they are at the present day, which would raise an interesting question as to how the yellow-ground colour first came to be developed. Seeing, however, that all Carnations are varieties of Dianthus caryophyllus, there can be little doubt that yellow existed primarily in the species itself, although singularly enough, neither D. caryophyllus nor any other wild species probably exhibits a pure yellow colour.

In the summer of 1818, one Edward Barnard, Esq., exhibited a collection of Picotees, or as he called them, Picatee Carnations, at a meeting of the Horticultural Society of London. The plants had been raised from a German strain of seed, and exhibited a great variety in richness of colouring, with stripes or markings in different shades of crimson, scarlet, purple, slate and black, on a yellow ground. In size they were also highly meritorious, as some of them measured 11 ins. in circumference.

His plan was to sow seeds about the end of May and grow them on freely, sheltering from rain and severe frost in winter. Those raised in this way were exceedingly vigorous and floriferous for the first year, just as growers find them at the present day; but when layers were taken from them all the choicer kinds were almost certain to perish during the succeeding winter and spring, while others were kept alive with much care and attention, and rewarded the grower with a very small return for his trouble. The English strains of those times were considered more vigorous and less liable to damp in winter than the German ones. More successful results were obtained by taking cuttings than by layers; by this method smaller plants were obtained, but they had more enduring capabilities and stood the winter better. The beauty of those yellow-ground Picotee Carnations was reckoned sufficient reward for all the trouble taken with them.—*J. C.*

Carnation Fertilising.

Now is the time for fertilising Carnations—the most important and interesting part of the amateur's work in Carnation culture. The true lover of the flower should not lose a day, but be ready with the camel-hair pencil whenever and wherever pollen is to be found. I carry the tweezers and the pencil in hand as I pass amongst the plants in pots or those in the open ground, and as I do not allow any inferior variety to bloom in my small garden, I hope to be able to produce good healthy seed from which to select varieties as good as the parents, with a possible chance of gaining some novelties even better and worthy of perpetuation.

By the way, we call it Dianthus caryophylloides, but pray where can we find show Carnations or Picotees possessing the rich aroma of the old Clove-scented Carnation? I remember that in the days of my boyhood I used to grow the grand old crimson, white and rose-coloured Cloves of immense size with such a scent as to affect the atmosphere of the garden. Of course the form and the texture would not satisfy the ideal of the amateur florist, but would it not be possible by careful cross-fertilisation to obtain form combined with the colour and perfume of the olden time? It is worth a trial. Let our brotherhood each and all take the thing in hand, and surely success will attend our efforts. The Carnation and the Rose without their characteristic aroma fall far short of my ideal of these—the glory of the old-fashioned garden.

Who would have imagined that in so short a period of time such marvellous strides would have been made in the yellow and fancy sections? At the first meeting of the Carnation and Picotee Union neither of these were represented, whilst at the last meeting the glorious display of yellow and fancy colours bid fair to eclipse the other class flowers. What may be attained with such grand flowers as Germania, as a seed parent in the hands of a careful hybridiser, may only be imagined, and not at present realised. The selfs, too, are making grand advances, the leading flowers being marvels of depth and richness of tone. Then, again, the splendid form and substance of the petal, together with the purity of Emma Lakin, leaves nothing to be desired. It is certainly the queen of the whites. I went over to Temple Cowley to see "Emma" at home. In the early morning a large bed of it was a dazzling sight, as each plant was carrying from ten to twelve blooms of perfect form and substance, uniform in size, and without the slightest distortion. Emma Lakin is equally at home under border or pot culture. Turning from this bed my eye was arrested by Annie Lakin, the sister to "Emma," which was equally perfect in form, not quite of equal substance; but in purity of colour, or rather the absence of colour, it far surpasses any other white Carnation that I have ever seen, and on neither of these beds did I find a split calyx, or a distorted bloom. I send you a box of blooms from my own beds of seedlings, which you will say are beautiful, but they are very far short of either of the above.—*W. Wardill, Luton.* [They are indeed beautiful.—Ed.]

Adiantum cuneatum versaillense.

ADIANTUM CUNEATUM VERSAILLENSE.

This finely crested form is quite distinct from Adiantum cuneatum grandiceps, which bears generally a large tassel, or crest, at the apex of each frond. In this case the whole plant is dwarfer and very compact, resembling in this latter respect the well-known and useful A. c. Pacottii, and would prove similarly useful for mixing with cut flowers. As a pot plant it is far more graceful than the latter variety, and bears its fronds erect, somewhat similar to those of A. Capillus-Veneris, without being stiff or heavy. The pinnules are broadly wedge-shaped, and closely arranged on the much divided and crested fronds, which are more or less branched, sometimes divided almost to the base, with each division separately crested, and occasionally twisted into different shapes. As a variety of A. cuneatum it is very distinct, and was raised by

M. Albert Truffaut, of Versailles; but it is now in the collection of Mr. B. S. Williams, to whom we are indebted for the opportunity of illustrating it. A specimen was exhibited at a meeting of the Royal Horticultural Society in the spring of this year, and received a First Class Certificate.

The Amateurs' Garden.

Layering Carnations.

Now that the best of the flowers are over, the seedlings have bloomed, and the good varieties marked for retention, layering may be proceeded with without further waiting or loss of time. Get ready a quantity of light rich soil; old potting material sifted will do, and if this is too heavy add some sand and leaf-soil, mixing the whole thoroughly. The soil, to a little distance around each plant, may be raked back with a trowel, and a quantity of the prepared compost placed in its stead. Then remove a few of the lower and older leaves from the shoots to be layered, and make a cut about ½ in. long with a sharp knife, entering at a joint and passing inwards and upwards, being careful at the same time not to sever the shoot from the main stool. Next bend the shoot slightly, so as to make the cut gape open, and fix it down on the fresh soil with a peg or layering pin. When all the shoots on a plant have been so treated, cover them up with another layer of the prepared soil. Before leaving off work, give the newly-layered plants a good watering through a rosed pot, so as to settle the soil about the layers, and this may be repeated from time to time if the weather continue dry.

Budding Roses.

Much will depend upon the state of the weather and the state of growth of the Roses as to when budding should cease, but no time should be lost in hastening the completion of what budding is intended for this year. Those that were done early in the season must now be gone over, and the ties inspected to see that they are not cutting into the wood by the swelling of the shoots. Where this is the case they should be untied, and done over again a little more loosely. It may be well to leave them a little longer until the bud has made a firm union with the stock. The latter may be shortened in proportion to the strength of the shoot proceeding from the inserted bud.

Chrysanthemums.

Disbudding should now be attended to and continued up till October. If very large and few blooms are wanted, the first bud making its appearance should be retained, pinching out all others which appear in the axils of the leaves beneath it. This is termed the crown bud. Should more blooms be desired a few of the lateral buds must be allowed to develop. The latter are spoken of as terminals by Chrysanthemum growers. As soon as the flower buds can be discerned feed the plants twice a week with a small quantity or a weak solution of some good artificial manure, or what answers equally well, weak liquid manure.

Vallotas.

These useful and easily-grown bulbs are now in many cases throwing up their flower-spikes, and where such is the case the plants will be much benefited and the flowers larger if a weak dose of some stimulant be given twice a week until the flower-buds expand. Few bulbs are more suited for window culture, or produce a better display when they come into flower. Being evergreen there is less objection to it than in the case of the Belladonna Lily (Amaryllis Belladonna), which is quite leafless when it flowers in autumn.

Rudbeckia speciosa.

Amateurs who are unacquainted with this beautiful Composite would do well to obtain it. In the course of this month it will be in full bloom, and last a long time in perfection. The flower-heads are about 2 ins. or 3 ins. in diameter, and have long, golden yellow rays, with a conspicuous black disc. For a Rudbeckia it is remarkably dwarf, varying from 1 ft. to 2 ft. in height, according to soil and nature of the season. A bed of this, or even a broad margin to one, has a fine effect, owing to the strong contrast produced by the black and yellow colours. It is more frequently known in gardens under the name of R. Newmanni than under its correct name. When once the proper plant has been obtained there is no difficulty in propagating it to any extent by division, or by the separation from the old plant of the short stolons which it produces.

Garlic, Shallots, and Onions.

The warm dry weather that has prevailed during the latter part of July and the first of August has materially assisted in the ripening of these bulbs, which should therefore be lifted and laid out in a sunny position to dry, or in the event of rain, may be transferred to the floor of a dry airy shed, or tied in bunches and hung up. Onions will probably not be all ready at the same time; so much depends upon the variety that the various kinds must be pulled at different times and laid out to dry. Do not, on any account, allow a second growth to take place by the advent of rain, otherwise the quality and the keeping powers of the bulbs will be greatly impaired. Those with very thick necks and proportionately small bulbs may be pulled for immediate or present use, while those of an intermediate character may be induced to ripen up by bending their necks.

Tomatos.

Plants that were well forward in spring before planting out will now have commenced to ripen their fruits on walls and in sunny sheltered positions. The greater proportion is still, however, far from ripe, and the resources of the plants must be centred on the fruit by removal of the lateral shoots and all unnecessary branches, which vigorous and healthy specimens are now producing in profusion. Our summer is too short to allow of the proper maturation of an unlimited quantity of fruit.

Notes on Fruits.

The Hessle Pear.

The earliest Pear that finds its way into our markets in large quantities, either from home or foreign-grown produce, is the Hessle, Hessel, Hazel, or Hasel, as it is variously corrupted by the market-men and others. Those in the market now are probably all or mostly of foreign growth, but in this country, at least, it will not be properly in season till October. The high colouring which it takes on even at this early period whets the appetite of the younger members of the population, and consequently we find the fruits hawked about the streets everywhere in large quantities, besides those to be found on the stalls and in the shop windows of the wealthier classes of people whose vocation is that of selling fruit and vegetables. The fruit is top-shaped, and small even when grown under the conditions and in the soils most favourable to it; but the enormous quantity produced by a single, healthy, and large-sized tree, will enable the variety to hold its own as a market Pear for many years to come. The tree is also hardy and vigorous, matters of no small consideration for the fruit-grower, who will always afford room to that which brings a fairly good return independently of its appearance when placed on the table. When perfectly ripe, however, the Hessle Pear is tender, juicy, sweet, and highly fragrant. The skin is greenish yellow, and heavily suffused with russety spots on the exposed side, or sometimes all over.

Citron des Carmes Pear.

Very early Pears will always be grown in a certain number of establishments, where the desire is to have the first or earliest of everything as it comes into season. Its earliness and quality are the chief points that recommend it to the attention of cultivators, because the fruit itself is comparatively very small, obovate, and when first fit for use is of a bright green, and not at all tempting in appearance. As it becomes mellow, however, the green gives change to a yellowish tint, and then the fruits must be used, as they do not keep well after this stage. The flesh is delicate, yellowish white, melting, and pleasing to the palate. The tree is hardy, bears well as a standard, and if grown on the Quince its early maturity will be hastened. Its usual period of ripening is July and August, and in warm summers it may be had fit for use about the third week of the former month. The variety originated in France, as the name would suggest, and was first noticed in the garden of the Carmelites at Paris.

Pear, Calebasse Abbé Fetel.

Although put into commerce about fifteen years ago, this Pear has not made much progress in getting disseminated amongst the fruit-growing public. This is probably to be accounted for by its ripening unfortunately at a period when the store-room is glutted with fruit that must be utilised immediately or suffered to waste. The fruit is of great size, Pear-shaped, elongated, pale green, ripening to yellow, abundantly spotted or punctated all over with small fawn-coloured markings, and suffused with red on the exposed side. The flesh is melting, very juicy, and sugary. The tree is of moderate vigour, with ovate, smooth, deep green leaves, and bears freely. It has a strong resemblance in many points to the Pear known under the various names of Cuvelier, Surpasse Napoléon, Miel de Waterloo, and Pear of the Ursulines. There is a beautifully-coloured illustration of it in the *Bulletin d'Arboriculture, de Floriculture, &c.*, June, 1889.

Gardening Miscellany.

The Tiger Lily.

The various forms of this fine old garden Lily are now coming into bloom everywhere, and what adds to their value is their extreme hardiness and the durability of the bulbs when once established in the open border. In this respect Lilium tigrinum takes rank with L. candidum, L. pyrenaicum, L. dahuricum, L. Martagon, and others of that class. In some gardens beds are planted with L. tigrinum, and merely receive an annual top-dressing of old hot-bed manure or decayed leaves. All other cultural treatment simply consists in keeping the beds clean. The Lilies come up and flower magnificently every year. The small bulbils produced in the axils of the upper leaves drop and get covered with the annual top-dressing, producing small plants the following summer. The strongly-revolute segments are closely spotted all over with black. The double-flowered variety is admired by some, but it lacks the gracefulness of the single ones, such as L. tigrinum itself, L. t. splendens, and L. t. Fortunei.

Carnation, Paul Engleheart.

I send you a bunch of the bedding Clove Carnation, Paul Engleheart, which I have been distributing for the past two seasons. It is what it professes to be—a first-rate border plant, especially valuable for massing, and, as you will see, the stems are so sturdy that they are able to support the fine head of flowers without stakes. Those sent are cut from last season's layers, the plants being less than a year old, but the second season we reckon to be the best for this particular variety, when the clumps are grand, with some 200 flowers often at once on each. Autumn planting seems to be absolutely necessary to its well-being, as layers kept in pots during the winter are not to be compared with those planted out in October, a fact which should be noted in its cultivation.—*Gilbert Davidson, Ammanford, R.S.O.* [Paul Engleheart is a more robust grower, and deeper in colour than the old crimson Clove, a wonderfully free bloomer, and deliciously scented. A grand border flower.—Ed.]

Alocasia, President Comte Oswald de Kerchove.

Whoever named this Aroid might have been a little more moderate in the length of its name, for the sake of gardeners, who are likely either to reduce it in size, or make a terrible mess in the spelling. The plant is new, and a very bold-leaved subject, recalling that of A. Thibautiana, and has similar shield-shaped, somewhat peltate leaves of telling dimensions. The petioles are about 2 ft. or 3 ft. in length, and closely marbled with brown on a paler ground. The lamina is pendent or nearly so, and of a dark metallic lustre, traversed with a midrib and some strong lateral veins of a soft pale green colour. On either side of these is a silvery grey band, while the whole of the rest of the surface is reticulated with slender silvery veins. It is a strong-growing plant, and if allowed to attain a large size, must indeed be handsome. Specimens may be seen at Upper Holloway, in the nursery of Mr. B. S. Williams.

Carnation, Souvenir de Hans Mackhart.

This is one of the very best white-flowering border Carnations we have. Among florists' flowers it would not pass muster at all, but a large bed at Swanley shows it to be a good grower and free bloomer, and the large blooms so freely produced are pure white. A capital variety for cutting.

Blue Globe Thistle.

Several species of the genus Echinops are equally entitled to the above designation as E. Ritro, but the latter is one of the best for general cultivation in the

herbaceous border and elsewhere, provided it gets moderately deep and fertile soil, and is properly exposed to light. Neither should it be under the influence of the shade, drip, or the roots of trees. All these conditions are adverse to its general well-being by robbing it of air, light, and moisture. Under favourable conditions it makes a good example of its kind at 3 ft. in height. Other species of less beauty often greatly exceed these dimensions, and reach a height of 4 ft. to 6 ft. The variety E. R. ruthenicus is distinguished by its pinnatifid and lobed leaves having the segments terminated by spines or prickles. It also grows to 3 ft. or 4 ft. in height. Both have globular heads of deep blue flowers that are both conspicuous and highly ornamental. Being quite hardy it is matter for surprise that they do not enjoy a more extended cultivation, for the decoration of garden borders. They are certainly bold and distinct compared with many weedy subjects that find a place in every collection. The type is a native of southern Europe, while the variety comes from eastern Europe (or Russia chiefly, as the name implies) and Western Asia.

Pandanus odoratissimus.

The specific name of this plant is derived from the strong and pleasing odour given off by the inflorescence of the male plant, which is long, pendulous, branched, and bears innumerable small white flowers, with a large white spathe or bract sheathing the base of each branch. There is a magnificent painting of this inflorescence in the North Gallery at Kew. A scent is made from the inflorescence of this plant by the Javanese, who greatly esteem it. When it flowers in this country, it fills a large house with its odour, which, although powerful, is by no means disagreeable at a short distance away. The large specimen near the north-end door of the Palm-house at Kew is the seed-bearing form, and at present carries some of its peculiar, cone-like, pendent clusters of fruit. Old specimens like that under notice bear leaves in bold tufts at the ends of the stout slow-growing stems and branches, and although exceedingly picturesque in this condition, are only suitable for large houses. Small or young plants are, however, more graceful in pots and useful for decorative purposes. The greatest fault of this plant, like many others, is that the leaves are spiny and require careful handling.

Aralia pentaphylla variegata.

Well-grown plants of this, even although small, have a very enlivening effect amongst either stove or greenhouse plants, where there is a preponderance of foliage, or in other words, a scarcity of flowers. The young leaves have a broad, irregular margin of creamy yellow, changing to a silvery white with age. Frequently, however, almost the entire leaf is of this colour, and when this is the case the plant is indeed pretty. The leaves, as the name implies, are divided into five leaflets, and in small plants they are comparatively moderate in dimensions. When allowed to grow strong, the stems become more or less spiny, and the plant is in consequence sometimes named Panax spinosa. It may also occasionally be seen in gardens under the name of Acanthopanax quinquefolia. The species is a native of Japan, and the variegated form was introduced from thence in 1874. The green or typical form is sometimes grown in botanic gardens.

Hæmanthus magnificus.

Under ordinary circumstances the leaves and flowers of this species are produced at different times, the leafy stem developing after the blooms have faded. We noticed, however, an erratic and apparently unreasonable specimen at Upper Holloway the other day, and which had an old and a young set of leaves contemporaneously with a flower-scape bearing a large umbel of well-developed flowers. The whole plant was moderate in size, bearing the two tufts of leaves side by side, while the flower-scape was outside of all, but nearest the younger set of leaves. The scape was also about 6 ins. in length, and shorter than the leaves. The perianth was of a beautiful carmine-scarlet, with paler tips, flesh-coloured filaments and yellow anthers. This species is often grown in gardens under the name of Rouperi, erroneously spelt Roperi, and belongs to the sub-genus Gyaxis, of which the well-known Hæmanthus natalensis may be regarded as a type. The characters that distinguish the group are the membraneous leaves, permanently erect spathe valves and perianth segments. The individual flowers do not present the starry appearance as seen in the spreading flowers of H. Katherinæ.

Osmunda regalis corymbifera.

While O. r. cristata may be regarded as a crested form of the type, that under notice seems to be a crested variety of O. r. palustris, on account of its slender and reddish petioles and mid-ribs. It is certainly a gracefully tasselled Fern, highly suitable for cultivation in temperate ferneries, cool conservatories, and similar places. The apex of the pinnæ is crested, while the apex of the frond is more deeply cut, so as to produce a tassel or corymb of branches. Like O. r. cristata, it is very dwarf in habit, not usually much exceeding 15 ins., and is frequently less. There is little difficulty, therefore, in the matter of accommodation, even where house-room is rather limited. The fronds, too, are spreading or drooping in habit, not erect. In gardens it is generally grown under the name of O. japonica corymbifera.

ORCHID NOTES AND GLEANINGS.

Galeandra Baueri.

The pseudo-bulbs of this species are very dwarf (about 6 ins.) compared with those of the better-known G. Devoniana, which generally grows to a height of 2 ft. The latter usually flowers in winter, but it may do so at various times, according to treatment, and it seems that this species behaves much in the same way. The dwarf stems, and the fact that leaves are produced with the flowers or retained by the plant contemporaneously with them, are points in favour of the species. The flowers are also in themselves pretty, though smaller than those of G. Devoniana, and produced in short pendulous racemes. The sepals and petals are yellow, but the lip varies considerably in colour. Its throat and tube are yellow, but the better or more typical forms have the lamina of a deep purple with a white margin. Other individuals have a much paler lamina, and as the purple disappears, the yellow ground colour generally prevails, until we come to an extreme form, named G. B. lutea, which is yellow with a few parallel purple lines on the lamina of the labellum. The dark form above mentioned we noticed the other day in the nurseries of Mr. B. S. Williams, Upper Holloway, together with several paler-flowered forms.

Cypripedium Morganiæ.

This is a hybrid between C. superbiens and C. Stonei, and may well be compared to C. Stonei platytænium, in reference to the size of the whole flower and the breadth of the handsomely-spotted petals. The ground colour of the latter is pale yellow, which shows up the numerous dark-coloured markings well. The purple spots are most numerous towards the tips of the petals, which hang down much in the same manner as those of C. superbiens, and in large blooms attain a length of 5 ins. or 6 ins. The upper sepal is less conspicuous, being white more or less suffused with rose, and having from seven to nine purple veins traversing it longitudinally. The lip is of great size and pale purple, reticulated with darker veins. The whole plant is more vigorous than either parent, with broadly strap-shaped leaves of a bright green, more or less distinctly tessellated, as in the case of the seed parent, C. superbiens. It is by no means widely disseminated as yet, but Mr. B. S. Williams has a flowering plant at Upper Holloway.

Phalænopsis Sanderiana.

So far as colouring goes, a great variety of shade prevails in the different individuals that pass muster for P. Sanderiana, some being nearly white. The labellum in the typical plant is white, but a specimen we noted the other day at Upper Holloway had the sepals, petals, and the greater part of the lip of a deep or warm rose. Whether this is a distinct variety, or merely the result of particular treatment, it is certainly very fine. At the base of the triangular middle lobe of the lip are some yellow streaks, and some at the base of the side lobes, as seen in P. aphrodite, the crest being closely spotted with yellow.

Vanda Denisoniana hebraica.

The markings on the flowers of this variety are singularly curious after one has been accustomed to the white blooms of V. Denisoniana itself. The general ground colour is yellow, and the sepals and petals are darker on the inner face—indeed, almost of a dusky yellow, owing to the curious reticulations or wavy markings of a tawny brown with which they are thickly beset. A tall plant, about 3 ft. or 4 ft. in height, bearing three spikes of these singular flowers, may be seen in Mr. B. S. Williams' nursery, at Upper Holloway.

Houlletia chrysantha.

In colour this is somewhat variable, the sepals and petals in the typical form being bright yellow, more or less blotched with chocolate-brown. A flowering specimen in the Victoria and Paradise Nurseries has the sepals and petals uniformly of a deep yellow. The lip is a most remarkable structure, the middle lobe being hastate and white; the lateral lobes are erect, then curved forward, and yellow. From below these segments a creamy white horn from the median line of the lip projects backwards till it rests against the column. Owing to the presence of this curious organ, and the curved and pointed lateral lobes of the lip, the genus may readily be distinguished from all other of its near allies. The raceme stands erect from the base of the comparatively small conical pseudo-bulbs, and is shorter than the solitary, lanceolate, plicate, and much veined leaf springing from the top. The nearest allies are Stanhopea, Peristeria, Acineta, and a few more.

Lælia elegans prasiata.

The contrast of colour between the terminal lobe of the lip and the other organs of the flower is very characteristic and pretty. The sepals and petals, though not exactly coloured alike, are nearly so, and of a pale magenta-rose or sometimes almost blush. The tube of the lip and its lateral lobes externally are white, but may assume a darker shade of colour when at their best or before they fade. The whole of the terminal lobe, however, and the interior of the side lobes are of the richest magenta-crimson, with darker veins and a somewhat paler margin. The colour, however, is exceedingly difficult to describe, and more especially when the light falls upon the flower in particular directions. It was named by Reichenbach in 1863; and a flowering specimen may be seen in Mr. B. S. Williams' nursery at Upper Holloway.

Miltonia spectabilis.

Although described as an autumn-flowering species it often blooms in summer or early autumn, say from the latter part of July till September. The peculiar pale yellow hue of the pseudo-bulbs, and the pale foliage, are somewhat against its appearance, especially if associated with darker-leaved Orchids, but it is quite healthy notwithstanding this peculiarity. Several other allied species are characterised by the same pallid hue, to which M. vexillaria, M. Phalænopsis, and M. Roezlii are exceptions. The scape produces one flower only, generally of large size, measuring from 3 ins. to 4 ins. in diameter. The sepals and petals are white, thus contrasting with the large lip, which is purple at the base, with a three-ridged yellow crest, and nearly white upward, traversed with pale purple veins. It is well adapted for culture in baskets, and has a fine appearance when a number of flowers are expanded at the same time.

Cattleya Schilleriana.

In habit this may be compared with C. Aclandiæ, and it is equally if not even more pretty on account of the beautifully variegated lip. The spreading sepals and petals are of a dark bronzy brown, spotted purple, similar in that respect as well as in size and form to those of C. guttata or some of its numerous varieties. There is, however, no other resemblance, and the short pseudo-bulbs at once places it in another group. The leaves are very broad, leathery and dark green. The tube of the lip is suffused with purple on a pale almost white ground; the lamina on the contrary is the brightest and most conspicuous feature of the flower, being beautifully lined and reticulated with rich purple on a white ground. We noted it in flower recently in the nursery of Mr. B. S. Williams at Upper Holloway.

Oncidium macranthum.

The usual period for this plant to flower is spring and early summer, but a correspondent has sent us good specimens of a rich and more clearly-defined yellow colour than is frequently the case with this species. In the more typical varieties the sepals are stained with purplish brown or purplish red, while the petals are often streaked with crimson. The specimens sent had the upper sepal of a dark shade, inclined to orange or fulvous yellow; the lateral ones were slightly tinted with green, owing to the midrib externally being of that hue. The petals were of a deep but clear yellow, and both sepals and petals were undulated at the margin. The triangular or hastate lip is a curious organ, and is small compared with the other parts of the flower. For this reason O. macranthum belongs to the section Microchila of the genus. The lateral lobes and the edges of the lip were stained with deep brownish purple, and the huge fleshy and prominent seven-toothed crest was creamy white, tipped with

yellow; the claws of the petals and lip were white, and the column bright yellow in the lower part, with pale lilac wings. Those interested in structure will also observe the curious lateral auricles near the base of the claws of the sepals, while those of the upper sepals are large enough to clasp round the sides of the column.

The Gardeners' Calendar.

THE STOVE.

Gardenias.—Better results are obtained when Gardenias are grown by themselves, where special treatment can be given them, than if mixed up with other stove plants or winter-flowering stuff. They are so liable to insect pests—particularly mealy-bug—that they must receive frequent heavy syringings to keep them clean. During the present and next few weeks the best place for them is a pit, where the pots should be plunged. The lights may be taken off at nights, and this will greatly assist in the thorough ripening of the wood, and enable them to flower freely in due time.

Ferns.—Those Ferns that throw up one set of leaves only in a season should now be sufficiently far advanced to receive more light and ventilation, in order to harden them against the winter. A close moist atmosphere encourages the production of large fronds, but the textnre of the latter does not correspond with the extent in area, being thin, soft, and unable to endure a dry atmosphere for any length of time. Such rapidly-grown and flabby leaves soon lose their delicate green tints, and become more or less browned and disfigured long before the winter is over. This is more particularly apparent in the species of Adiantum, perhaps, than in any other.

THE GREENHOUSE.

Azaleas, Heaths, &c.—In the case of plants that have made their growth under glass up till now, they had better be placed out of doors during the rest of this month at least in order to thoroughly ripen their wood and enable them to flower more freely than they otherwise would. This applies more especially to those that are intended for forcing early, as in the case of Azaleas. Epacris and hard-wooded subjects will also be all the better for a browning in the late summer sun. New Holland plants generally must be included in the same category. Care must be exercised, however, during the prevalence of bright weather not to expose the plants to the full force of the sun for a few days until the foliage gets sufficiently hardened to escape being scorched or otherwise crippled. After this, however, they will easily endure the brightest days of our northern latitude.

Pelargoniums.—Both the show and fancy kinds may now be cut back and placed in a closed frame to induce them to start afresh. Little water will be required in the initial stages, but an increasing quantity may be allowed as growth proceeds. As soon as the buds have well started, turn the plants out of their pots and reduce the root system so that they may be conveniently accommodated in a size or two smaller. This allows of a shift later on into the same sized pots as those from which they are taken, or into a size larger if necessary. This system of potting them twice gives more satisfactory results in the end, than if the plants are put into their flowering pots at once. The soil should consist of good fibrous loam, with enough silver-sand to render the soil sufficiently porous. No watering will be required for a week, provided the soil is in the requisite condition at potting time. This will enable the roots to take to the fresh soil before it becomes sour. The advantage of potting this class of plants very firmly must not be overlooked, because where so done the stems will be stnrdy, firm, and short-jointed.

Zonal Pelargoniums.—Plants intended for winter flowering should be placed out of doors from now till there is actual danger from frost. The better filled the pots are with roots the finer will be the display of bloom. By being fully exposed to the sun and air the stems will become sturdy, short-jointed, and firm, all of which are necessary to enable the plants to flower freely during the dull and sunless weather of winter.

THE FRUIT HOUSES.

Cucumbers.—For winter culture make a sowing of Telegraph now and another one towards the end of the month. Notwithstanding the numerous reputed new varieties that have been raised from time to time, none of them are better than—if, indeed, any of them equals—the Telegraph for the purpose. Sow the seeds in 60-sized pots, and plunge the latter in the bed of a forcing pit or other house at work. The best soil is a rather light loam. As the seedlings fill the pots with roots give a shift into larger ones until the beds are ready for planting them out, unless they are to be fruited in pots or baskets, when, of course, all that is necessary is simply to shift them on. Good cultivators find the best compost to consist of three parts rather light loam and one of peat, with a dash of silver-sand for pot culture. Solid manure need not be given, as the plants will be healthier, and can always be stimulated with liquid manure when necessary.

THE KITCHEN GARDEN.

Gooseberries and Currants on Walls.—The crops on bushes on the open ground are pretty well all used up, and dependence must soon be placed upon a supply from north-aspect walls. This, of course, applies more especially to the southern and warmer parts of the country. As this becomes the case birds will soon become active on wall trees, which should therefore be securely netted, to preserve the crops as long as possible. Before doing so clear away all decaying leaves, fruits and cobwebs that would be likely to injure the sound ones.

Strawberries.—Fresh plantations should now be made, or at the earliest date possible, so that the plants may get thoroughly established before winter, and be able to produce a crop next summer. Manure the ground heavily and trench 2 ft. deep, keeping the mannre within a reasonable distance of the surface. Before planting tread the ground rather firmly, unless it is naturally very heavy.

HORTICULTURAL SOCIETIES.

Liverpool Horticultural Association.—

August 3rd and 5th.

The tenth annual exhibition of this society was held in the grounds of the City Police Athletic Society, Fairfield, instead of, as in previous years, Sefton Park. For some reason or other the public did not patronise the shows held in the Park as they deserved, hence the removal to the grounds mentioned, which are easy of access from the city and surrounding districts. It is a pity they were compelled to abandon the Park, as the surroundings there were lovely—quite the opposite, in fact, to the new place. However, the society, with its energetic secretary, assisted by a hard-working committee, thought that, by holding the show nearer to the town, they would gain the support of the public, and we trust their efforts will meet with the success they so richly deserve. The show was splendidly arranged in one of the finest tents we have ever seen, and was one of the best the society has had. The various classes were well filled, and the quality of the exhibits of great merit. Good, clean, well-flowered specimen stove and greenhouse plants were shown in great numbers; Ferns were well represented; zonal and Ivy-leaf Pelargoniums, Fuchsias, Begonias and Cockscombs were also well done. Orchids were very poorly represented; considering the fine collections grown in the neighbourhood, one expected more. Of groups, we have seen much better, and it is to be regretted that the exhibitors do not get out of the bad habit of overcrowding, which spoils their work. They have an excellent example set them by Messrs. Kerr & Son, who put up a grand collection, elegantly arranged. W. H. Watts, Esq., had the best in the amateurs' division.

For twelve stove and greenhouse plants, Mr. James Cypher, Cheltenham, was first with a very fine lot, consisting of Cycas circinalis, Kentia Forsteriana, Dasylirion acrotrichum, Latania borbonica, Crotons Queen Victoria and Sunset, Bougainvillea glabra (grandly flowered), Erica Irbyana, E. ovata purpurea, Ixora Williamsii, I. Regina, and Clerodendron Balfourianum. Mr. Finch, gardener to W. Marriott, Esq., Coventry, who was second, had of flowering plants, Ixora Duffii (with very fine trusses of bloom), Allamanda Hendersoni, Lapageria rosea, Statice profusa, Dipladenia amabilis, and Erica Shannoni. Mr. Roberts, gardener to A. Nicholson, Esq., came in third, his finest example being a magnificently-flowered specimen of Ixora Williamsii. Mr. B. Cromwell, gardener to Thomas G. Timmis, Esq., had the best six and four stove and greenhouse plants; Mr. A. R. Cox and Mr. J. R. Jellicoe being second and third in the former class.

The cut flowers were excellent, the Roses being fresh and bright, and the herbaceous collections much better represented than we have seen for some time—an imposing and interesting feature. The bouquets were but fair, but the epergnes were good, so also were the cut stove and greenhouse plants. The display of fruit was very meritorious, the Grapes being especially good, the bunches large and well coloured. The prizes offered for collections brought out spirited competitions in both classes. For eight dishes, Mr. Edmunds, gardener to the Duke of St. Albans, Bestwood, was first, with good Muscat and Madresfield Court Grapes, Pine, Grosse Mignonne Peaches, Elruge Nectarines, Brown Turkey Figs, a Melon, and a good dish of Plums. Mr. Goodacre, Elvaston, was second with good Black Hamburgh and Buckland Sweetwater Grapes, a good Pine and Melon, Strawberries, Peaches, Nectarines, and Figs. Mr. Dawes, gardener to the Hon. Mrs. Ingram, came in third. For six dishes, Mr. J. Elsworthy, gardener to A. R. Gladstone, Esq., came in first, and Sir Thomas Erle, Bart., second.

We question if a finer lot of vegetables has been seen anywhere this season than was staged here. They were superb all round, the entries numerous in all classes, and the competitions very keen. Mr. Lambert, gardener to Colonel Wingfield, Onslow, Shrewsbury, secured the leading award for a collection of twelve varieties, beating Mr. Forder, gardener to Colonel Cornwallis West, M.P., Sir Thomas Erle, and Mr. Shephard, gardener to W. Eckersley, Esq. With eight varieties Sir Thomas Erle secured the premier prize; and Mr. Forder secured Messrs. Sutton & Sons first prize for a collection. The single dish classes were all excellent.

The miscellaneous class included a good collection of stove and greenhouse plants from Dicksons, Limited, Chester; a group of pot Vines and Croton Aigburth Gem, one of the best Crotons ever introduced, a fine table plant, from Messrs. Ker & Son; a capital group of Tea Roses, Vines, and miscellaneous stove and greenhouse plants from the Liverpool Horticultural Co.; cut flowers of Pinks, Hollyhocks, and a new Carnation, R. H. Elliott, from Messrs. Laing & Mather, Kelso; Pinks, Picotees, and Hollyhocks from Mr. T. Tynan, &c.

Hounslow Horticultural.—*July 31st.*

In very delightful weather the fourth of this local society's shows was held in Whitton Park, the residence of Colonel Gostling Mnrray, on the above date. The park is admirably situate near Hounslow, and is not far from the famous Kneller Hall School of Music for the army. The show evidenced a remarkable increase upon preceding ones, especially in the matter of plant groups, for here, as elsewhere, not many of the old style of plant specimen are to be found. One of the striking features was the charming collection of hardy ornamental shrubs and trees, which Messrs. C. Lee & Sons, whose Isleworth Nurseries are not far off, kindly furnish to the local exhibitions. This group indicates in a most effective way the great wealth of variety and beauty found in hardy shrubs and trees.

Amongst the other honorary exhibitors, Mr. Micklewright, gardener to the chairman of the committee (Andrew Pears, Esq., of Spring Grove), put np two collections, one representing short tree Fern stems clothed with parasitic plants, the other a beautiful group of flowering and foliage subjects, amongst the latter of which were some finely-coloured Acalyphas. Mr. J. Chambers, of Hounslow, had a nice group of plants, amongst which Snowflake Viola showed up effectively. The only competitors in the trade group class were Messrs. Fromow & Sons, of Turnham Green, whose collection was a very beautiful one, arranged with their usual pleasing taste, and presenting to local gardeners an admirable copy for them at future shows.

In the gardeners' classes, Mr. Ford, gardener to W. H. Ellis, Esq., Clovelly, Hounslow, had the prettiest arrangement, Mr. Smith, gardener to J. Cobb, Esq., coming second. The others were poor, lacking colour and effective arrangement. Messrs. Hawkins & Bennett, of Twickenham, made a very good effect by setting up a big batch of their grand new double zonal Pelargonium, Duke of Fife, intense rich crimson-scarlet, a seedling from F. V. Raspail, in the midst of some Maidenhair Ferns. This fine variety received a Certificate of Merit. There were numerous small classes for plants all well filled. Some fine bush Fuchsias in tubs, grown right in London and sent down, attracted considerable attention.

Mr. Thompson, gardener to Messrs. W. & E. Wells, of Hounslow, was the chief exhibitor in the trade classes for fruits, having in the collection fine Black

Hamburgh and Muscat Grapos, Peaches, Cherries, Rivers' Early Prolific Plums, &c.; he also was first with three bunches of black Grapes, having fine Madresfield Court, and also with whites, having excellent Muscats. Mr. Thompson was also first with Tomatos, and showed Tomato plants in pots for fruiting, and Vines in pots. In the gardeners' division, Mr. Ford was first with a collection of six dishes of fruit, having very fine Black Hamburgh and Foster's Seedling white Grapes, good Melons, Peaches, &c. Mr. Grimmett, gardener to A. Richards, Esq., who was second, had very fine Peaches. Mr. Ford was an easy first in the class for Black Grapes, with some superb Madresfield Court; Mr. Grimmett being second with Black Hamburgh. Mr. J. Hill, gardener to J. B. Burgoyne, Esq., Isleworth, had the best whites, in excellent Muscats; Mr. Ford coming second with Buckland Sweetwater. A good deal of other fruit was staged. Vegetables in all the classes were plentiful and good, the cottagers showing up largely. Ladies' decorations were of the usual order—some being very good, especially those of Miss E. Clarke, who may well figure as a professional, showing admirably. Messrs. James Veitch & Sons sent eight boxes of Roses, chiefly in bunches, amongst which the richest of all yellow Roses, Mad. Eugène Verdier, was especially prominent. Mr. R. Dean sent from Bedfont a quantity of pretty cut flowers in bunches, especially good being seedling border Carnations. The show was a great success, the attendance large, and the weather singularly enjoyable.

Amateurs' Flower Show at Preston.

The fifth annual display of plants, flowers, fruits and vegetables, promoted by the Preston and District Cottagers' and Amateurs' Floral Society, was held on Saturday and Monday last in the New Public Hall. Before entering into any particulars of the display, and without going fully into the history of the society, it may be briefly stated that it has done good work during its existence, which speaks volumes for the energy and perseverance exercised by the officers and members, who consist exclusively of working men. Each one has put his shoulder to the wheel so earnestly, that from an exceptionally small beginning, the institution promises ere long to outrival older and more ostentatious ones.

With regard to the show opened on Saturday, it was, especially from a floral point of view, a great success. The exhibits were displayed to the best advantage, the plants being neatly arranged on the floor around the hall, whilst the fruit, cut flowers, and vegetables were stood on long tables in the centre. The classes confined to residents in Preston were well represented, and the plants, without exception, presented a strong and healthy appearance. The Ferns, as well as two splendid pans of Musk full of bloom, belonging to Mr. Wm. Morris, were greatly admired, and high encomiums were passed on the Fuchsias, Pelargoniums and Petunias shown by Mr. John Jenkinson. Mr. Rostron deserves commendation for his admirable Liliums. The groups of plants for effect, to occupy not more than 20 sq. ft., were highly praiseworthy. Mr. Warden's collection secured the first place; it was tastefully and effectively arranged, and consisted principally of Maidenhair Ferns, Coleus, Fuchsias, Petunias, Pelargoniums, and Begonias. Those which secured the second prize, staged by Mr. John Jenkinson, were far smaller plants, and the arrangement was somewhat loose. The third premium went to Mr. Rostron, whose display would have been considerably improved on a better background. There were a number of first-class window plants staged. The collection of cut flowers included some fine Roses. In several instances Fuchsia cuttings were exhibited in boxes, which certainly proved a mistake, those occupying glasses presenting a far neater and a more effective appearance.

In the divisions open to the district within a radius of several miles of Preston the competition in several classes was strong. The best specimen plant was a Stephanotis staged by Mr. J. Grimshaw, which, although small, was exceedingly well bloomed. The groups in this section were very creditable; Mr. J. Jenkinson's 40-ft. space looked well. The plants were good ones, and many of them were heavily laden with bloom. The fruit departments were well represented, the plates of Gooseberries, Currants and Raspberries being very near perfection. The vegetables in many instances were of first-rate quality and size.

In addition to the plants for competition, effectiveness was added to the exhibition by groups of plants sent by Mr. Wm. Troughton, nurseryman, Church Street; Mr. Chas. Parker, Oxford Street; Mr. T. H. Kellett, Ashton; and Mr. Wm. Morris.

Acton Horticultural.—*July 31st.*

The twenty-second annual exhibition of this society was held under very favourable auspices, both as regards weather, exhibits, and attendance. The event took place in the grounds adjoining Derwentwater House, the residence of A. Hubbard, Esq., and the occasion was all that could be desired. The weather was charming in the extreme—the day being one of those gorgeously bright ones which only now and again condescend to visit and cheer us with their hopeful prospects of a pleasurable time and a full exchequer; and if anything could contribute to the success of a local flower show, this grand elemental acquisition ought to go a long way to do it. The exhibits were staged in two large marquees, the principal one being devoted to groups, specimen plants, table decorations, &c., and the other to cottagers' and amateurs' productions. The society was established to encourage amateur and cottage gardening, and as regards the latter, it has well succeeded, the result being in every way most satisfactory. The remarkably fine specimens of Potatos, Peas, Beans, Onions, Marrows, &c., testify to the good done and to the friendly spirit of rivalry which here prevails. The quality of the goods staged called forth many and commendable remarks. The amateurs on the other hand are slow to take advantage of the society's offers, hence, as a consequence, the honours must be divided between the gardeners and cottagers. An exception, however, must be made in favour of Mr. C. M. Roberts, who exhibited an excellent collection of vegetables both in the amateur and open classes. This gentleman also exhibited a fine collection of bush fruit. Mr. C. B. Green was the only other amateur exhibitor in quantity, and he confined himself to the plant and cut-flower classes.

The classes for groups, which really constitute the *tout ensemble* of an exhibition, were well filled, and the result was an interesting display of floral and ferny forms. These were artistically arranged on the ground in semi-circular fashion, and produced a pleasing and pretty effect. The principal group in the gentlemen's gardeners' class brought out an exceedingly bright and effective lot of plants, and here the coveted place was attained by Mr. T. Butcher, gardener to T. Toynbee, Esq., with a nice assortment of Begonias, Carnations, Dracænas, Palms, Ferns, &c., the Carnations enhancing considerably the general display; with a groundwork of Maidenhair Ferns and an edging of Panicum variegatum, interspersed with that exquisite little member of the Primula family, viz., Primula obconica, the group was considered to be complete and called forth high encomiums. Mr. W. Polley, gardener to A. Hubbard, Esq., was accorded second place with a good group, consisting of Begonias, Caladiums, Gloxinias, Coleus, &c., neatly bordered with Adiantums and Blechnum spicant, disposed alternately. The third prize went to Mr. S. Beech, gardener to T. Cowper Essex, Esq., for a nice lot of plants, including Fuchsias, Cockscombs, &c., and a superb plant of Rochea falcata. Mr. J. A. Morris, florist, as usual, contributed largely to swell the quality of the various things on view. His group was mainly composed of Palms, Ferns, Liliums in variety, and a beautifully-flowered Plumbago capensis; he also came well to the front with table decorations, bouquets, wreaths and epergnes, all of which exhibited great taste in their arrangement, and therefore appealed very strongly to the floral and artistic discernment of the ladies. Specimen plants of Coleus, Ferns, Fuchsias, Begonias, &c., were well represented, as were also dishes of bush fruits, Grapes, Melons, Cucumbers and the like.

In the class for Cockscombs there was an excellent competition, the first place being taken by Mr. F. Butcher; the second and third awards went to Mr. C. Burrows and Mr. W. Polley respectively. Gloxinias formed a pleasing feature, the first and second places being very warmly contested, but were ultimately divided between Mr. W. Polley and Mr. G. Eaton. Messrs. C. Lee & Son, of the Ealing Nurseries, exhibited four boxes of Roses, not for competition, which extracted many notes of praise, and were generally, as they well deserved, much admired. Mr. Chadwick, gardener to E. M. Nelson, Esq., furnished the show with some fine cut flowers and a collection of Gooseberries, of which he has a large assortment. Mr. J. D. Cooper treated the more advanced section of the community to a *recherché* collection of greenhouse plants, amongst them being a fine form of the golden-rayed Lily of Japan, Lilium auratum vittata, a couple of well-grown New Zealand Ferns, Todea superba, and a dish of the curious but remarkably sweet-scented blooms of Tacsonia alata.

Park Street, St. Albans, Horticultural and Cottager's Show.

The twelfth annual exhibition of this society was held at Waterside on Wednesday, the 31st ult. A very keen competition resulted amongst the cottagers, whose exhibits must have excited the envy of the many professional gardeners present. Several large groups were contributed by gentlemen in the neighbourhood, the most noteworthy being that from the gardens of Aldenham House, Elstree, arranged by Mr. Beckett. This group was a fine piece of floral decoration, taken well out of the usual style by a bold natural groundwork of small-flowering plants and Ferns, out of which rose some fine masses of foliage, Lilies, and Carnations.

A keen competition took place in the classes for named collections of wild flowers, Mosses, and medicinal plants. The nomenclature in the class for Mosses was rather shady, in the winning collection about fifty per cent. only of the generic being correct.—*J. W. O.*

NOTICE TO CORRESPONDENTS.

Special attention is paid in the columns of The Gardening World to the answering of questions on all subjects connected with practical horticulture, and the naming of Plants (other than Florists' Flowers) and Fruits, in which department the Editor is assisted by gardeners and specialists of great experience.

Secretaries of Horticultural Societies and Nurserymen and Seedsmen will greatly oblige The Editor by sending him their Schedules and Catalogues as soon a published.

QUESTIONS AND ANSWERS.

Ferns.—*J. M.:* Six Adiantums, if distinct, could be shown as six distinct Ferns, but it would not be wise to do so if you could otherwise make up the number by including only two Adiantums.

Gooseberries.—*J. M.:* If the schedule says distinct kinds you can only show one dish of Gooseberries; but if the word varieties is used instead of kinds, you can show red, white, or yellow sorts, but more than one dish might weaken your collection.

Mushrooms.—*J. M.:* Certainly you can show a dish of Mushrooms in a collection of vegetables, but at this season it would not count for much against more seasonable products.

Myosotis dissitiflora.—*Omega:* Yes, to both questions.

Names of Plants.—*Omega:* 1, Lythrum salicaria, dark var.; 2, Dog-Mercury, Mercurialis perennis; 3, Eupatorium cannabinum; Thistle—Carduus lanceolatus; Poplar—Populus balsamifera, var. candicans. *W. Craik:* 1, Sisyrinchium striatum; 2, probably Senecio mikanioides, commonly called German Ivy. Should like to see it in flower.

Oncidium macranthum.—*H. K.:* See p. 791.

Orange Trees Barren.—*W. J. D.:* From what you say respecting your Orange trees we suspect that, although they may now be of considerable size, it is more than probable that they have been raised from seeds, and are yet comparatively young. When so raised Orange trees cannot be expected, or at least they do not, either flower or fruit till they attain a large size, and become small trees at least. This is the experience of many a would-be cultivator of Oranges, and in order to obtain specimens to flower and fruit in a small state you must graft your tree with shoots taken from flowering and fruiting trees. Graft with a pushing bud from April to June; or by cleft-grafting in September; or you may bud the trees by the method known as shield-budding, with a dormant bud from July to September. This may be done on the stem close to the ground, or standard high according to fancy or convenience.

Pea.—*H. L. G.:* Ten feet is an excessive height for Ne Plus Ultra, but that is what we believe your variety to be.

Thrip on Vines.—*C. N.:* While the Grapes are hanging you can only paint the hot-water pipes with a thin mixture of sulphur and milk. If the Grapes are ripe, why not bottle them as soon as you can, and then get rid of the thrip by syringing?

TRADE CATALOGUES RECEIVED.

James Dickson & Sons, 32, Hanover Street, Edinburgh.—Select Dutch Flower Roots.

COVENT GARDEN MARKET.

August 7th.

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d.
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus ....per 100			Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 6		Lettuces ..per dozen	1	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages.... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots ....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	6 0	Radishes ..per dozen	1 6	
			Small salading, punnet	0 4	
Celery....per bundle	2 6		Spinach, per strike ..	2 0	
Cucumbers ....each	0 4	0 10	Tomatos ....per lb.	0 9	1 0
Endive, French, doz.	2 6	3 6	Turnips ....per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, St. Michaels.....each	2 0	7 0
Grapes .....per lb.	1 3	3 0			
Pine-apples, Eng., lb.	1 6	3 0			

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms..	2 0	4 0	Lavender, 12 bunches	4 0	6 0
Asters, French, per bunch	1 0	1 6	Maidenhair Fern, 12bns	4 0	9 0
Bouvardias, per bun.	0 6	1 0	Marguerites, 12 bun.	3 0	6 0
Carnations, 12 blooms	1 0	2 0	Mignonette. 12 bun.	2 0	4 0
Carnations, 12 bnchs.	3 0	6 0	Pansies ..12 bunches	1 0	2 0
Cornflower, 12 bnchs.	1 0	3 0	Pelargoniums, 12 spys.	0 6	1 0
Eschscholtzia, 12bchs.	2 0	4 0	— scarlet ..12 sprays	0 3	0 6
Eucharis ..per dozen	3 0	6 0	Pinks ....12 bunches	2 0	4 0
Forget-me-nots.....	1 6	4 0	Primula, double, bun.	0 6	1 0
Gardenias, 12 blooms.	2 0	5 0	Pyrethrum. 12 buchs.	2 0	6 0
Gladioli ..12 bunches	6 0	12 0	Roses, Tea, per dozen	0 6	1 0
Gladioli brenchleyensis, doz. sprays	0 9	1 6	— Red .....per doz.	0 3	1 0
Heliotropes, 12 sprays	0 3	0 9	— Saffrano ..per doz.	0 6	1 0
Lapageria, 12 blooms	1 0	2 0	Stephanotis, 12 sprays	2 0	4 0
Lilium longiflorum, 12 blooms	2 0	4 0	Stocks, doz. bunches	3 0	6 0
			Sweet Sultan, 12 bun.	3 0	5 0
			— Peas.....12 ,,	3 0	6 0
			Tuberoses, per dozen.	0 6	1 0

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	5 0	12 0	Fuchsia.....per doz.	3 0	9 0
Arum Lilies..per doz.	6 0	12 0	Heliotrope ..per doz.	4 0	8 0
Balsams .....doz.	3 0	6 0	Hydrangeas..per doz.	6 0	15 0
Bedding plants, in var., per doz.	1 0	3 0	Lilium auratum, doz.	12 0	24 0
Begonias, various, doz.	4 0	9 0	— longiflorum per doz.	18 0	30 0
Calceolaria ..per doz.	4 0	8 0	Lobelia .... per doz.	3 0	6 0
Cockscombs ....doz.	4 0	6 0	Marguerites per doz.	6 0	12 0
Cyperus, ..per dozen	4 0	12 0	Mignonette, doz. pots	3 0	6 0
Dracæna term., doz.	30 0	60 0	Musk ..... per doz.	2 0	4 0
— viridis, per dozen	12 0	24 0	Nasturtiums .... doz.	3 0	5 0
Erica, various ..doz.	9 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var. ,,	6 0	24 0	Pelargoniums, scarlet,	2 0	6 0
Ferns, in var., per doz.	4 0	18 0	Pelargoniums, per doz	6 0	18 0
Ficus elastica ..each	1 6	7 0	Rhodanthe ..per doz.	3 0	6 0
Foliage Plants..each	2 0	10 0	Saxifraga, various, doz.	6 0	18 0

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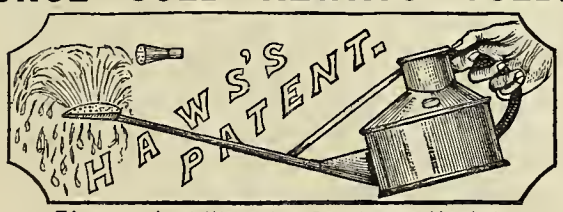

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Next Week's Engagements.

WEDNESDAY, August 21st.—Northampton Horticultural Society's Show (2 days).

THURSDAY, August 22nd. — Royal Horticultural Society of Ireland's Autumn Show. Royal Horticultural Society of Aberdeen; Show in Duthie Park (3 days).

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.

SATURDAY, AUGUST 17, 1889.

CURRENT TOPICS.

THE SEASON'S PROSPECTS.—We have been passing through, so far as the weather is concerned, a rather stormy time. Very heavy rains, cold winds; gigantic banks of clouds have obscured the sun; nights have been cold—indeed, the weather has been of a very broken character, and has naturally created uneasiness, because harvest time is with us. None can wonder that the weather, therefore, forms an interesting subject of conversation, and even of anxiety. The season promises—the weather favouring—to be a wondrously plentiful one. The harvest truly is plenteous, and only needs fine weather to enable it to be properly housed. We shall probably find this year the cheeriest corn returns heard of for many seasons.

In spite of the activity of the Potato disease in the tops, there seems to be hope that in the widest breadths of Potatos there will be a splendid crop; indeed, so heavy an one as to render tubers cheap almost beyond previous experience. Still farther, there is anticipation that apart from any tubers which may be diseased, those which are sound will be of exceptional merit. We have already got up the best hay crop for many years, and there is a wealth of after-growth and late feed for all cattle; indeed, the farmers are having the finest season for many years, leading to the hope that a turn in the tide has come at last, and that agriculture is once more about to enjoy prosperity.

If our tree fruit crops are thin, at least we feel assured that next year will be a very fruitful one, whilst in the gardens and fields all kinds of vegetable products are luxuriantly plentiful. Clearly we may, in spite of some broken weather, expect to find 1889 the most prosperous year of the decade.

APPLES.—One of the curiosities of the present generally very sparse Apple crop is the fact that many varieties not at all ordinary croppers, are carrying very good crops of fruit. It may be said that any tree which will give some considerable produce during bad seasons, possesses material value, a fact which is true enough, and is especially noteworthy in private gardens. The market-grower, however, has rather to regard the average of seasons, and naturally he thinks more of the average bulk than of the occasional but still rare heavy crop. One variety which has a great reputation because of its excellent quality—Wellington, or Dumelow's Seedling—is, we fear, breaking down largely, as of late decent crops have been rare, and we hear great complaints as to its barrenness, especially on old trees.

Ever since this variety suffered so much from frost some ten years ago, good crops on Wellington trees have been rare; but in any large area of trees just now to be put down, it seems probable that Wellingtons would be left out. That fine early Apple, Lord Suffield, is another uncertain variety, as with age it becomes barren, and this is not the only sort that does not bear out in age the promise of youth. We sadly need a thorough revision of our Apple lists in the direction of selecting all kinds which, like the Blenheim, endure for many years, and those which, precociously fruitful, become comparatively barren in old age. It has been suggested that, were all the early or precocious fruiters to be planted thickly in well-cultivated gardens and orchards, to endure say twenty years, about the best of their lives would have been got out of them, and new orchards should be planted. The late robust fruiters should, however, be planted in fields, orchards, or parks, where they may fruit as they will for fully 100 years.

CUCUMBERS.—It is really a moot point whether we now see at exhibitions such capital samples of Cucumbers as were presented for competition many years ago. If we were to judge from the new varieties put into commerce, and the numerous selections or improvements assumedly made, it would appear that perfection in Cucumber-production has been reached. Thus it is all the more disappointing at shows to find so few greatly meritorious samples, and so many that are indifferent. Growers of Cucumbers who exhibit fruits for competition seem to have little conception of what constitutes quality. We still see the same long necks or handles, the same irregular outlines, the same tapering points, even in the best samples, whilst many of the fruits are a week older than they should be, and very uneven in outline. Really good show Cucumbers should have no necks, and should be even in size from shoulder to point. They should also be of moderate girth, very clean and fresh, and of a deep green colour.

These are essentials which it should not be difficult to furnish in days when there is such a choice of varieties, and so many regarded as absolutely perfect have been put into commerce. The samples shown in many places in competition for prizes for so-called improved varieties, are often absurdities, and only serve to discredit the names attached to them.

Sometimes samples wonderfully diverse in character are shown in these classes, thus evidencing that exhibitors in such classes are not too much burthened with exhibition morality, or else that the varieties in question sport literally to anything.

It is not difficult to understand that some kinds, if really true, may be not handsome, and yet prove more fitted for forcing than are other kinds of high show repute. Still, Cucumbers, whether as adapted for forcing or as croppers, do not differ so materially as is ofttimes assumed, and therefore it ought to be easy to exhibit really handsome sample fruits at almost any time of the year.

Tomato Culture under Glass.—Whilst this year there seems to be some hope of securing good Tomatos out-doors, yet somehow the greater the supply, the more does the demand for this excellent fruit increase, and all sorts of devices are adopted to furnish the needful supply especially early. A forcing house now coming into vogue with market-growers, is one about 6 ft. wide, the roof rising direct from the ground, running up on either side to a sharp span or point about 6 ft. 6 ins. in height, giving inside narrow borders about 2 ft. in width, and sunken paths about 20 ins. wide. The plants are tied up to either stout erect wires, or some run along the house. They are also planted somewhat thickly, but kept hard pruned, bloom being encouraged from the main stem. In such houses, of course, only very limited head-room is allowed, and it is very stuffy certainly. The heating is for early houses done by a 3-in. flow and return on either side, or for later houses with one flow and return only. In any case some wonderful crops are got out of houses thus very cheaply erected.

Gardening Engagements.—Mr. Alfred Gaut, late of Copped Hall, Totteridge, Herts, as gardener to J. Watson, Esq., M.P., Berwick House, Shrewsbury.

A Plum Show at Edinburgh.—The Plum crop being generally a good one this season in Scotland, the Council of the Royal Caledonian Horticultural Society have decided to hold a Plum Congress in connection with the exhibition to be held in the Waverley Market on September 11th and 12th. A circular giving further information to growers will be issued immediately.

Begonias at Manchester.—Messrs. Ryder & Son, of Sale, showed the visitors to the Botanical Gardens at Old Trafford, last Saturday, what could be done with the tuberous Begonia, both under glass and in the open air in that smoky district. They showed a fine collection in pots, and also a good batch lifted from the open ground, and all were greatly admired. The society's Gold Medal was most worthily awarded to the exhibitors.

Prize Gooseberries.—Some Gooseberries—very fine and large—were shown at Old Trafford last Saturday, in conjunction with the Carnation and Picotee show. Some of the berries were of enormous size, one of them weighing 24 pennyweights 14 grains. The principal prize-winners were Mr. J. Harvey, of Stone, and Mr. J. Threlfall. A meeting of the members of the Gooseberry Society was held in the gardens in the afternoon.

Zonal Pelargonium, Duke of Fife.—We saw this very fine double scarlet Pelargonium at Messrs. Hawkins & Bennett's place at Twickenham the other day, and again at the Drill Hall on Tuesday. The flowers are large, and really of a brilliant crimson-scarlet. The firm report it as being apparently a seedling from F. V. Raspail, crossed with King of Doubles. The new kind, Duke of Fife, has a good, robust, yet compact habit, blooms freely, and should make a grand market variety. It received an Award of Merit.

White Carnation, Perdita.—This was a seedling of 1887, but bloomed for the first time this year at the Bedfont seed grounds. A plant carrying some forty flower-stalks and a big head of pure white double flowers, with myriads of buds to follow, and plenty of grass to layer, is not an ordinary feature. The flowers, too, are sweetly perfumed, and though not large in size are very full. The stems are of medium height and very stiff. This promises to make one of the very best pure white border Carnations we have seen.

Chrysanthemum, Mrs. Hawkins.—The same firm has a grand lot of plants of this fine early golden yellow, a sport from G. Wermig, but evidently more robust. It was doubly certificated last year, and ought to become one of the finest early yellows for market as also for ordinary culture. We hope to see it in fine form at the "National's" September show, as well as in November from late-struck plants.

Single Dahlia, Scarlet Bedder.—This very beautiful variety we saw recently growing at the Bedfont seed grounds. It is a seedling of last year's, height 30 ins., stands sturdily erect and stiff, without stakes, and blooms profusely, carrying very rich deep scarlet flowers of fine form. It should become a favourite, as its height is such an advantage, and in that respect will become the precursor of a strain of really stout singles of very moderate height and needing no sticks. It would make a grand bedder for a large mass.

Royal Horticultural Society's Journal.—The second part of vol. xi. was issued at the end of last week, and contains the lectures and papers read at the meetings of the society from March 11th to June 12th inclusive. We note that, for some unexplained reason, the price of the journal to non-fellows has been raised from one to five shillings, which is simply prohibitive. How the Council can expect anyone to pay five shillings for what would be dear at one—104 pages, large octavo, is more than we can tell.

The Mother-in-law Plant is a name suggested by Mr. Smith for the Dieffenbachia. It happened in this way: At a horticultural exhibition, at Baltimore, some years ago, a newspaper reporter wishing to get some points about the plants, buttonholed Mr. Smith. Mr. S., in the course of his explanations, came upon the Dieffenbachia, and began telling the reporter the effect of the Dumb Cane (the old name for the Dieffenbachia) upon the tongue of anyone who should be unfortunate enough to taste it. A bright light sprang into the poor scribe's eye, for no doubt he was a victim, and he exclaimed, "Oh, what a splendid plant it would be for a mother-in-law!" Mr. S. at once saw the point, and advised him to call it the Mother-in-law Plant, which the newspaper-man did for all it was worth. And next day thousands of people rushed to the exhibition and gladly paid their quarter for the privilege of beholding the salve for their domestic affliction.—*American Florist.*

The Gardeners' Orphan Fund.—A special meeting of the committee took place at the Caledonian Hotel on the 12th inst., Mr. Geo. Deal presiding. The hon. secretary announced that the sum of £111 8*s.* 6*d.* had been subscribed in response to Mr. H. J. Veitch's challenge at the annual dinner, and a letter was read from Messrs. J. Veitch & Sons, enclosing a cheque for £100. It was announced that in the case of four of the recently elected children the mother was the responsible guardian; in the case of the fifth, the uncle; and the sixth, an orphan child of the name of Allen, will be under the care of Mr. R. Lye, Sydmonton Court Gardens, Newbury. It was unanimously resolved, "That in consequence of the sum of £200 being obtained by reason of Mr. Veitch's challenge, that R. J. Todd and Olive Chapelow be placed at once upon the Fund." Mr. Assbee brought up the names of the forty standholders who had been elected from among that body as life voters under section B of Rule xii., and the same were ordered to be added to the list. The committee will not meet again until the last Friday in October.

Presentation to Mr. J. H. Witty.—At the distribution of the prizes awarded at the recent exhibition of the Brookfield Horticultural Society, held at Highgate—a cottagers society, of which Mr. Witty was the founder, and for some years the secretary—the Rev. C. T. Acland, who presided, presented Mr. Witty with a handsome clock, subscribed for by his late colleagues. The reverend gentleman, in making the presentation, said there was always a degree of melancholy attached to these testimonials, inasmuch as they were generally given at the end of the recipient's career. It was so in the present case. They would no longer have Mr. Witty's presence among them, or get the benefit of his advice and assistance on all the occasions when they would be wanted. The long and devoted labours of Mr. Witty they had all been witnesses to. There was nothing connected with the society that had not occupied his thought and taken up his time and attention. It was, therefore, in no terms of ordinary thanks that he asked him to accept the present as an expression of their gratitude. Whenever he looked at the clock it would remind him of what were pleasant labours at Highgate, and of the many friends he had left behind. He believed the testimonial was the outcome of the affection of those who contributed to it, and many of those who did not know a word about it would endorse what he had said. Mr. Witty suitably acknowledged the gift.

A New Wire Mat.—The Sphincter Grip Armoured Hose Co., 63, Fore Street, E.C., are introducing an improved patent clamp steel wire door mat, which consists of coils of the well-known Sphincter Grip Armour inter-twined and locked together to form the body of the mat. Cross or diagonal wires, which add considerably to the weight, and also obstruct the free passage of dirt, are dispensed with in the new mat, the coils or body of which are firmly secured to the frame of four strong tubular steel pipes, to which the ends of the coils are clamped and adjusted in such a way as to render stretching or contraction impossible. The great advantage of these mats is that after use the dirt drops through on the floor, and may be swept away at any time by raising the mat.

Tom-tits and the Flame Flower.—The Flame Flower (Tropæolum speciosum) has been flowering uncommonly well this year in the nursery of Mr. Charles Noble, at Bagshot, Surrey. It appears that an appreciable quantity of nectar is produced in the long spur of the flower, and that tom-tits and wasps have recently found this out, and visit the plant in large numbers. The former strike their bills into the spur of the flower and cut it open, in order to secure the object of which they are in quest. After being cut open in this manner it is an easy matter for the wasps to follow up their marauding inclinations, and plunder the rich food then at their disposal. There can hardly be much doubt as to the object of wasps, but we should be inclined to think that the tom-tits had by some means or other discovered the presence of thrips or other small insects in the nectary, and had thus been led to cut it open, just as they serve buds containing insects. Thrips and other small creatures are frequently present in large numbers in narrow-tubed flowers, where many larger visitors cannot find an entrance.

Gardeners' Visits to Chester.—On Wednesday morning, July 31st, ninety members of the Birmingham Gardeners Mutual Improvement Association left Birmingham on a visit to Messrs. Dickson at Chester, and Eaton Hall, the noble seat of the Duke of Westminster. The weather was delightfully fine, and the party on arriving at Chester about 10 a.m. were met by a representative of Messrs. Dickson, who had vehicles in readiness to convey the whole party through their very extensive nurseries, and after a two hours continuous ride through the nurseries a halt was made at the central department, where a marquee had been erected, and a sumptuous luncheon provided by the Messrs. Dickson for the whole of the party. Mr. G. Dickson presided, and expressed the pleasure it gave to himself and every member of the firm to entertain such a party of gardeners from the Midlands. After luncheon the members were conveyed through the principal streets of the city, thence to the river Dee, where a steamboat had been provided by Messrs. Dickson to convey the party to Eaton Hall, and here the gardens, and especially the interior of the hall, was viewed with the greatest interest. A run through the very extensive ranges of fruit and plant houses completed the visit. The party then returned to Eccleston Ferry, where tea had been provided by Messrs. Dickson, after partaking of which, and an hour's pleasant ride down the river, the party arrived in Chester about 7 p.m. A very pleasant hour was then spent in visiting the ancient rows, the city walls, and other places of interest, a start being made at 8.35 p.m. for the return journey to Birmingham, where they arrived safely, having spent a most enjoyable day, and one to be remembered for many years to come. This thriving and most useful society now numbers 300 members, and is recognised by the Council of the Midland Institute as one of the educational institutions of the town. On the 7th inst., some fifty-four members of the Bolton and District Gardeners' Mutual Improvement Society also visited the nurseries of Messrs. Dickson and the Gardens at Eaton Hall, and were hospitably entertained by Mr. George Dickson on behalf of his firm.

National Chrysanthemum Society.—On Monday last the annual outing of the members of this society took place, when visits were paid to Hatfield House and Knebworth. The party, numbering about sixty-five, left King's Cross at 10.35 a.m., and were met at Hatfield Station by Mr. Norman, who conducted them

through the noble park and pleasure grounds, and pointed out the principal objects of interest. Leaving Hatfield at 2 p.m., the party soon reached Knebworth, but before entering Lord Lytton's domain, dined together at the Lytton Arms, Mr. Ballantine presiding. Immediately dinner was over, a few toasts were given, including "The National Chrysanthemum Society," with which the name of the late president, Mr. Sanderson, was associated, and who was completely surprised at the same time (so well had the secret been kept) by being presented with a testimonial on vellum, beautifully written, and bordered with drawings of his favourite flowers. The inscription was as follows:—"Presented to Mr. Edward Sanderson by the members of the National Chrysanthemum Society, in recognition of his services as their president for many years, and his unwearied efforts on behalf of the society since its formation. They desire also to place on record their admiration of his skill as a grower and exhibitor of the incurved varieties of the Chrysanthemum, which has placed him in the front rank of successful amateurs. That he may long be spared to aid the society with his advice and experience, and that his future life may be a happy one is the earnest desire of every member. Signed by R. Ballantine, chairman; Edward C. Jukes, vice-chairman; J. R. Starling, treasurer; and W. Holmes, secretary." Mr. Sanderson expressed his thanks for the present in his usual genial manner: and votes of thanks having been duly accorded to Lords Salisbury and Lytton, and also to their gardeners, Mr. Norman and Mr. Kipling, the party proceeded under the charge of the last-named gentleman to view the historical treasures of Knebworth House, and the charming flower garden and pleasure grounds, which deserved more leisurely inspection than the time available allowed. The kindness of Lord and Lady Lytton in allowing the party to go through the ancient mansion, and the free, courteous manner in which Mr. Kipling replied to all inquiries, was highly appreciated by the visitors. After partaking of tea, the party left for London, much pleased with all they had seen.

LETTUCE, NEW YORK.

Allow me, for the benefit of "B. L." and other readers of The Gardening World, to supplement my remarks on the above Lettuce, by stating that the crop from which the specimen sent you was taken had had no special treatment—merely ordinary cultivation. The soil in which the Lettuces grew is a very old garden soil, which has been cropped for, I should say, over 100 years with vegetables and small fruits—a soil rich in humus—some would term it an exhaustive soil. The particular site in question was cropped last year with early Peas and Spinach between the rows, followed by Celery, and for which crops—the latter in particular—the ground was well enriched.

The Celery was all cleared off the ground by the end of February in this year. The ridges were levelled down, and the ground lightly forked over without any manuring. An early crop of Peas (William Hurst) was again sown on it, following in the lines the Celery had taken, and between the Peas two rows of the New York Lettuce planted, the plants being transferred from the seed bed. About the middle of June the Lettuces had their first and last watering—one of clean water and one of weak sewage water—and which constituted all the extra treatment they received.

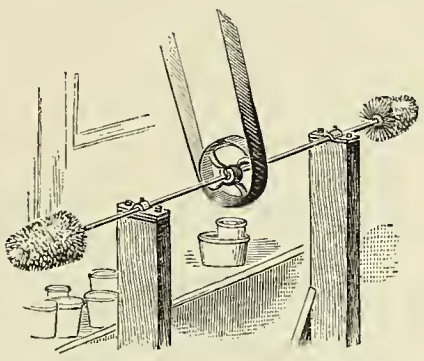
To judge from the specimens we are now cutting, and which are of a later sowing and grown on a more new and stiffer soil (a strong hazel loam), I should say it will do equally well on all soils of a fair tilth. As I stated in my previous notes, its greatest recommendation to the gardener will be its long-staying qualities. I left three plants of the first sowing on the ground purposely for seeding, and two of them after growing to an enormous size have rotted away, and the other is just pushing up from its centre what looks like its seeding shoot. The time is a little over twenty weeks since the seed was first committed to the ground.—*J. Kipling, Knebworth.*

PTERIS TREMULA SMITHIANA.

The fronds of this variety are very much shortened and multifid, somewhat after the manner of Asplenium Filix-fœmina grandiceps. They are irregular in their development, the whole frond in some cases consisting of a large multifid tassel, while in other cases there are a few lateral pinnæ, each terminated by a crest. The whole plant, however, is dwarf, with spreading or somewhat arching fronds about 1 ft. long, and more compact than the older and merely crested variety. It will no doubt be appreciated for decorative purposes and especially for cutting when it comes to be disseminated in gardens. As a variety it is distinct, compact and pretty. A plant was exhibited by Messrs. R. Smith & Co., Worcester, at the meeting of the Royal Horticultural Society on Tuesday last, and was awarded a First Class Certificate.

POT-WASHING MACHINE.

The accompanying illustration shows a simple machine which Messrs. Alburger & Bro., Philadelphia, use to great advantage in cleaning pots. In every greenhouse establishment considerable quantities of pots are used several times, and all know that such should be washed and cleaned before being used over again. Washing and cleaning by hand is the usual method, and a slow one it is, but by the use of this simple affair it can be done with great rapidity. The brushes on the end of the shaft are made of a shape to fit the inside of the pot, and several sizes are used, though one brush does the work for a number of sizes of pots. The shaft of the machine shown is revolved by steam power, but one can easily be arranged to be worked by hand power, and even in this way two boys—one to hold the pots and another to supply the power—can accomplish as much work as four or five working by hand. Certainly such a machine will pay for itself in a very short time where a large quantity of pots are to be cleaned annually, as the expense of construction is comparatively slight. The wheel which supplies the power should, of course, be considerably larger than



A Simple Pot-washing Machine.

the one on the shaft, thus causing the shaft to revolve with sufficient rapidity to be effective and do quick work.—*American Florist.*

MAGNOLIA GRANDIFLORA.

I saw the other day in one of the western suburbs of London a fine old mansion covered completely on the front with a remarkable specimen of Magnolia grandiflora, and a handsome cut-leaved Ivy in combination, the large, oval-oblong, shining green leaves contrasting with the deep green of the Ivy. This grand Magnolia flourishes best when trained to a wall, partly on account of the shelter, and partly because standards are liable to have their branches broken by the snow.

M. grandiflora is a native of Carolina, from whence it was introduced about 1734. This splendid plant received the name of Magnolia from Phemièr, who so named it in honour of Pierre Magnol, Prefect of the Botanic Garden at Montpelier, and author of several works on plants. Sir John Collinson is thought to have reared the first plant of this kind in England at Exmouth, Devonshire, some time prior to 1737. It was unknown to Miller, when he published the first edition of his *Gardeners' and Florists' Dictionary*, but in a later edition he mentions that there were a great many plants in England prior to 1739, but the severe winter of that year destroyed most of the young ones.

The South American Swamp Magnolia, M. glauca, was the first species known in England, and was one of the rare exotic shrubs growing in 1688 in the episcopal gardens at Fulham, where it was sent by Banister to Bishop Compton. It is found in low swampy ground in North America, but not more northerly than Pennsylvania. It is known in America by the name of the White Laurel—Swamp Sassafras, but it is more generally called the Beaver Tree, because the root is the most favourite food of the beaver, and is therefore employed to catch these animals. It is rather more a large bush than a tree; the perfume of the blossoms resembles that of the Lily of the Valley, with a mixture of aromatic odour, and its fragrance is so great that the trees may be discovered at a distance of three-quarters of a mile by the scent of the flowers, particularly towards the close of the day. The blossoms of this species are similar to those of M. grandiflora; they are about 3 ins. broad, of snowy whiteness, and many fragrant and beautiful bouquets are at the proper season exposed for sale in the markets at New York and Philadelphia.

M. grandiflora is one of those shrubs the baneful emanations of which have procured for them a bad name. It is said that the Indians carefully avoid sleeping under a Magnolia in bloom, and it is stated that the perfume of the flower is so powerful that a single blossom placed in a bed-room suffices to cause death in one night. But this may be one of the exaggerations into which writers have been betrayed in reference to plants.—*R. D.*

LYSIMACHIAS.

L. punctata.—Although closely similar in habit and general appearance to L. vulgaris, it is readily distinguishable by its numerous clusters of flowers in the axils of the upper leaves, having each bloom on a short separate pedicle, while the peduncles of L. vulgaris bear a number of flowers each, and the lower ones are much longer than the leaves, whereas in L. punctata they are shorter than the foliage. The stems vary from 15 ins. to 18 ins. in height. It is a long-lived and easily-grown plant, a native of Europe and Western Asia, and was introduced in 1820. The leaves are ovate or ovate lanceolate, in whorls of three or four. Although not native, it is occasionally found wild in Britain. L. verticillata is a synonymous name.

L. ciliata.—The stems of this North American species vary from 1½ ft. to 3 ft. in height, and are erect. Like the two last named, it is pretty common in gardens, and most at home in the herbaceous border, but is perfectly distinct from either. The leaves are opposite, ovate, with strongly ciliate petioles; hence the name Ciliata. The flowers are light yellow, axillary and solitary, or few on the upper part of the stem and short lateral branches. It was introduced in 1732, and is quite hardy.

L. cuspidata.—The stems of this species are erect, 1 ft. to 2 ft. high, simple or much branched, and covered with rusty hairs. The radical leaves are obovate and cuspidate, as the specific name implies, while the upper ones are lanceolate-elliptic, and all are opposite or in whorls of four. The large yellow flowers are produced in terminal umbels, shorter than the leaves. The species does not seem to be in cultivation, but was collected by Fortune in 1845 on the banks of streams at Ningpo and Amoy, in China.

L. lanceolata.—The stems of this variety are erect and more or less branched in different cultivated forms, and vary from 12 ins. to 18 ins. in height; the plant is therefore suitable for cultivation on rockwork. The flowers are solitary and axillary, on long drooping stalks, and are produced in the early part of summer.

L. thyrsiflora.—This species is decidedly aquatic in habit, and likes to wade, as it were, in shallow water. The lower leaves are reduced to scales in accordance with this habit, while the upper leaves are lance-shaped, and 2 ins. to 5 ins. long. The stems vary from 1 ft. to 2 ft. in height, and are simple, stout, and bear dense axillary racemes of small yellow flowers in the axils of the upper leaves. It may be planted in bog-beds with its feet dipping into water, or may be grown in pots and partly submerged in ponds and other sheets of ornamental water, or even tanks in connection with fountains, &c. One of the most remarkable facts in connection with this species is its wide distribution, a common occurrence amongst aquatics, whether they are flowering or flowerless plants. The species is a native of this country, and amongst other places has been picked up at Lakeby Car, in Yorkshire, and the Loch of Rescobie, Scotland. It also occurs in continental Europe, the coast of Mandshuria, Japan, on the banks of streams on the Cascade and Rocky Mountains, and other parts of North America. It is so distinct from other species that it has been placed in another genus by some botanists and named Naumbergia thyrsiflora, and Lysimachia capitata by others.

Flowers White.

L. clethroides.—Of all the white species in cultivation this may be considered the best. The stems vary from 1½ to 3 ft., but usually do not exceed 2 ft., and bear a terminal elongating spike or raceme of pure white sweet-scented flowers. The foliage is ample and good. It is now getting so well known amongst hardy plant lovers that further description is hardly necessary. It is a native of many parts of Japan, such as the Central Mountains, at an elevation of from 2,000 ft. to 7,000 ft, the Corea, Yokohama, the Corean Archi-

pelago, Tsu-sima Island, and also at Kew-Kiang, in China.

L. BARYSTACHYS.—The specific name here means strong-spiked, but the other name frequently employed—namely, L. brachystachys, meaning short-spiked—would be more appropriate. The stems vary from 1 ft. to 3 ft., but are generally medium in height, densely leafy and hairy, with alternate lance-shaped leaves. The flowers are pnre white, and borne in dense terminal spike-like racemes. The species is a native of the Altai Mountains, various parts of China around the Yellow Sea, shady glens near Peking, and Mandshuria.

L. EPHEMERUM.—Leaves opposite, linear-lanceolate, often attenuate, sessile, stem-clasping, and very glaucous beneath. The flowers are white, in long terminal and graceful racemes. Although a native of various parts of southern and central Europe—snch as France, Spain, Germany, &c.—yet it is less frequent in collections than L. barystachys, which sometimes does service for it, and under that name, though erroneously so, as the two are very distinct.

L. CANDIDA.—Iu habit this species would lead to the supposition of its being an annual. The stems vary from 6 ins. to 15 ins. in height, and are simple or branched, slender and smooth, clothed with linear-lanceolate, slender, often attenuate leaves. The roots are slender and fibrous. The white flowers are of medium size, white, and borne in more or less elongated terminal racemes. It is a native of various parts of China, such as Chefoo, and roadsides near Ningpo; but has not been introduced.

FLOWERS COLOURED.

L. LESCHENAULTII.—The stems of this showy species vary from 1 ft. to 2 ft. in height, and are densely clothed with small lance-shaped leaves; they are much branched, robust, and terminate in densely crowded racemes of brilliant carmine flowers, the racemes ultimately lengthening from 3 ins. to 9 ins. iu length. The plant is only half-hardy in this country, but does well in light soils on the rockery. It might be grown with great advantage in a greenhouse or hardy plant structure. L. Clementsoniana is a synonymous name. The species inhabits various parts of eastern and southern India and the Neilgherry Hills at an altitude of 6,000 ft. to 8,000 ft.

L. ATROPURPUREA.—Stems densely leafy, and about 2 ft. in height. The lance-shaped leaves are alternate, and crisped at the margins. The flowers are dark purple, and borne in long drooping racemes at the end of the stems, and numerous axillary, short branches. It was introduced from south Europe in 1820, and has been picked up in various places, such as Mount Parnassus in Greece, Bythinia, in the mud of rivers at Brussa, in fields formerly cultivated but now allowed to lie waste at Smyrna, and other eastern localities.

L. NUTANS.—The flowers of this species are dark purple, and borne in short, dense, terminal, spike-like racemes. The leaves are opposite, lance-shaped, glaucous beneath, and from 1½ ins. to 2½ ins. long. The species is a native of watery places at Grahamstown, in water-courses at Albany and other places at the Cape of Good Hope. It was introduced in 1823, but unfortunately only proves half-hardy in this country. The stems grow to a height of 2 ft., and might easily be accommodated in the hardy plant house. Lubiuia atropnrpurea is a synonym under which it was formerly grown in this country.

There are several Himalayan species that grow at considerable elevations, and some of them might prove hardy in this country. L. Hildebrandi from the Sandwich Islands might be mentioned here on account of its remarkable habit for this genus. The stems are shrubby, and furnished with lance-shaped, leathery, evergreen leaves. The flowers are very large, solitary, and produced in the axils of the leaves towards the top of the stems and branches. It has not been introduced to this country; but it would undoubtedly require the protection of a greenhouse to preserve and flower it.—*J. F.*

SURFACE-CROPPING FRUIT-TREE BORDERS.

THIS qnestion has been the occasion of much difference of opinion amongst practical gardeners, and has often been debated by them *pro* and *con* with very forcible arguments either way. It is not always that gardeners have any choice about the matter, as many, for want of space and heavy requirements, have to crop very closely, and make use of every available piece of ground, in order that they may be able to keep up a plentiful supply of vegetables. Still, this is a plain and practical question to put, although it may be a more difficult one to answer: Does the surface-cropping of fruit-tree borders with vegetables detract from the superiority of the fruit or injure the trees in any way? I say that it is a difficult question to answer, simply because it is a well-known fact that excellent fruit has been grown under both conditions. It is a universally recognised principle in practical gardening that in order to obtain either fruit, flowers, or vegetables of superior excellence, subject to other conditions, we must allow a sufficiency of space both for root action and for foliage, in order that the several organs of plants, whether of roots or leaves, may have every possible encouragement to exert all their powers of action, whether of absorption, transpiration, or assimilation, so that none of the forces may be unnecessarily cramped in action or encroached upon by overcrowding in any way whatever, which conditions are absolutely necessary to their proper development.

It might possibly be said that this system of management, in the case of fruit trees in rich soils, may induce a superabundance of gross wood, but this would be more a question of the composition of the soil, of disbudding or pruning, whether of roots or wood, and not of surface-cropping. It is well to have as full a control as possible of our fruit trees, so that we may be able to regulate the action of the roots, wood, or buds, in order to develop and sustain their fruit-bearing properties; bnt if we act npon the above principle, which means keeping the border for the fruit trees alone, what is to become of our early crops of spring vegetables? We cannot dispense with the sheltered border, which is so useful for early spring crops, that are, iu a way, as important as our wall fruits. The earlier in the season a gardener can supply his vegetables, such as Peas, Potatos, Beaus, &c., the better his employer is pleased, and the growth and supply of early vegetables are mostly quite as much matters of watchful and deep interest as the wall fruit supply. If good crops of fruit can be obtained by cropping the borders, wherein lies the advantage of keeping them bare?

Besides taking it in this light, it becomes a question of economy; the loss of the early spring vegetable crop could not in any way be compensated for by the possible extra superior quality or quantity of the fruit crop. Of course, it must be admitted that the first duty of the gardener is to regulate his work as much as possible to meet the requirements of the family, and if superior fruit is the first consideration, and early vegetables a matter of secondary importance (which is scarcely probable), nothing more need be said npon this point, because it is evident at once that under the system of non-cropping we should have the borders at all times and at all seasons under proper control for mulching, forking and stirring the soil as may be required. Surface-cropping means deep digging, and if it is heavy and closely successive, it means digging often and at different times of the year; but we know this is also a common practice, and too much so for the well-being of the trees.

Wall trees may often be seen in a wretched condition, but although this may result from other causes than heavy and continuous border cropping, yet it is only a question of common sense that such practice cannot fail to be injurious to the trees, and more especially so in dry seasons, when there is a lack of water or want of means to supply it, because surface-cropping and frequent digging in average seasons would cause the borders to become too dry. I cannot say that deep digging alone under the general system does the trees much injury when it becomes a question of cutting the roots only, for we may go through a large extent of border even with a spade and not bring up so much as a handful of roots, unless it is those which belong to any suckers that may be about, and which, of course, are best away. If we use a fork instead of a spade we are not likely to cut so many roots; yet no one would recommend deep digging during the summer months, more especially on our hot and dry borders. Of course, no one would be so foolish as to dig deep close up to the trees.

In good practice we resort to mulching to supply a little liqnid manure, assisted by rain and watering to prevent a too rapid evaporation and to keep the borders as cool as possible during the snmmer months. Mulching has a tendency to draw the roots more to the surface of the soil, and wherever trees are periodically root-pruned and the roots raised near the surface of the ground, which operatiou is always followed by mulching, deep digging at any time of the year within the space to which the roots extend, would positively be very injurious to the trees. We often carry out this practice with Peaches and Nectarines, bnt not so generally with Pears unless the latter are too gross and vigorous, or otherwise in bad health and condition, when it becomes necessary to prune and lay out the roots and supply the needful compost.

Under the surface-cropping system our borders are usually laid up high, warm and dry to induce early vegetation, and as the rootlets of the trees only take np their food in a soluble form, this has a tendency to cause them to penetrate deeper into the soil in search of moisture, which usually places them beyond the reach of the spade, as every gardener knows who has had np his roots for cultural pnrposes. Looking at the qnestion from its varions staudpoints, to what conclnsion can we come? We must be guided by circumstances. If the requirements are for frnits of superior excellence, it is absolutely certain that it can be best carried ont under the non-cropping surface system, as we shonld then have the borders more under our direct control for stirring and renovating the soil at suitable seasons, for mulching and watering and keeping the roots nearer to the surface, and subjecting them to the full inflnence of the atmosphere at suitable seasons; but as this system is not always possible or altogether advisable, we should at any rate endeavour to do the best we can for the trees, and as we must crop our borders at least with the earlier kinds of vegetables, we can leave a few feet, or perhaps yards, round each tree for their especial benefit.

Our Vine borders are subjected to quite different conditions when extended or planted outside, and are in very few cases cropped, unless very lightly indeed. During the winter months it is usnal and necessary to give the borders a heavy mulching with good manure, for the double purpose that a good supply of fresh feeding material may filter into and enrich the soil for the ensuing season to store up a good snpply of food, and to protect the borders from the cold wintry iufluences. Iu the early summer months as much as remains of this covering would be taken off and the surface of the borders pricked over to allow the warm air to penetrate the soil. As the border is covered up so completely during the winter months it would be the greatest possible mistake to crop it iu summer, as that is the only season when it can be exposed to full atmospherical influences. The Vine is a gross feeder, and any encroachment upon its stores wonld be severely felt, and its roots if left alone come up very near to the surface of the ground under good conditions, so that digging with the spade upon the border for vegetable croppings would greatly injnre the crop. In this case it is not even a question of economy. On acconnt of the mulch we cannot use the borders for early vegetables, and late ones can be grown elsewhere; and Grapes of superior quality are of much more value and more highly prized than would be the few extra vegetables which can be grown on the Vine border.—*Alfred Gaut.*

THE SNAKE NUT.

A GENTLEMAN residing at Ealing has just brought under my notice a specimen of the Snake Nut which he has in his possession. I should think a fruit of this is very rare. He states that the kernel of the nut represents a perfect serpent. I find that in a paper communicated to the Linnæan Society—read on June 6th, 1837, and since printed in the *Annals of Natural History*—the attention of naturalists was called to this curious fruit by Chevalier Schomburgh, which he regarded "as a Drupa, the kernel of which, when opened and the membrane which covered it being removed, displayed a striking resemblance to a snake coiled up." "I was not," says the Chevalier, "able to produce the blossoms of the tree which produces this strange fruit in such an advanced state as to permit me to describe it with accuracy, and considered it at that time as belonging to the order Terebinthaceæ. Shortly after my departure from Guiana some perfect flowers were sent to me, which rendered it evident that the tree belonged to the natural order of Sabiaceæ, and with the assistance of Mr. Bentham I have described this curious fruit as Ophiocaryon paradoxum. The specific name refers more to the remarkable resemblance of the embryo to the snake than to its deviation from the general structure of the tribe, which in the section Dodonæaceæ presents us already with a spiral and twisted embryo."

I have taken the above from the *Gardeners' Chronicle*, October 26th, 1844, and it forms a part of a paper read at the meeting of the British Association for the Advancement of Science, held at York, in that year. Can any of your readers give me any further information about this tree? I presume dried specimens of it are to be seen in the herbarium at Kew.—*R. Dean.*

NOTES FROM SCOTLAND.

The Edinburgh Royal Botanic Gardens.—For a great many years these gardens have been an ornament to Edinburgh, and a source of pleasant enjoyment to multitudes of visitors; but it is only now, says *The Scotsman*, that a worthy effort is being made to turn them fully to account as a place of education, not for regular students only, but for the public generally and the working classes in particular. Professor Bayley Balfour has already, in the few months that have elapsed since he became Keeper of the gardens, done much in the way of enabling the citizens generally to really enter upon the possession of the advantages which these noble gardens are capable of yielding them. It is to him in no small degree that those who are hard at work all the week owe the privilege of being able to visit the gardens on Sunday. And now he has started a course of Saturday evening lectures on botany, the object of which is to help intelligent and inquiring men to turn their Sunday visits to good account, by giving them knowledge, suggesting ideas and matters for observation, stimulating inquiry, and guiding them in the way by which they may learn the lore that lies among the leaves and the flowers for those who know how to gather it.

The first was given on Saturday last in the lecture hall within the gardens, and the course will be continued during the present month. It is an experiment which ought to succeed. Far more than the 200 who attended the first lecture should be found crowding to the others. Professor Balfour's public spirit and zeal for the good of the people deserves warm acknowledgment. If we look at the matter from his point we shall also recognise his keen and large sense of duty. He stated on Saturday that, since the Government had arranged to keep and maintain the gardens as a place for scientific research and public enjoyment, it might be considered part of his duty to give such lectures as he had just begun. In the higher sense it probably is his duty, as it is the duty of every one of us to make the best possible use of our position and our opportunities for benefiting our fellows, and brightening the lot of those around us. But in the narrower sense, in which duty means obligation, which we are expected and required to perform, and the neglect of which is clearly recognisable as a sin of omission, it does not appear that the giving of these lectures can be counted among the duties of the Keeper of the gardens. It may be hoped that working men will appreciate the elevated sense of duty to which Professor Balfour has given expression, and which most people would call benevolence.

This opportunity, says the same paper, may be taken to say that the opening of the gardens on Sunday has been in every way a beneficial change. Large numbers of people have taken advantage of the opening. Many who rarely or never were able to visit the gardens on week days now enjoy a quiet stroll through them on Sundays, with all the delight to the eye, and the elevating, soothing, refining, and educative influences to the mind that such a stroll is attended with. As to the objections which certain good but somewhat prejudiced persons urged against the Sunday opening of the gardens, nobody hears much of them now that their force, if they were well founded, should be becoming practically felt. It does not appear that the Sunday visitors do injury to the plants or flowers. We do not hear any complaints of careless or malicious mischief. It is doubtful if those who put forward this objection were very sincere in their professed dread of the conduct of the Sunday visitors. If they were, they will now be able to satisfy themselves by inquiry that their dread was imaginary. The Sunday opening has, in fact, been a great boon to Edinburgh, and even the persons who at first heard of it with horror have probably already got over the shock to their feelings, and are becoming slowly reconciled to a state of things which does good to many and harm to none. It may be hoped that Professor Bayley Balfour will receive encouragement enough to make it a pleasure to him to continue the Saturday evening lectures every summer. The Sunday ramble in the gardens will be more enjoyable and more instructive to those who bring with them ideas and knowledge obtained at the lectures.

Royal Scottish Arboricultural Society.—On Tuesday, August 6th, the annual general meeting of this society took place at the Royal Botanic Gardens, Edinburgh, Mr. McCorquodale, of Scone, presiding, in the absence of the president, the Earl of Hopetoun. In his opening address the chairman sketched at the outset the rise of the society, which was now in its thirty-sixth year, and noted the manner in which it had extended its influence. Still, however, there was room for improvement, and he urged upon all practical members to give the society their support. All true friends of forestry, as a science that was daily gaining prominence and popularity, could not but hail with the utmost satisfaction the appointment of Dr. Somerville to the Chair of Forestry in the University of Edinburgh. In the history of forestry that was the first appointment of the kind that had ever taken place in Scotland, and it augured well for the future. Dr. Somerville was well qualified to take the post he was called to fill, and they might have every confidence that the interest of the society would be promoted and the science of forestry become more and more popular by his appointment. When he had himself gone to Buchanan, the estate of the Duke of Montrose, to acquire a knowledge of forestry, long before the days of railroads, there were few opportunities for foresters meeting and discussing forest matters. Now these opportunities were very great. There was a considerable amount of forest literature within reach. Science had been experimenting in many quarters. Old systems of rearing plantations had been tested, and, when found wanting, had been supplanted by new and improved methods. Progress had been made in the science of forestry such as had not been manifested in any other period previous to the establishment of the Royal Scottish Arboricultural Society. These considerations were worth diligent study, and afforded a fitting field for the labours of the society. He would take the liberty of offering a word of counsel, more especially to his younger brethren. He believed a great future was dawning in the country for forestry. With agriculture growing so depressed, and land for agriculture falling in value year by year, and with the supplies of foreign timber becoming constantly circumscribed, landowners would soon find the need of looking more to the woodlands. Arboriculture, instead of being kept in the background as it had been in the past, would now of necessity take a prominent part in estate management, and immense tracts of waste land and hillside would soon be afforested. There, then, was a field for experienced and talented men. Young men ought to study the nature and constitution of trees, the soils congenial to their growth, and the localities and climates where they had to be grown. A sound judgment was also requisite to determine what were the likely marketing prospects of the distant future, so that there might be judicious planting in order to secure the best prospects of remuneration. Oak coppice, for example, was not worth cultivating now-a-days; and since iron had taken the place of wood in ship-building, oak timber was not a profitable crop. Again, many kinds of the newer coniferous trees were not to be recommended as plantation trees. After fifty years' experience in the rearing of the Abies Douglasii tree, he had no hesitation in saying that on a suitable soil and situation it would become the most profitable plantation tree in this country. Referring to the commercial outlook of the timber trade, both at home and abroad, he said that it could not be denied that since the check experienced at the time when iron took the place of wood in ship-building, the consumption of timber all over the world had been rapidly increasing. It was then believed by many that the market for timber was irretrievably ruined, but that prophecy had been entirely falsified. The consumption of wood all over the world had risen to such proportions in recent years as to cause serious apprehensions as to the sufficiency of the existing supplies of timber for a distant future. If the supply of foreign timber were seriously curtailed, our whole supply of home Pine wood that was fit for sleepers would in a few years be exhausted. It was high time that the Government and extensive landed proprietors were bestirring themselves to see to the extension of their plantations and afforesting largely their waste lands. If our home woods were exhausted, and a timber famine occurring, it might prove a very serious affair for the country; for it would require at least a generation to have our forests replenished and occupied with timber fit for the immediate wants of the country.

The usual routine business having been transacted, the members dined together at the Waterloo Hotel, Dr. Cleghorn, of Stravethie, presiding, and later in the evening between thirty and forty members left the Waverley Station for their annual excursion, which occupied two days, and included visits to the estates in "The Dukeries" of the Duke of Portland, Welbeck; the Duke of Newcastle, Clumber; Earl Manvers, Thoresby; and Lord Saville, Rufford.

The Turiff Flower Show.—The annual show and competition of the Turiff Horticultural Society—a society, it may be noted, that is one of the most important in Aberdeenshire, and embraces a large tract of country—was held on the 8th inst. at Turiff. The show was opened by Sir Robert Abercrombie, Bart., of Forglen, who spoke in eulogistic terms of the splendid display, and thought the horticulturist brought as much energy and perseverance to bear in the cultivation of flowers as did the agriculturist in the rearing of his stock. He also considered that the annual competitions were the means of doing good to the poor man as well as to the rich, in furthering a taste for that which was beautiful, also in creating a friendly and healthy rivalry between both amateurs and professionals, and he concluded by briefly declaring the exhibition open. Mr. Grieve, North of Scotland Bank, proposed a vote of thanks to Sir Robert for his kindness, and Mr. Mann, the courteous secretary, presented Lady Abercrombie with the first prize bouquet, which she gratefully accepted. The number of entries were rather below those of last year, caused by the absence of exhibits from Towie-Barclay and Ardmiddle Houses, owing to the recent family affliction at both of them. Considering this, there was still a large and beautiful display. Pot plants were fully up to the average, while fruit, owing to the peculiarities of the season, varied a good deal, some excellent stands being shown while others were of indifferent quality. Cut flowers showed a marked improvement on last year's and some nice bouquets and decorated baskets were shown. The whole of the vegetables were excellent, some splendid Onions, Leeks, Potatos, &c., being shown. The principal prize-takers in the professional classes were: for pot plants—Forglen House, Hatton Castle, Delgaty Castle, Craigston Castle, &c.; for cut flowers—Delgaty Castle, Hatton Castle, and Forglen House; for fruit—Delgarty Castle and Hatton Castle; and for vegetables—Hatton Castle, Craigston Castle, and Eden Castle. In the amateur sections: for pot plants—Mrs. Simpson, Clifton House; Mrs. William Fowlie, High Street; Mr. Rankine, Turiff; and Mrs. Duncan, Hallhill. For cut flowers—Mr. Allan, Templand; Mr. Burns, Schoolhouse, Ardmiddle; Mr. Grieve, North of Scotland Bank; Mr. George Smith, Balmellie Street; Mr. Dingwall, Mahon; Mr. Murray, Pittendreigh. For fruit—Mr. Murray, Pittendreigh; Mr. Grieve and Mrs. Duncan. For vegetables—Mr. Dingwall, Mahon; Mr. Murray, Mrs. Duncan, Messrs. George Smith and William Kelman, Balmellie Street, Turriff. Mr. James Wood, Forglen Gardens, gained the society's prize for the best model of flower garden and conservatory. In the specials for the best bouquet of wild flowers by boys or girls under fourteen years of age, Maggie Gordon, Chapel Street, was first, and Maggie Smith, Balmellie Street, was second. A very choice display of Roses was shown by Mr. Raeburn, seedsman, Banff. In addition to the ordinary prizes given by the society, there were thirty-four extra ones in the professional, and twenty-six in the amateur classes, and fifteen open to all, being seventy-five extra prizes altogether. The special prizes for window-grown plants were gained by Messrs. William Pirie, Fife Street, and Alexander Pirie, Market Street. A splendid fungus about 15 ins. in diameter was on exhibition from Forglen House. The working committee, under the very energetic secretary, Mr. Mann, had as usual everything excellently arranged. A large number of persons visited the show during the day.

Royal Horticultural Society of Aberdeen.—The acting directors of this society met recently in the secretary's office, Bridge Street, Aberdeen, Mr. Alexander Robson, vice-president, presiding. It was unanimously agreed that the Duke and Duchess of Fife be asked to open the grand floral fête on the 22nd inst. A detailed programme of the illuminations and display of fireworks, which is to be given by Messrs. Shirras & Sons, Aberdeen, was submitted and approved of. The band of the 3rd Volunteer Battalion of the Gordon Highlanders was engaged to supply music, and Mr. William Duncan, Aberdeen, was appointed purveyor.

Lilium auratum at Kingcausie.—There is, at present, to be seen in the greenhouse at Kingcausie, near the city of Aberdeen, a fine Lilium auratum in full bloom. Two bulbs, not picked ones, are growing in an 8-in. pot, and together they have a total of thirty-nine flowers, each averaging 12 ins. from tip to tip. Its rich perfume and finely-spotted flowers are charming, and it is to be regretted they do not last longer. Mr. Ross, the gardener, deserves credit for his success in their culture.—*Alpha.*

FLORICULTURE.

The Growl from Oxford.

I was very sorry to read the growl from Oxford in your last issue, and much regret that "Disappointed Exhibitor" had not the courage to sign his own name rather than write under a *nom de plume*. I have only grown Carnations and Picotees for four years, but during that time I have left no stone unturned to get all the information I can. I have visited many of the best growers all over the country. I now pride myself that I have one of the six best collections in the kingdom, and this year have been fortunate as a prize-winner in London, Oxford, Leicester, and Manchester—the four best shows in the country. When I started as an enthusiastic grower I learnt more from failure than success; and when I have been in doubt about the merits of a flower or a stand at any show or competition, I have never hesitated to ask some more experienced grower. I have always found them most willing and delighted to assist, and when the points of merit have been shown me I have never failed to see the correctness of their opinion. Had our friend done this I am sure he would have had no occasion to utter his most unpleasant growl.

There must be disappointments at all shows, for all cannot win. Do what they will, judges can never please every exhibitor. They may have standpoints to go by which are not quite in accordance with the ideas of some young or inexperienced exhibitors; but I am sure the judging at Oxford has always been done in the most straightforward way, and more as a labour of love than anything else. I was the attendant on the judges of single blooms at Oxford, and I am sure they went through their difficult task most impartially. I was the winner of a first prize with Master Fred, and am quite satisfied I was fairly beaten with Robert Houlgrave.

I do not know if "Disappointed Exhibitor" lives near Birmingham. If he does I shall be very pleased for him to come and see me and my collection at any time. I will welcome him as I do any others who take an interest in these flowers. I shall be pleased to show him anything and everything I can, and hope there will be something to interest him, and encourage him to persevere until he can come well to the front in some of the best competitions of the day.—*Robert Sydenham, Roseleigh, Bristol Road, Edgbaston, Birmingham.*

Another inquiring novice, "A. M., Oxford," writes:—I want to know the reason why? I also was behind the scenes at the Oxford show of the Carnation and Picotee Union, and was much surprised that the premier Picotee selected in that exhibition was Lady Louisa, in Mr. Tom Lord's stand of twelve Picotees. This flower certainly left much to be desired in the way of form, and when the fact was pointed out to the gentlemen who were making the selection, one of them suggested that the exhibitor should be asked to remedy this defect, but the flower refused to be in any way coerced, and was replaced in the stand with the centre more open than before. What claim then had this flower for the position in which it was placed? The premier self, Germanica, although a really fine flower, and very useful in a stand of fancies, is to my mind, insipid individually; and although I agree with Mr. Wardill in his remark that "as a seed parent in the hands of a careful hybridiser" one may imagine a very beautiful and pleasing result, yet contrasted with the bloom of Gladys, in the prize stand of selfs and fancies, a flower leaving nothing to be desired, it is left far behind.

The Carnation and Picotee Union.

Your kindly references to the recent meeting of this association at Oxford, and to its founder, Mr. E. S. Dodwell, will be read with great satisfaction by all lovers of the Carnation and Picotee. I am not desirous of recalling any of the incidents which led to Mr. Dodwell's expulsion from the London society, but those who were foremost in bringing it about little thought at the time what a power they were making of Mr. Dodwell in the very world from which they were thrusting him out. The Union is now a very powerful organisation, and I have no hesitation in stating that it has done more during the past five years to popularise the Carnation than the north and south societies put together. But I trust I may say that we are all now found joining hands in the interest of the Carnation, apart from personal feelings, and so we can allow bygones to be bygones. One significant fact is worthy of notice—that the *Journal of Horticulture*, which, for obvious reasons, has hitherto ignored the meetings of the Union, gives its readers a full and appreciative report of the exhibition at Oxford on August 1st.

Something like 1,400 flowers were staged for competition, and the task of the judges who made the awards in the single classes was in the highest degree onerous. Then, in addition to the competitive cut blooms, there were others in honorary collections, such as the splendid lot Mr. Charles Turner sent down from Slough. Then there were in Mr. Dodwell's garden about 3,000 pots, nearly all with two or three plants in them, and disposed about the garden at every point where space could be found was a large number of plants of varied character. The advantage of all this is that it enables visitors who are not cultivators of the Carnation to see how they are grown.

I think everyone present at the luncheon was forcibly struck with Mr. Dodwell's remarks in replying to the toast of "The Carnation and Picotee Union." He said it was sixty-one years ago since he first saw an exhibition of Carnations and Picotees—a show that fell one hundredfold short of that they were privileged to look upon that day. He saw then fourteen or fifteen old gentlemen sitting round a table on which was placed some forty to fifty flowers. The show in his garden that day was one of the very best he had ever seen, and that appeared to be the general opinion of all the oldest growers of the Carnation who mustered at Oxford on the late interesting occasion.—*R. D.*

In our report of the late exhibition, published in the last number, we inadvertently gave the Messrs. Thomson, of Birmingham, the credit of showing the premier self Carnation, Germania, instead of Mr. M. Rowan, of Clapham, in whose stand of twelve selfs and fancies the winning flower was found.

National Carnation and Picotee Society.

Northern Section.

The annual meeting of this society was held at the Botanical Gardens, Manchester, on Saturday, the 10th inst., under very unfavourable circumstances; while the exhibitors were preparing their exhibits, a heavy thunderstorm burst over the gardens, the rain came through the roof of the show hall in many places and spoilt several of the flowers. The dull wet weather continued, more or less, all day, consequently there was but a small attendance of the public, as compared with last year.

The exhibits were much more numerous than last year, but owing to the early season, the blooms shown were very poor as compared to the grand flowers seen at Oxford and London. It was the general remark that there were no blooms worth special notice, the only exception being a grand flower of Mrs. Gorton, light red Picotee, shown by S. Barlow, Esq., and which should have been proclaimed the premier Picotee, instead of the Mrs. Payne, heavy red Picotee, in Mr. Helliwell's stand, which the judges selected.

The judging in the single blooms was very hurriedly and indifferently done, and several flowers of good merit were quite passed over. The arrangements for judging were very indifferent as compared with what we saw at Oxford and in London; in fact, the northern section of this society wants a thorough reorganising if it is to maintain its position. Several members think the time has come when the society will do well to hold its meetings in different towns, such as Sheffield, Birmingham, or Leicester, where there are numerous and good growers, and thus tend to encourage the increasing popularity of these flowers.

Mr. T. Lord was as usual to the front, and again proved that in the north he is the best trade grower. At Manchester he was closely followed by Mr. R. Sydenham, of Birmingham, who has been fortunate in having blooms to stage at London, Oxford, and Manchester, a rather remarkable circumstance considering the season.

The following are the leading prizes:—

Twelve Carnations, dissimilar.—First, Mr. Lord, with George Melville, Admiral Curzon, Thalia, Wm. Bacon, John Ball, Wm. Skirving, George, Shirley Hibberd, Edward Navan, Jessica, J. T. Hextall, and Reginald Power; second, Mr. R. Sydenham, with Alisemond, Sarah Payne, George Melville, Thalia, J. Lakin, J. Douglas, Master Fred, J. S. Hedderley, Rob Roy, Arthur Medhurst, Matador, and Mrs. Andrew; third, S. Barlow, Esq.; fourth, Mr. F. Law; fifth, Mr. J. Beswick.

Twelve Picotees, dissimilar.—First, Mr. T. Lord, Todmorden, with Mrs. Sharp, Zerlina, Mrs. Payne, Alliance, Norma, Minnie, Thomas William, Lady Louisa, Royal Mint, Nellie, Favourite, and Brunette; second, Mr. Robert Sydenham, with one of Mr. Lakin's seedlings, a fine light purple-edged flower of very promising form, but a little off colour in the white, Hilda, Annet Lyle, Mrs. Chancellor, Edith D'Ombrain, Favourite, Dr. Epps, Mrs. Payne, Mrs. Bower, Fraulein (Dodwell's new seedling), Baroness Burdett-Coutts, and Mrs. Sharp; third, S. Barlow, Esq.; fourth, Mr. J. Beswick; fifth, Mr. F. Law.

Twelve Carnations, nine dissimilar.—First, Mr. J. Helliwell, with Admiral Curzon, Premier Carnation, Christa Galli, Robert Lord, Master Fred, Squire Llewellyn, J. Douglas, Ivanhoe, Wm. Skirving, Sybil, and George; second, Mr. Whitham; third, Mr. J. Edwards; fourth, Mr. A. R. Brown, Birmingham.

Twelve Picotees, dissimilar.—First, Mr. J. Witham, with Norma, Thomas William, Royal Bird, Zerlina, Nellie, Mrs. Niven, Mrs. Sharp, Brunette, Lady Laura, Ann Lord, and Mrs. Chancellor; second, Mr. A. R. Brown; third, Mr. J. Edwards; fourth, Mr. J. Helliwell.

Six Carnations.—Dissimilar: First, Mr. J. Maddocks, with George Melville, Mrs. Skirving, Christa Galli, Robert Houlgrave, John Haynes, and Lord Makin; second, Mr. G. Thornley; third, no name; fourth, Mr. S. Lord.

Six Picotees.—Dissimilar.—First, Mr. A. W. Jones, Birmingham, with very clean blooms of Mrs. Sharp, Mrs. Chancellor, Thomas William, Nellie, Mrs. Sharp, and Muriel; second, Mr. J. Maddocks; third, Mr. G. Thornley; fourth, Mr. J. Bleachley.

Twelve Selfs or Fancies.—First, Mr. A. R. Brown; second, Mr. T. Lord. Mr. Brown was far ahead of any other of the six exhibitors in this class.

Single Blooms.—Scarlet bizarres: First, second, and third, Mr. T. Lord, with Admiral Curzon and Robert Lord. Crimson bizarres: First, Mr. G. Thornley, with Master Fred; second, Mr. T. Lord, with a seedling; third, Mr. T. Lord, with Richard Bealey. Pink and purple bizarres: First, second, and third, Mr. T. Lord, with Sarah Payne, Wm. Skirving, and J. Harrison. Scarlet flakes: Here Mr. Lord took all five prizes, with J. Ball, Sportsman, Henry Cannell, &c.; but Matador, exhibited by Mr. R. Sydenham, was quite overlooked, being at the back in a short glass, and was acknowledged by many to be the best bloom in the class. Rose flakes: First, Mr. R. Sydenham, with Thalia; second, Mr. J. Helliwell, with Christa Galli; third, Mr. T. Lord, with Sybil. Purple flakes: First, second, and third, Mr. T. Lord, with Gordon Lewis (Dodwell), a flower of great promise, Earl of Wilton, and Gordon Lewis.

Heavy Red Picotees: First, Mr. T. Lord, with Dr. Epps; second, Mr. J. Whitham, with Norma; third, Mr. T. Lord, with Dr. Epps. Light red Picotees: First, Mr. J. Whitham, with Thomas William; second, Mr. T. Lord, with Thomas William; third, Mr. R. Sydenham, with Thomas William. Heavy purple Picotees: First: Mr. J. Whitham, with Mrs. Chancellor; second, Mr. J. Beswick, with Muriel; third, Mr. T. Lord, with Mrs. Chancellor. Light purple Picotees: First, Mr. T. Lord, with Mary; second, Mr. A. N. Jones, with Baroness Burdett-Coutts; third, Mr. J. Helliwell, with Ann Lord. Heavy rose and scarlet Picotee: Here the judges quite ignored the heavy scarlet edge, giving all the prizes to the rose edge—First, Mr. T. Lord, with Mrs. Payne; second, Mr. A. R. Brown, with Mrs. Payne; third, Mr. J. Helliwell, with Lady Louisa. Light rose or scarlet Picotee: First and second, Mr. A. N. Jones, with Favourite; third, Mr. J. Yates, with Favourite.

Premier Carnation: Admiral Curzon, exhibited by Mr. J. Helliwell. This good old variety seems to have done wonderfully well this year everywhere.

Premier Picotee: Mrs. Payne, exhibited by Mr. T. Lord. Neither flower, however, was much, if anything above the average.

To Rectify Breeder Tulips.

In an old work called *The Curious and Profitable Gardener*, by John Coward, there occurs the following passage:—"Take the plaster of old walls, wherein is a great deal of lime, and powder it very fine; mix this with drift sand, or such sand as is sharp and found on the sea shore; to this add of the water that runs from a dung-hill; mix these as well as possible and put over the *surface* of the bed a little before you plant your breeding or plain Tulips, and 'twill make them break into fine stripes to a wonder, as is related to me by a gentleman of great honour, who has proved it, as he observes, for five or six years." What do Tulip growers say to this?—*R. D.*

Carnation Layering.

The Carnation and Picotee shows are over, and the grower who has been devoting his attention to preparing blooms for exhibition, can now turn his thoughts to one of the most important of his cultural operations—that of layering for young stock. A grower in course of time comes to know the varieties well, and this knowledge is very important in relation to successful culture. Therefore it is that, in layering, a commencement is made with those sorts that are slowest in rooting, and also with new sorts. I am a great believer in early layering, and I think the middle or end of July not a bit too early to commence; for the earlier the work is done, regard being had to the condition of the wood, the earlier can rooted plants be had in the autumn. The wood should be fairly hard, and not too soft and sappy.

The process of layering is now so well understood, that any description is unnecessary. But I may state that I think the old-fashioned upward cut is being abandoned in favour of one formed by piercing the stem just above a joint with a sharp thin blade, and then making the cut downwards. Preparatory, however, to doing this, some fine sandy compost should be prepared, the surface soil removed, the shoot to be layered trimmed of all decaying foliage, the surface filled in with fresh soil, and then the work can go on. In the case of new varieties, or any that it is desired to obtain as much stock of as possible, care should be taken in bending down the shoots not to tear them away from the main stem, so that the stool may be preserved, as it frequently throws up young growths that give very useful stock another season. When the rooted layers are taken off from the plants it is desirable to retain for stock, it is a good plan to draw the soil away from them, leaving the plants upon a kind of mound, so that wet may not gather about the neck. They should be placed where they will be sheltered from cold cutting winds.—*R. D.*

Olearia Gunniana.

OLEARIA GUNNIANA.

The species of Olearia are Composites, and so closely allied to Aster that some of them were at one time included in that genus, as, for instance, O. arygyrophylla, formerly grown under the name of Aster argyrophyllus. Some eighty-five species are known to science, all natives of Australia, New Zealand, and Tasmania, from the latter of which O. Gunniana has been introduced. They are evergreen, and generally with small leaves resembling those of an Olive tree, as expressed by the generic name; but there are exceptional species with ample leaves, as in the case of the Musk tree (O. argyrophylla). The bulk of the species, as might be expected, are essentially greenhouse shrubs of considerable beauty when well-grown plants are flowering. O. Gunniana, however, proves hardy in the southern and more favoured parts of this country, but gives most satisfaction if planted against a wall where it can be afforded a slight protection in severe winters when necessary. Under natural conditions, it forms a densely-branched bush, from 3 ft. to 5 ft. high, and when in flower is covered with a profusion of white bloom, as if with snow. The individual flower-heads measure about ¾ in. across, but they are produced in wonderful quantity from the axils of the leaves along the shoots, which may be cut in sprays like that represented by our illustration. The time of flowering varies in this country, according to treatment, from May to September, and on a wall out of doors would be in season during the latter month or in August. The leaves are obversely lance-shaped, coarsely toothed, and hoary on the under-surface, as are the stems and branches. All of these characters show that the plant is adapted for a dry sunny climate, so that we can understand its not being quite hardy in the moist and changeable climate of our island. In the more favoured parts of Britain and Ireland the shrubberies might be rendered gay by it, while in winter the small evergreen leaves with which the branches are clothed would give a warm appearance to the borders occupied mainly with deciduous subjects. It might well be tried as a maritime plant, seeing that many of the shrubby Veronicas from the same part of the world succeed so well at many a sea-board town, both in the south, east, and west of England. It is a comparatively recent introduction, and received a First Class Certificate from the Floral Committee of the Royal Horticultural Society in May, 1885, after being shown several times.

SHRUBS AND WILD FLOWERS AT EASTBOURNE.

The naturalist, botanist, or even an intelligent observer cannot fail to find much of an interesting character in and around Eastbourne during the summer months. The chalky cliffs of Beachy Head, about three and a half miles in a westerly direction, rise up to a height of 575 ft., and slope in undulating declivities towards the town, while away to the eastward stretches the bay of Pevensey, remarkable in history as the landing place of William the Conqueror, who with his Norman legions was the last foreign foe that invaded and conquered England. Both St. Leonards and Hastings can readily be discerned with the unaided eye on a clear day, skirting the far side of the wide bay. Between Eastbourne and Hastings stretches a broad belt of shingle, constantly being added to by the sea, and which remains for ages a heap of rolling or moving stones and pebbles, offering no root-hold for vegetation of any kind on the more recently laid down portions, while the older formations are covered with a scanty vegetation in which many beautiful and some rare wild plants find a suitable home and seem happy.

Wild Plants.

Amongst the rarer plants that would interest the botanist are Bupleurum tenuissimum and Lactuca saligna, which are plentiful in patches where they occur. In the marshes and pools formed by the damming up of the old water-courses with gravel by the sea are Scirpus maritimus and great patches of Salicornia herbacea, like miniature trees with fleshy or succulent, jointed and much-branched stems, having the leaves reduced to mere scales, and appearing leafless. The closley-allied Suæda maritima has glaucous and fleshy leaves. To the general observer, however, the pretty annual Galeopsis Ladanum would be far more interesting. In habit and general appearance it may be compared to a Collinsia with large deep rosy purple

flowers, having four creamy yellow blotches in the throat. It is matter for wonder that such a charming British plant should not find a place amongst annuals. The stems vary from 2 ins. to 15 ins. in height, according to the amount of soil in the gravel. It evidently likes a light soil, and that should be borne in mind when sowing it. The smallest plants bear only one, or at most a few flowers, but the latter are as large as those on a full-sized plant, and infinitely beautiful. Specimens occur in great abundance, but only in a few scattered and gravelly places.

All over the older-laid-down portions of the gravel Silene maritima grows in great profusion. The plant is dwarfed, and the bladdery inflated calyx is generally purple or red, whereas it is normally green in deeper and richer soils. Some albinos occur, in which the normally white corollas are enhanced in beauty by the calyx being pale sulphur or creamy white. Solanum Dulcamara flowers and fruits in great profusion, and on the outer edges of the gravel the Sloe, Honeysuckle, Verbascum thapsus, and Corydalis claviculata are beautiful and interesting. Saponaria officinalis, or the Soapwort, is not really a native, but it is thoroughly wild in many places here, and is both luxuriant and far more floriferous and showy than when grown in gardens. The stems are much branched, producing huge terminal fascicles or bunches of large, pale rosy or lilac-purple flowers. In the neighbouring gardens the foliage is darker, but the flowers are scanty. It has probably been originally a garden escape amongst rubbish, or the seeds might have been transported by birds or other animals; but it is now found at long distances from any house, making a garden of the desert. A beautiful plant is the Musk Thistle (Carduus nutans), with large nodding heads of deep purple, sweet-scented flowers. The bristling spines surrounding the head have here acquired a purple tinge.

To the westward, on the chalk cliffs overhanging the sea as well as over the grassy top of Beachy Head, are many of the prettier or more interesting British plants affecting a chalky soil. Very plentiful on the chalk cliffs is Raphanus maritimus, supposed to be the original and wild form of the garden Radish. Another economic plant, the Sea Kale (Crambe maritima), grows in places along the face of and at the foot of the cliffs. It has very much the appearance of the cultivated plant. In similar places Statice spathulata is both plentiful and beautiful, and together with Wallflower, grows in very inaccessible places. The Wild Stock occurs in places, but is evidently an escape over the cliffs from a neighbouring garden.

On the grassy slope of the heights, Thesium linophyllum, a rare representative of the order to which it belongs, may be found spreading about amongst the grass. The short turf is rendered gay by Scabiosa Columbaria, Phyteuma orbiculare, and Campanula glomerata, all three of which are exceedingly pretty on chalky and grassy downs by reason of their dwarf habit. All have blue flowers of different shades, those of the Campanula being of an intense purplish blue, and produced in a head at the end of stems varying from 3 ins. to 9 ins. in height. The purple flowers of Centaurea scabiosa and Medicago sativa (Lucerne) are also effective. The Squinancywort (Asperula Cynanchum) has charming pink flowers, but is prostrate and less conspicuous than the common Woodruff. Botanically interesting is Rapistrum rugosum, a south European plant that appears to have obtained a footing in places, and might have been introduced with ballast or some similar agency. The common Mallow and Lavatera arborea may also be seen, but the latter is no doubt an escape.

Seaside Trees and Shrubs.

No one can visit Eastbourne without noticing the vast quantities of the Tamarisk (Tamarix gallica) covering the steep sloping banks all along the side of the two miles of esplanade facing the sea in front of the town. The esplanade has only recently been completed at the far end nearest to Beachy Head, and the plants, although healthy and firmly establishing themselves, are only about 1 ft. high. Nearer to and in front of the town the bank is thickly covered with thousands of healthy thriving plants, 3 ft. or 4 ft. high. The terrace above the bushes is lined by a low closely-pruned hedge of the same feathery-looking shrub. Low walls are being covered with Ivy of different kinds. There are also long hedges of a very composite kind, but consisting of various evergreen trees and shrubs, which are kept low by pruning with the knife, not the shears. Noticeable amongst them were the Tamarisk, Euonymus japonicus, Quercus Ilex, Laurus nobilis, Vibnrnum tinus, Veronica Andersoni flowering in great profusion, the Furze, and the Tea Plant (Lycium barbatum), which is very fond of maritime situations. Besides some of those already mentioned, the fronts of the houses are covered with Virginian Creeper, also Ampelopsis tricuspidata in great beauty, Passiflora cœrulea, White Jasmine, Magnolia grandiflora, and others.

Amongst the trees one meets with the Holly, Sycamore, Black Poplar (Populus nigra) and P. canadensis aurea. The latter has evidently been grafted standard high, for branches bearing green leaves only often occur amongst the yellow ones. In walking through the streets of the newer part of the town one can hardly fail to observe a stiff, erect-branched and slow-growing variety of the common Elm, the leaves of which are very densely arranged, and curved or twisted backwards against the shoots bearing them. The whole head of the tree is very dark green in colour, dense, and apparently of slow growth.

What had simply been mounds of chalk-rubble and other rubbish on the sites of some of the new honses in the west end of the town, have been transformed into great mounds or miniature hills behind the houses facing the sea and quite sheltering them from the north winds. Between these mounds are the carriage and other pathways. The mounds themselves are covered with a living greenery of dark green Euonymus bushes. In other places one may discern huge bushes of Veronica Andersoni, V. ligustrifolia, V. parviflora, V. Traversii and others, now a mass of bloom. The first named is certainly fine, with a profusion of dark blue flowers. Large bushes of Rosemary (Rosmarinus officinalis) are also to be seen in places quite a picture of health; it is essentially a sea-side plant, aud the generic name comes from *ros*, dew, *mare*, the sea, meaning sea-dew. There are also thriving young plantations of various deciduous trees. Taken on the whole, the most prominent and most largely cultivated subjects on the sea front are the Tamarisk and Euonymus japonicus with its many varieties.—*Visitor.*

The Amateurs' Garden.

The Chimney Bellflower.

As the season comes round for this beautiful subject to flower it may serve to remind those who have not yet attempted its cultivation how enlivening an effect it has amongst other greenhouse subjects. It is rather late to sow seeds this year with a view to their blooming the next, because if with good cultivation a few might send up flower-spikes, yet the greater number would probably not do so; but then the plants would have time to gain strength, and flower magnificently in 1891. Seeing that the species is quite hardy, the seedlings may be planted outside after they gain some strength, and require no further attention until ready for lifting and potting up in the spring of the year, when evidently sufficiently strong to flower. It may be borne in mind, however, that they repay good cultivation in moderately deep and rich garden soil, and to be liberally treated with liquid manure after becoming established in their flowering pots. If sown in boxes now, and transplanted or pricked off into others when well up, seedlings may be had of good size to plant in the open ground in autumn, even if there be no room to store them under glass until spring. Well-grown plants vary from 4 ft. to 6 ft. in height, and form long pyramidally-branching flower-stems, or inflorescences, as they are termed by botanists. The flowers of the typical Campanula pyramidalis or Chimney Bellflower are light blue and very elegant, while the white variety, C. p. alba, forms a most pleasing contrast. The name Chimney Bellflower is given on account of the custom of standing the flowering plants in the fire-place during summer.

The Cape Hyacinth.

This name is not inappropriately given to Galtonia candicans, a Cape bulb which, although allied to the Hyacinth, is botanically somewhat different. These differences, however, need not trouble the would-be cultivator of a plant which is every year receiving more and more of that attention which it undoubtedly deserves. The bulb, when received dry from the shops, is similar to that of a small Hyacinth, and white. This may either be planted in the open border—for it is quite hardy—or potted up according to fancy, convenience, or requirement. It makes a capital greenhouse plant, and may even be forced. The flowers are better, however, and last longer if thcy have been brought on under cool treatment. The leaves are similar in shape and texture to those of the Hyacinth, bnt are several times larger. From amongst these the flower-scapes rise to a height of 3 ft. or 4 ft., bearing in the upper portion a long raceme of drooping, bell-shaped, white blooms of relatively large size. There is another species or two, but that nnder notice is by far the best, and has the purest white flowers. Another fact that may be noticed is that when grown nnder glass the flowers are of greater purity than they would be in the open air; and plants cultivated in the more southern and warmer parts of England have larger and better-coloured flowers than those grown farther north, where, although the plant is hardy, it flowers mnch later in the season, as might be expected. Bnlbs may be obtained along with the annual consignments of the ordinary Hyacinth, potted up, and grown much in the same way.

Lilies.

Even where the bulbs of the Golden-rayed Japan Lily (Lilium auratum) and L. speciosum have been grown under very cool conditions in windows and elsewhere, they are now in flower or rapidly advancing to that stage. There are many beautiful varieties of L. auratum now in cultivation, all differing, more or less, in the markings and the colour of the ray, which is usually yellow, but may be white, creamy, red, or crimson. Some of these occasionally turn up amongst imported bulbs, but many more are obtained by sowing seeds of well-marked kinds, and raising up seedlings. There are also beautiful white varieties more or less pure. Of L. speciosnm, some distinct varieties have long been grown under such names as L. s. album, L. s. rubrum, L. s. roseum, and L. s. punctatum, according as the flowers are white, suffused with red or rose, or are simply spotted. The chief points to be attended to at present, whether the bulbs are grown in pots or planted out of doors, are to attend to staking and tying to prevent the stems being broken about by the wind, as well as to present an air of neatness. Most cultivators also strive to obtain as large flowers as possible by rich feeding, either with liquid manure or some of the artificial kinds. It may be as well, however, to remind these careful growers that feeding may be carried to too great an extent, ruining the bulb for any future use. Moderation in this respect should be observed, and as the plants go out of flower, the pots containing them should be stood in a sunny position to ripen their bulbs.

Transplanting Lilium candidum.

It may be overlooked by some that the present is the best time to lift the bulbs of the white Lily. In other cases the autumn, or even early winter would be soon enough; but at no time of the year has the foliage so thoroughly died down as in August. The radical leaves, which should be encouraged to develop the resources of the plant, are always developed in autnmn with the advent of the usual rains, and continue good until the flower-stems are being thrown up in early snmmer. Therefore, whatever bulbs are intended for lifting should be seen to at once.

Notes on Fruits.

Basing Park Melon.

This Melon was exhibited by Mr. W. Smythe, Basing Park, Alton, Hants, at the meeting of the Fruit Committee of the Royal Horticultural Society on Tuesday last, when a First Class Certificate was awarded it. The fruit was of medium size, round, heavily netted, with a dark green flesh. Its flavour was excellent, and it was highly commented upon by those who had the pleasure of tasting it. Of several varieties shown by other exhibitors none displayed so deep a colouring when cut, and the flesh was firm, juicy, and rich.

Tomato, Chiswick Hybrid.

This variety is quite new, and the resnlt of a cross between Perfection and Horsefield's Prelude. The fruit is intermediate in size between the parents, globose or nearly so, and of a good deep, bright shining scarlet, and very prolific, as indeed it might be if it takes after Horsefield's Prelude, which, although a small fruiting kind, is very prolific, rich in colour, and sets its fruit freely, not only all through the summer, but up to very late in the autumn in a house even where no fire-heat is employed. Should it inherit these qualities of its parent, it will most decidedly prove an acquisition. The other parent is so well known and highly appreciated that comment is unnecessary. The specimens

exhibited at the last meeting of the Royal Horticultural Society were brought up from their gardens at Chiswick, where they had been grown in pots. They stood about 5 ft. high, and carried a great weight of fruit. A First Class Certificate was awarded for the variety.

GARDENING MISCELLANY.

Romneya Coulteri.

THIS shrubby or woody Poppywort—sometimes called the Tree Poppy—would no doubt find many admirers compared with what it does at present if it were more decidedly hardy. As it is, the plant cannot withstand the severity of our winters in the open air and unprotected, except in the more favoured southern and warm, sheltered, maritime localities. A large bush of it covered with its white Cistus-like flowers would no doubt be a beautiful object. The petals are not only crumpled in the bud, but they remain so after expansion for a time at least. In the centre of the flower is a mass of yellow stamens, resembling those of a Cistus. The leaves are deeply pinnatifid or lobed, and of a pleasing shade of green; while the stems are much branched and woody—a very unusual occurrence in the Poppy family. Another woody Poppywort, however, is Dendromecon rigida, to which the name Tree Poppy should more properly belong, as the generic name implies, from *dendron*, a tree, and *mekon*, a Poppy. The leaves in this instance are rigid and entire. It is hardy or nearly so, while Romneya Coulteri requires some sort of shelter if planted out of doors. It may, however, be kept in a frame or hardy plant house and planted out in spring. A flowering plant may be seen in the rockery at Kew, under the shelter of one of the rocky escarpments.

A Fine Window Plant.

As a good instance of a popular Begonia may be mentioned B. Weltoniensis. Amongst the many hybrids of this genus, hundreds have appeared to disappear almost as quickly, while a few are destined to live in cultivation for many years to come. This applies pretty forcibly to B. Weltoniensis, a hybrid between B. Dregei and B. Sutherlandi, and which was raised by Colonel Trevor Clarke many years ago. The glossy and beautiful sheen of the leaves, together with the coral-red petioles and the profusion of rosy pink flowers, combine to render this plant a very popular one with all classes of growers. The ease with which it may be grown, and the low temperature it requires, are also other points in its favour. No better evidence of this could be had than the frequency with which it is met in cottage windows within the last few years. It is now recognised as suitable for window culture in many parts of the country, from Sussex in the south to Aberdeenshire in the north, or even farther. About twenty or thirty years ago, B. Evansiana—better known, perhaps, under the name of B. discolor—was the commonest or almost the only Begonia grown in windows. It was readily propagated by the bulbils which are produced in the axils of the leaves, and so could be easily disseminated, and being so hardy, the cottager had no difficulty in preserving it if he possessed the smallest smattering of gardening knowledge. The beauty and hardiness of B. Weltoniensis are also telling largely in its favour, and before the lapse of many years it may be as common in windows as the Pelargonium itself.

Impatiens Roylei.

THE way in which this plant can accommodate itself to its surroundings is something remarkable. In its native Himalayan home, where it ascends to elevations of 9,000 ft. to 10,000 ft., it attains a height of 10 ft. In this country it is oftener not more than half that height, but is usually less than that. Towards the north of this country, and where exposed to a comparatively low temperature, the plant flowers freely at a height only of 18 ins., forming sturdy short-jointed growth, and appearing as gay as if everything were to its liking. Under conditions more favourable to vigorous and rank growth it becomes truly a magnificent plant for the wild garden, where its great, fleshy, red stems and profusion of purple flowers give it quite a tropical appearance. The flowers are produced in axillary cymes towards the top of the plant, and continue expanding in succession for a considerable length of time. When once sown and allowed to ripen seeds in any place, seedlings will come up in great plenty, and flower the next year without any attention whatever. In this way gardens soon get stocked with it, and would be overrun by it in a few years if left alone; but as it is merely an annual, and the seedlings are large and conspicuous, there is no difficulty whatever in keeping it in subjection by a little attention to the necessary process of weeding. The flowers vary greatly in colour from a deep purple to almost white, and besides being in themselves beautiful, they afford a large amount of food for bees, which frequent the flowers in great numbers.

Gaillardias.

THESE handsome border plants are not so generally met with as they should be. At this season of the year they are very striking objects in herbaceous borders. They stand wet weather admirably, will grow in any kind of soil, and are excellent for cutting to mix with other flowers. They are said to be apt to perish in strong damp soils, and, therefore, might be lifted before winter, kept under protection, divided, and planted out in spring. We had a consignment of these plants sent us last spring, and they have given much satisfaction, and promise to continue in flower for weeks to come.—*T.*

Siphocampylus Humboldtianus.

SHRUBBY species belonging to the Campanulaceæ are by no means common in gardens, and few would readily suspect that it belonged to the order of Bell-flowers. The blooms are tubular, curved, and scarlet with a yellow throat, while the anthers are violet, and united in a tube surrounding the style, as in a Lobelia, with the white stigma protruding. The leaves are ovate, leathery, dark green, smooth, and easily kept clean. The plant itself forms a dwarf branching bush, easily accommodated in a stove, where it flowers during autumn and winter. It is a native of Peru, from whence it was introduced in 1867, and is also known under the synonym of S. fulgens.

Chrysanthemum, Golden Shah.

THE stems of this new variety grow from 12 ins. to 18 ins. high, well clothed with dark green leaves, and furnished with a profusion of rich golden yellow heads of medium size, or say from 1½ ins. to 2½ ins. in diameter. They are, therefore, of suitable size either for ordinary decoration or for cut flowers. The heads are very double or full, and compact, with neatly overlapping florets. Fiue specimens were exhibited on Tuesday last, at the Drill Hall, by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, when an Award of Merit was granted for the exhibit.

ORCHID NOTES AND GLEANINGS.

THE ORCHID GROWERS' CALENDAR.

ALTHOUGH the Orchid houses do not contain a great wealth of bloom at the present time, there are, nevertheless, many flowers of interest open, amongst them being the lovely Mormodes luxatum eburneum and Catasetum Bungerothii, which appear to enjoy a position in the warmest end of the Cattleya house, and liberal supplies of water at the roots after the growths are well advanced, gradually diminishiug the applications after the pseudo-bulbs are full grown, and transferring them to a lighter and more airy position to rest. Cattleya Dowiana and its variety C. aurea flower at this season and are general favourites; also Cattleya Leopoldii, C. velutina, C. Harrisoni, and Lælia elegans, of which some form or other is nearly always in bloom. Miltonia candida grandiflora, M. spectabilis, M. Moreliana, Epideudrum prismatocarpum, E. Parkinsonianum, and E. nemorale majus help to give variety, and Cattleya granulosa, when strongly grown, is certainly a noble flower.

Amongst Cypripediums there is always something interesting in flower if a good many varieties are grown, and certainly they have a quaint beauty all their own, aud though lacking the bright colours of the Cattleya house, there is however some rich colouring in some varieties. Two of the best hybrids flower now, C. Morganiæ and C. Schroderæ, as well as C. œnanthum superbum, the dorsal sepal of which is always splendidly coloured. C. Charles Canham is another noble kind, as well as C. Io, C. vexillarium and C. superbiens, while C. Schlimii is very strongly scented as well as pretty.

The dwarf-growing Lælias, L. Dayana, L. marginata, and L. præstans, are pushing up flowers, being grown near the roof-glass on blocks and in baskets, which require a sharp watch being kept on them to keep them moist just now. Odontoglossum grande is a useful old species for flowering at this time of the year, to be followed by O. Insleayi Leopardinum, and O. I. splendens, while amongst cool Orchids, O. Uro-Skinneri and O. cristatum are in flower with Oncidium macranthum, which, when profusly flowered, and free from thrip marks on the foliage, is a thing of great beauty for a long period; but occasional dipping in weak tobacco-water must be resorted to all the year round, to keep the foliage free from its great enemy, thrip.

Plants of Lælia anceps are now throwing up flower spikes freely, and require copious waterings until the bulbs are completed. The growths of L. autumnalis, L. albida, and L. Gouldiana are also well advanced, and should have an abundance of water if in a light airy position.

Cypripedium Druryi grown along with Miltonia vexillaria, grows very strongly, and if more root room is required, now is a good time to re-pot it, using good peat, sphagnum, and broken crocks. C. Stonei, grown in the East Indian house, will be best potted now if it requires it.—*W. P.*

VANDA KIMBALLIANA.

THE leaves of this new species are distichous, narrow, deeply grooved or channelled above, and rounded on the back, fleshy, somewhat rigid, horizontal or ascending, deep green, and 6 ins. to 12 ins. long. The upper sepal is small and somewhat resembles the twisted petals, while all the three organs are white suffused with purple along the middle. The lateral sepals are falcate and much broader, but similar to the upper one in colour. The three-lobed lip is the most conspicuous feature of the whole flower, the upper lobe being obcordate, finely denticulated along the edge, and deep purple with darker-coloured veins; the lateral segments are rounded on the upper edge and then suddenly contracted into a narrow, hooked, acute, subulate point, yellowish and heavily spotted with orange internally and purple spotted at the mouth of the spur. The latter organ is long for a Vanda, slightly decurved and pale pink. The scapes are slender, dark purple, and 6 ins. to 9 ins. long, bearing from four to six flowers in a raceme. The whole plant is very pretty; and several specimens were exhibited at the meeting of the Royal Horticultural Society, on Tuesday last, by Sir Trevor Lawrence, Bart., M.P., and by Messrs. Hugh Low & Co., Clapton, and in both cases First Class Certificates were granted.

CYPRIPEDIUM ORPHANUM.

THE real parentage of this hybrid is not exactly known, but it is supposed to be a cross between C. barbatum, or some allied species, and C. Drurii. From its real parents being unknowu it has been considered an orphan. The upper sepal is somewhat grooved or channelled along the centre, with a dark brown mid-rib, as in C. Drurii; on each side of this are a few green veins, slightly reticulating, and towards the margin it is splashed or suffused with rose or pale purple. The petals are horizontal, suffused with pale purple on each side of the dark purple mid-rib, and dotted with dark purple at the base. The labellum is one of the most conspicuous features of the flower, and the most distinctly coloured, being large and of a clear rosy purple, spotted with dark purple spots on the infolded sides, projecting into a pouch. Some flowers were exhibited by Mr. Ballantine, gardener to Baron Schroder, at the meeting of the Royal Horticultural Society on Tuesday last, when a First Class Certificate was awarded.

ODONTOGLOSSUM HUNNEWELLIANUM.

THIS Orchid is now in flower in Mr. Watts' collection, at The Briars, Chislehurst, and is, indeed, a very pretty thing, reminding one somewhat of O. Schillerianum, but larger in all its parts, and not possessing a plush-like lip like that variety.

EPIDENDRUM VITELLINUM MAJUS.

SOME fine pieces of this Orchid are also flowering in the same collection, with from seventeen to nineteen flowers on a spike, as well as a piece of the new Cattleya chrysotoxa, and two plants of C. Dowiana, a Cypripedium Sanderianum with "tails" 2 ft. 6 ins. long, a fine spike of Mormodes luxatum eburneum, a well-flowered plant of Lælia xanthina, several varieties of Miltonia, Angræcums, &c.

THE GARDENERS' CALENDAR.

THE STOVE.

PROPAGATION.—Now that most of the exhibitions are over for a season, much of the stock may now be reduced in size by propagating the tops of such things as Dracænas and Crotons that have got too tall and

leggy for the purposes for which they are usually employed. Good Crotons for table decorative purposes are C. angustissimum, C. Laingi, C. Warreni, C. picturatum, C. interruptum, C. Chelsoni, C. gloriosum, C. majesticum, C. Wilsoni, and others; while for many decorative purposes C. Veitchii, C. Andreanum, C. undulatum, C. Baron Rothschild, C. Weismanni, C. Johannis, C. aneitense, C. recurvifolium, and others are indispensable. The latter group consists of broad-leaved kinds, with very handsome variegation under good cultural treatment. Fine young plants of all these may be obtained by striking the tops of the stems and branches in a frame in the propagating pit, inserting the cuttings in small pots filled with light sandy soil. Many of the fine-leaved Dracænas may be treated in the same way. Others, especially the hard-wooded kinds, require to have their stems ringed, and a piece of moss tied round them just where roots are desired; or a small pot may be split in half, filled with sandy soil and sphagnum, and placed round the stem where ringed.

Alocasias.—Where it is desirable to break up old plants, or reduce them in size by taking off side suckers, it may now be done, and the pieces or young plants will get established in the fresh soil before the advent of winter and dull weather.

Celosias.—The latest batch of these should now receive their final shift, and be kept growing on under favourable conditions so that they may make good growth during the remainder of the time that they can with safety be grown in cold frames. On the afternoon of fine days syringe the plants and close early so as to economise the sun heat. Light rich soil is always best for this class of plants.

Gesneras and Tydæa.—Those intended for autumn and winter flowering should now be making rapid progress. The most suitable position for them is a pit or a frame, with the means of supplying bottom heat. The pots should be plunged in the bed of this structure close to the glass, and the roots kept moving freely by a little stimulation from bottom heat. They will make all the sturdier growth if a fair amount of ventilation be given on all favourable occasions. Gesnera cardinalis is already making a fine show; G. nægelioides and its numerous garden forms have been in flower for some time, and G. refulgens and Nægelia zebrina will flower soon if they have not already commenced. The later batches may be kept till late in the season. Tydæa amabilis, Madame Heine when grown late commences to flower in autumn, and keeps on for a great part of the winter.

THE GREENHOUSE.

Plants in Flower.—The greenhouse or conservatory may be made gay at the present time with various hardy or half-hardy subjects, such as Campanula pyramidalis, C. isophylla alba, the Cape Hyacinth (Galtonia candicans), Hydrangeas, both pink and blue, H. paniculata grandiflora, with its huge panicles of white flowers; Trachelium cœruleum and its white variety, although it must be admitted that the former is the best; Browallia elata, with its bright blue, white-eyed flowers, and similar subjects. China Asters may be lifted from the open ground, potted up, and if necessary, shaded for a day or two, and afterwards transferred to the greenhouse, where they will afford a pleasing change amongst the other occupants of the house.

Roman Hyacinths.—As soon as the first consignments are received, a batch should be potted up at once, and plunged in coco-nut fibre, out of doors, on a bottom of coal ashes. They will come on much earlier than if buried more deeply, and sooner if plunged in fibre instead of coal ashes, as the warmth of the sun can the sooner penetrate and warm the soil.

THE FRUIT HOUSES.

Vineries.—Now is a good time to top-dress the borders of the earliest vinery, both outside and inside, where two are in use. As a rule, however, there is an inside border only. Should it be necessary to re-make the borders, now is the best time to do it. Before commencing to take out the old soil or disturbing the roots, prepare the new compost, which should consist of good turfy soil roughly broken up, ½-inch bones, old mortar, and charcoal, where it is to be had. Remove the old soil carefully with a fork to avoid cutting the roots. Drain the border with brickbats, and see that there is an outlet for surplus water. Place a layer of turf over the drainage with the grassy side downwards; fill in some of the compost, and distribute the roots evenly over the soil at no great depth from the surface—say about 9 ins. Cover the whole carefully, and tread firm afterwards, giving a watering to settle the soil.

THE KITCHEN GARDEN.

Strawberries.—Young plantations will have to be attended to in places, and at times when they are likely to suffer from drought, until the young plants get firmly established; with the increasing length of the nights, the dews and rain, good growth will be made before the advent of cold weather puts a stop to it.

Raspberries.—As the summer-fruiting plantations cease to give supplies the old canes may be cut down, and the young ones reduced to five or six where they are tied to stakes; but a greater number may be allowed where the canes are tied to wires strained on poles. In private establishments, where ground is in any way limited, this is the best method of utilising it to the best advantage as far as the culture of Raspberries is concerned.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*August 13th.*

The main features of the meeting on Tuesday last were hardy herbaceous plants, Roses, Dahlias, Gladioli, hardy trees and shrubs, Begonias, Tomatos and Apples; there was also a good sprinkling of various hothouse plants, including Orchids, Nepenthes, &c. The central and side tables in the Drill Hall were well filled.

A very attractive group of Lemoine's new hybrid Gladioli was shown by Messrs. J. Veitch & Sons, of Chelsea. They constitute quite a new strain between Gladiolus Sandersii and G. purpureo-auratus, some taking after one parent and some another. Some of the best were Nancianns President Carnot, N. Comte Horace de Choiseul, Andre Chenier, Alsace and La France. They also showed a collection of cut flowers of hybrid greenhouse Rhododendrons of the Javan and multicolor types, amongst which was a new one, the Duchess of Fife. Nepenthes Curtisii and N. C. superba were also included in their group. A large collection of hardy trees and shrubs, with variegated or otherwise ornamental foliage, was brought up from their Coombe Wood nursery. Amongst those with yellow foliage were Quercus pedunculata concordia, Weigelia rosea Looymansii aurea, Alnus glutinosus foliis aureis, Spiræa opulifolia lutea, Catalpa syringæfolia aurea, Robinia Pseud-Acacia aurea, Ptelea trifoliata aurea, Ligustrum ovalifolium elegantissimum. There were also purple-leaved and large-leaved subjects. A Silver Banksian Medal was awarded for the whole collection of plants. A Silver Banksian Medal was also awarded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for a collection of Dahlias. Amongst single kinds were Mrs. Jeffreys, rose, with crimson zone; Mrs. Kennet, scarlet and yellow stripe; Miss Coninck, pale mauve, with white centre; and Cactus varieties included Zulu, blackish maroon; Empress of India, maroon; and others. He also showed Gaillardia maxima, G. splendida, both intense red, with yellow tips; and two quilled kinds named Aurora and Distinction, together with Lilium cordifolium, L. auratum virginale, Helianthus multiflorus, and varieties. A similar award was made to Messrs. H. Cannell & Sons, Swanley, for a group of double-flowered tuberous Begonias, including fine sorts named Mrs. Cayzer, Mrs. Litkie, A. Blanc, Mrs. Eddy, white, suffused salmon; Miss Mary Moore, rose, with large undulated petals; and Mrs. F. Jacob, pink and white. They also showed a pretty group of the double white winter-flowering B. Octavie, Nertera depressa, Rochea falcata, and Coleus Vesuvius, with rich carmine and crimson foliage. Messrs. Paul & Son, Cheshunt, also received a Silver Banksian Medal for a collection of Roses, eight boxes of cut blooms of H.P.'s, Polyantha Roses, and hardy herbaceous plants. Amongst the Polyantha Roses were Georges Pernet, Anna Marie de Montravel, white; Gloire de Polyantha, rose; Madame Alegatière, rose; Golden Fairy and Mignonette. Amongst the herbaceous plants were Shirley Poppies, Helianthus rigidus, Rudbeckia purpurea, Gypsophila paniculata, Aconitum autumnale, Anemone japonica rosea, and A. j. alba. A Bronze Banksian Medal was awarded to Messrs. J. Cheal & Sons, Crawley, Sussex, for a collection of Pompon, single, and Cactus or decorative Dahlias. Beautiful single varieties were James Scobbie, Victoria, Albert Victor, Formosa, Excelsior, Mrs. Bowman, Alba Perfecta, and Marie Linden; while Cactus kinds were represented by Panthea, Empress of India, maroon; and Charming Bride, pale purple.

The remaining groups were smaller. A number of exhibitors showed Orchids. Sir Trevor Lawrence, Bart., M.P., Burford Lodge, Dorking, had a fine variety of Cypripedium, named C. Stoneo-superbiens, which resembled C. Morganiæ, but had broader, finer spotted petals. He also had Eulophia megistophylla with flower stems 3 ft. high, for which, and for Saccolabium cœleste, he received votes of thanks. Vanda Kimballiana was certificated, and a Cultural Commendation awarded for Lælia monophylla. The rare Oncidium triquetrum was also shown. Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham, exhibited Cypripedium Morganiæ, C. orphanum, and another hybrid. Mr. Henry Tatz, Junr., Allington Beeches, Liverpool, showed a fine Cattleya, named C. Warscewiczii Hardyana. Mr. G. A. Bishop, gardener to W. Howard, Esq., The Grove, Teddington, exhibited a fine specimen of the typical Cattleya Warscewiczii. A Cultural Commendation was accorded to Mr. Norman, Hatfield, for twelve spikes of Saccolabium Blumei, varying from 1½ ft. to 2 ft. in length. C. E. Goodhart, Esq., Langley Park, Beckenham, showed Cypripedium Lawrenceanum (Goodhart's var.). A large bunch of sprays of Physianthus albens was shown by Mr. F. Ross, gardener to Sir Geo. Macleay, Pendell Court, Bletchingley, for which he received a vote of thanks. A fine plant of Bouvardia corymbifera, and a basket of Acer negundo aurea variegata were shown by Mr. W. Fisher, Grove Nursery, Hither Green, Lewisham. A stand of a light blotched variety of Godetia, named Duchess of Fife, and another dark variety named Duke of Fife, were shown by Messrs. Daniels Bros., Norwich. Anthurium Laingi with a white spathe and pink spadix was shown by Messrs. J. Laing & Sons, Forest Hill. A strain of Zinnias sent from Herr Otto Putz, and grown in the garden at Chiswick, was commended. From the same gardens came African Marigolds, and a Chinese Pink named Carter's Queen. Mr. R. Dean, Ealing, had some French Marigolds, Lobelia Heckfield Favourite, a fine blue bedding variety; fine specimens of Mauve Beauty Stock, and Single Dahlias Queen Victoria, Paragon and Scarlet Bedder. Messrs. Beale & Co., New Southgate, London, N., exhibited Tomatos, Bouvardias, Begonias, Petunias, Coleus, and other subjects grown with their fertilising moss, in comparatively small pots. Mr. Geo. Jackman, Woking, Surrey, exhibited a richly flowered specimen of Clematis, Mrs. Baron Veillard, with pale manve-purple flowers. Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham, exhibited four stands of exhibition Dahlias, for which he received a vote of thanks. Amongst them were such popular names as William Rawlings, Yellow Boy, Henry Glasscock, Crimson King, and Fascination, the latter being a conspicuous fancy with white-tipped florets.

At the meeting of the Fruit Committee a splendid collection of Tomatos in pots was brought up from the society's garden at Chiswick. They included some fine, heavily fruited specimens of President Cleveland, Wiles' Prolific, Horsefield's Prelude, Chemin, Chiswick Hybrid (Horsefield's Prelude crossed with Ham Green Favourite), and others. There was also a large number of dishes of different kinds, including Golden Queen, Prince of Orange, Yellow King and other yellow varieties; also Horsefield's Prelude, Advancer and Lorillard, the noted American variety, a richly-coloured scarlet, resembling to some extent the Perfection type, and many others; a Cultural Commendation was awarded. A Bronze Banksian Medal was awarded to the English Apple and Fruit Growing Company for a collection of eight kinds of Tomatos, exhibited in baskets; all were fine samples of their kind, smooth, and rich in colour. The varieties were Ham Green Favourite, Cardinal, Optimus, Hackwood Park, Livingstone's Perfection, Conqueror, Homefield Red and Sutton's Abundance. A collection of fruit was staged by Messrs. J. Veitch & Sons, including the Czar, Frogmore Orleans, Old Orleans, Early Orleans and other Plums, Jargonelle and Beurré Giffard Pears, and a large number of early Apples, including Irish Peach, Oslin, Red and White Astrachan, Mr. Gladstone, Hawthornden, Lord Suffield, Duchess of Oldenburg, Red Quarrenden, Ecklinville and others, sent up from their Fulham and Slough nurseries. Messrs. Cheal & Sons had a collection of last year's Apples, such as Hanwell Souring, Annie Elizabeth, Alfriston, French Crab, Sturmer Pippin and Dutch Mignonne, ; they also showed early Apples, such as Irish Peach, Early Kerry, Yorkshire Beauty, Professor and Duchess of Oldenburg. W. Roupell, Esq., Roupell Park, received a Cultural Commendation for Red Juneating, Red Astrachan, Irish Peach and Devonshire Quarrenden Apples. Brutton's Perfection Melon was shown by

Mr. Joseph Brutton, Yeovil; a green-fleshed Melon by Mr. F. Nicholas, Upleatham, Yorks; Gunton Park Scarlet by Mr. W. Allen, Gunton Park, Norwich; Basing Park Melon by Mr. W. Smythe, Basing Park, Alton, Hants; and Ketton Gem, a white-fleshed variety, by Mr. W. H. Divers, Ketton Hall, Stamford. Mr. Smythe also showed the Peach Tomato, a peculiar red-coloured variety.

Leicester Abbey Park.

THE fourth show promoted by the Abbey Park Committee of the Leicester Corporation was held on August 6th, and was in every way a most gratifying success. The arrangements were perfect, and the splendid condition of the park in which the show was held rendered it a strong additional attraction. No town in the United Kingdom is favoured with a better place for the recreation of the public than Leicester. What a change it was to me to see the show so well patronised, coming fresh from Liverpool, where the annual exhibition, I regret to say, was again very poorly attended! On the first day only £15 was taken at the gates, and on the Monday also the return was very poor. This is greatly to be regretted, as the Liverpool Horticultural Association has worked hard to establish a show attractive to the public. The exhibitions there are always good, but the attendance is not what it should be in a town like Liverpool. At Leicester nearly £500 was taken at the gates on the one day, and Mr. Burn, the promoter, under whose superintendence the show is held, deserves the highest credit for his admirable management. The show was opened by the Mayor, Mr. Alderman Wood, who, in his opening address, referred to the success which had attended their previous exhibitions, and spoke encouragingly of the future. I understand it is the intention of the committee to increase their prizes, and to offer substantial awards for table decorations another year.

Taking the show all round it was a very good one, but specimen plants were not numerous. The cut flowers were, however, good, and the fruit and vegetables excellent. The principal prize for a collection of fruit was taken by Mr. Edmonds, Bestwood Hall, Nottingham; and he was also first for two bunches of Muscats and for two bunches of black Grapes other than Black Hamburgh. Mr. Ward, Alfreton, was first for the latter variety. Mr. Blair, Trentham; Mr. Crawford, Coddington Hall, Newark; and Mr. J. Lambert, Onslow Hall, Shrewsbury, were among the prize winners in other classes.

The vegetables were a very fine lot, and for a collection of twelve Mr. Lambert was first in his usual admirable style.

Of cut flowers the Roses were fair only, the heavy rains having had a marked effect upon them. For thirty-six distinct varieties in the open class Messrs. Harkness & Son were first in a good competition. For bouquets, both bridal and ball, also for button-hole flowers and sprays, the invincible firm of Messrs. Perkins & Son, of Coventry, secured the whole of the first prizes. Mr. P. Blair, of Trentham, secured second honours for bouquets. Picotees and Pinks were good, and the collections of cut hardy flowers superb. For a collection of cut stove and greenhouse flowers, Mr. Blair, of Trentham, was easily first, showing one of the best boxes I ever remember to have seen. The cottagers showed well, and are to be congratulated upon the quality of their exhibits.

Mr. B. S. Williams, of Holloway, sent, not for competition, a beautiful collection of stove and greenhouse foliage and flowering plants, amongst which were many fine Orchids; these were beautifully arranged in a group, and proved to be one of the principal features of the show. This collection was unanimously awarded a very high commendation by the judges. Several special prizes were offered for various things which brought forth some splendid competition, especially for the prizes offered by Mr. Williams for table plants, Messrs. Warner & Son for herbaceous flowers, and Messrs. Harrison & Son for vegetables.—*Rusticus.*

St. Neots Horticultural.

THE twenty-fifth annual exhibition took place in Priory Park, close to the town, on Bank Holiday, and proved very successful indeed, something like £80 being taken at the gates. Under the management of Mr. William Ratchelous, the popular acting secretary, this show has become one of the best in the county of Hunts, and as the various tastes of the country people are met in the schedule, large numbers of them are attracted to see it.

In the plant classes, the best groups came from Mr. Thomas, gardener to Lord Esme Gordon, Paxton Park; Mr. Redman, gardener to J. H. Goodgames, Esq., Eynesbury, being placed second. Mr. Redman had the best six plants in bloom, staging very good specimens of Statice profusa, Dipladenia amabilis, Stephanotis floribunda, Bougainvillea glabra, Ixora javanica, and Clerodendron fallax. He also had the best specimen, staging a fine piece of Stephanotis floribunda. Mr. Thomas had the best foliage plant in Alocasia metallica, Mr. Redman coming next with Croton Weismanni. Mr. Redman had the best six Fuchsias, staging plants much better finished than we usually see at country shows, the varieties being Daniel Lambert, Alexandrine, Venus de Medici, Fairest of the Fair, and two others. Mr. Redman had the best four Ferns, staging excellent plants of Platycerium alcicorne, Adiantum Williamsii, A. cuneatum, and A. gracillimum; second, Mr. Smith, gardener to Miss Cheire, Papworth Hall, St. Ives, with some good plants also. Some very finely grown and flowered tuberous-rooted Begonias were staged by Mr. R. L. Towgood, a local grower who was exhibiting for the first time. Some good plants were also shown by amateurs and cottagers.

Roses were a leading feature among cut flowers. The best twenty-four came from Mr. E. B. Lindsell, Hitchin; he also had the best twelve, and also twelve Teas and Noisettes. Mr. Redman had the best twenty-four bunches of cut flowers, a very good selection indeed; while bunches of hardy flowers were a very fine feature. Some really magnificent blooms of African Marigolds came from Mr. Gifford, Hemingford. An excellent stand of Dahlias, and also of Carnations and Picotees, was staged, not for competition, by Messrs. Wood & Ingram, nurserymen, Huntingdon.

Of fruit Mr. Smith had the best six dishes, staging Black Hamburgh and White Muscat Grapes, very fine Peaches, Nectarines, Cherries and Melons. Black and White Grapes were shown in single bunches, Gros Maroc being well finished. Melons, Peaches, Apricots, Nectarines, Apples, Pears and Plums were all well represented.

Vegetables were numerous and very fine generally. Mr. Myers, gardener to the Earl of Sandwich, Hinchingbrook, had the best ten varieties of vegetables of the best quality; Mr. P. Franklyn, of Barfield, being second. Mr. Myers had the best six dishes of Potatos, having fine, bright, and clean samples of Schoolmaster, Reading Russet, Vicar of Laleham, Satisfaction, Abundance, and Snowdrop. Mr. Carter, gardener to Captain Duncombe, Waresley, was a close second, having Beauty of Hebron, Mr. Bresee, Snowdrop, Vicar of Laleham, M.P., and Reading Russet. All other vegetables were numerous and very fine.

At the luncheon to the judges hearty testimony was borne to the services rendered to the society by Mr. W. Ratchelous, who in addition to acting as collector, also manages the exhibitions. The present position of the society is largely due to Mr. Ratchelous, and it is hoped that at the end of the year a very substantial balance will be carried forward to 1890.

Mansfield Horticultural.—*August 5th.*

THE annual exhibition in connection with this society took place on the above date, and was considered the best the society has yet held, nearly all of the classes being closely contested, and the produce shown by the cottagers and amateurs proving how great is the interest taken in gardening by those who labour in cotton mills, iron foundries, &c., in manufacturing towns, where allotment gardens are procurable. A heavy thunderstorm accompanied by hail and rain spoilt the chance of taking many shillings at the gate, but the sun shone brightly late in the afternoon and induced several thousands to visit the show and add their sixpences to the society's exchequer.

Mr. Clements, gardener to Col. Coke, again secured the leading position for a group of plants arranged for effect; Mr. Parks, gardener to G. H. Hibbert, Esq., was second, and Mr. Shaw, gardener to W. Bryan, Esq., was third. The leading prize for fine-foliaged plants went to Mr. Clements; for Begonias and Gloxinias to Mr. Shaw; and for Ferns, Fuchsias, zonal Pelargoniums (double and single), and Ivy-leaved Pelargoniums to Mr. Parks. For a collection of fruit Messrs. Clements, Shaw, and Daws stood in the order named, and Mr. Parks had the best Peaches. For Dahlias, Mr. Phillips was first, and Mr. Clements had the best Roses, while the best bouquet came from Mr. Parks, and he also had the best stand for dinner-table decoration. In the amateurs' division Mr. R. Gunthorpe had the best group of plants, Mr. Jackson being second, and Mr. Wharmby third. Mr. Gunthorpe had also the best Fuchsias and Ferns, while Mr. Buckland had the best Begonias, Verbenas, Coleus, and zonal Pelargoniums. Vegetables were very well shown in this division. Messrs. Sutton & Sons, Messrs. Webb & Sons and Messrs. Pearson offered prizes for collections of vegetables, and there was a good competition in each case.

The cottagers' produce was well up to the usual high standard seen at this show in past years, and proves again that North Notts can produce vegetables (as well as cricketers) which are not easily beaten.—*W. P.*

Longford Valley Horticultural.

BESIDES encouraging local horticulture by means of an annual exhibition, and the awarding of prizes for the best kept cottage gardens in the Nailsworth, Minchinhampton, and Avening district of Gloucestershire, this society, which was established some four years ago by Arthur T. Playne, Esq., Longfords Hall, also combines an industrial branch, and at the annual show gives prizes for butter, honey, needlework, cookery, &c. The exhibition held on the 8th inst., in Mr. Playne's beautiful grounds at Longfords, was attended with great success, the weather being fine, the attendance large, and the show the best that has yet been held. Among the most successful of the exhibitors was Mr. Playne's gardener, Mr. W. Driver.

QUESTIONS AND ANSWERS.

DEATH'S HEAD MOTH.—A correspondent is desirous of procuring some of the caterpillars of the Death's Head Moth, which are often found on the foliage of Potatos in the early autumn in southern counties. We should be greatly obliged to any of our readers who can favour us with a few specimens on his behalf.

FRUITS FOR EXHIBITION.—*Stackpool:* Dessert Plums: The Czar and Reine Claude d'Oullins. Pears: Beurré Gifford and Jargonelle. Apples: Red Astrachan and Irish Peach.

FUCHSIAS FOR EXHIBITION.—*Stackpool:* Singles—Charming, dark; and Emily Lye, light. Doubles—Avalanche, dark; and Kingsburyana, light.

GLOBE ARTICHOKES.—Can any of your readers assist me with advice as regards Globe Artichokes. Mine grow well, are protected in winter with loose litter, but do not crop well. What should be done to make them produce fruit abundantly as in former years?—*A Constant Reader.*

BULBS TO FLOWER AT CHRISTMAS.—*Omega:* You might possibly get some Roman Hyacinths in bloom at Christmas in your unheated house, if you potted them up at once, and put them under ashes or coco-nut fibre for a few weeks, but much will depend upon the season, and your own management of them.

CARNATION.—*W. Dowell:* We do not recognise the flower, which may be an unnamed seedling. We should like to see a perfectly fresh bloom if not too late.

CATTLEYA AND ODONTOGLOSSUM.—*Alex. Chalmers:* The blooms of Cattleya Dowiana are very fine specimens of their kind, both as to cultural treatment and colour, that labelled No. 1 being the best. The nankeen-yellow of the sepals and petals is deeper and the lip larger and more plentifully streaked with golden lines than in the other. It approaches the variety named C. P. aurea, but is not identical. The blooms of Odontoglossum Harryanum are also very fine. Here again No. 1 is the best, with intense velvety brown sepals and petals, and strongly fragrant, more so than No. 2, which has chocolate-brown sepals and petals. The first has also a darker violet-purple base to the lip. Catasetum Bungerothii in good specimens bears about ten flowers on a scape, but we do not recollect seeing more than one scape from a pseudo-bulb, although there is no reason why this should not be the case as occurs in other species of Catasetum and Mormodes. But when there is a plurality of scapes from one pseudo-bulb, the flowers are generally less numerous. Yours are no doubt good samples. The small-flowered Orchid is a species of Trichopilia that we shall endeavour to determine before next week.

NAMES OF PLANTS.—*Omega:* 1, Sneezewort or Achillea Ptarmica; 2, Polygonum lapathifolium (has no common English name); 3, the Corn Poppy (Papaver Rhœas).

ROSES.—*T. B. P.:* 1, It would do the plants good to lift and re-plant them after the bed has been liberally enriched with well-rotted farmyard manure. If you can add some good fresh loam at the same time so much the better. 2, Not to any appreciable extent, perhaps not at all if their roots are in fair order. 3, Early in October, the sooner the better, and it would greatly help them if you mulched the ground with littery manure after planting. 4, If you do not want to lift them, give the bed a heavy mulching of manure before winter sets in, and renew it when the plants commence growth in spring. Fresh planting would be the most satisfactory in the end.

TOMATOS.—*J. B.:* We hardly understand your question, but may remark that the flowers of the Tomato are hermaphrodite—that is to say, the male and female organs exist in the same flower.

COMMUNICATIONS RECEIVED.—R. B.—M. R.—Barr & Son.—G. F.—J. W.—D. B.—R. S.—J. H.—D. P. L.—J. Birkenhead.—J. H.

TRADE CATALOGUES RECEIVED.

JAMES VEITCH & SONS, King's Road, Chelsea, S.W.—Hyacinths and other Bulbous Roots.

JOHN LAING & SONS, Forest Hill, S.E.—Bulbs, Seeds, Trees and Shrubs, Begonias, &c.

EWING & Co., Sea View Nurseries, Havant.—Roses in Pots, and for Autumn Planting.

HARRISON & SONS, Leicester.—Spring-flowering Bulbs and Roots.

DICKSONS & Co., 1, Waterloo Place, Edinburgh.—Imported Flower Roots, Seeds for Autumn Sowing, &c.

W. DRUMMOND & SONS, Stirling.—Bulbous and other Flower Roots.

B. L. COLEMAN, Sandwich.—Vegetable Seeds for Summer and Autumn Sowing.

CHARLES ALLEN, Red House Nurseries, Mildenhall, Suffolk.—Short List of Dutch Bulbs, &c.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending August 10th was 29·70 ins.; the highest reading 29·95 ins. on Thursday morning, and the lowest was 29·43 ins. at the end of the week. The mean temperature of the air was 60·4°, and 2·3° below the average in the corresponding weeks of the twenty years ending 1868. The mean exceeded the average on Sunday, but was below the average on the other days of the week. The general direction of the wind was S.W., and the horizontal movement of the air averaged 11·8 miles per hour, which was 1·1 miles above the average in the corresponding weeks of sixteen years. Rain fell on five days of the week, to the aggregate amount of 0·46 of an inch. The duration of registered bright sunshine in the week was 46·0 hours, against 51·6 hours at Glynde Place, Lewes.

LONDON SEED TRADE.

August 12th.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a steady sale for Trifolium at prices current last week. Mustard and Rape in slow demand. New Rye and Winter Tares sell freely at moderate rates now ruling. Rye Grasses promise to be cheap.

COVENT GARDEN MARKET.

August 14th.

Fruit.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, Eng., lb.	1 6	3 0
Grapes .....per lb.	1 3	3 0	Pine-apples, St. Michaels.....each	2 0	7 0
Peaches ....per doz.	2 0	8 0			

Vegetables.—Average Retail Prices.

	s.d.	s.d.		s.d.	s.d
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus ....per 100			Horse Radish, bundle	3 0	5 0
Beans, French, per lb.	0 6		Lettuces ..per dozen	1	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages.... per doz.	1 6		Onions....per bushel	7 0	9 0
Carrots....per bunch	0 6		Parsley....per bunch	0 6	
Cauliflowers, English, per dozen	3 0	6 0	Radishes ..per dozen	1 6	
			Small salading, punnet	0 4	
Celery....per bundle	2 6		Spinach, per strike ..	2 0	
Cucumbers ....each	0 4	0 10	Tomatos ....per lb.	0	1 0
Endive, French, doz.	2 6	3 6	Turnips ....per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Cut Flowers.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Arum Lilies, 12 blms ..	2 0	4 0	Lavender, 12 bunches	4 0	6 0
Asters, French, per bunch	1 0	1 6	Maidenhair Fern, 12 bns.	4 0	9 0
Bouvardias, per bun.	0 6	1 0	Marguerites, 12 bun.	3 0	6 0
Carnations, 12 blooms	1 0	2 0	Mignonette, 12 bun.	1 0	4 0
Carnations, 12 bnchs.	3 0	6 0	Pansies ..12 bunches	1 0	2 0
Cornflower, .12 bnchs.	1 0	3 0	Pelargoniums, 12 sprys.	0 6	1 0
Eschscholtzia, 12 bchs.	2 0	4 0	— scarlet ..12 sprays	0 3	0 6
Eucharis ..per dozen	2 0	4 0	Pinks ....12 bunches	2 0	4 0
Forget-me-nots.....	1 6	4 0	Primula, double, bun.	0 6	1 0
Gardenias, 12 blooms.	2 0	5 0	Pyrethrum. 12 buchs.	2 0	6 0
Gladioli ..12 bunches	6 0	12 0	Roses, Tea, per dozen	0 6	1 0
Gladioli brenchleyensis, doz. sprays	0 9	1 6	— Red .....per doz.	0 3	1 0
			— Saffrano ..per doz.	0 6	1 0
Heliotropes, 12 sprays	0 3	0 9	Stephanotis, 12 sprays	2 0	4 0
Lapageria, 12 blooms	1 0	2 0	Stocks, doz. bunches	3 0	6 0
Lilium longiflorum, 12 blooms	2 0	4 0	Sweet Sultan, 12 bun.	3 0	5 0
			— Peas.....12 ,,	2 0	4 0
			Tuberoses, per dozen.	0 6	1 0

Plants in Pots.—Average Wholesale Prices.

	s.d.	s.d.		s.d.	s.d.
Aralia Sieboldi ..doz.	5 0	12 0	Heliotrope ..per doz.	3 0	6 0
Arum Lilies..per doz.	6 0	12 0	Hydrangeas..per doz.	6 0	15 0
Balsams .....doz.	3 0	6 0	Lilium auratum, doz.	12 0	24 0
Begonias, various, doz.	4 0	9 0	— longiflorum per doz.	18 0	30 0
Calceolaria ..per doz.	4 0	8 0	Lobelia .... per doz.	3 0	6 0
Cockscombs ....doz.	3 0	6 0	Marguerites per doz.	6 0	12 0
Cyperus, ..per dozen	4 0	12 0	Mignonette, doz. pots	3 0	6 0
Dracæna term., doz.	30 0	60 0	Musk ..... per doz.	2 0	4 0
— viridis, per dozen	12 0	24 0	Nasturtiums .... doz.	3 0	5 0
Erica, various ..doz.	9 0	24 0	Palms in variety, each	2 6	21 0
Evergreens, in var. ,,	6 0	24 0	Pelargoniums, scarlet,	2 0	6 0
Ferns, in var., per doz.	4 0	18 0	Pelargoniums, per doz	6 0	12 0
Fuchsia.....per doz.	3 0	9 0	Rhodanthe ..per doz.	2 0	4 0

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Splendid Bedding Hyacinths, Blue, **9s.**; Red, **13s.**; White, **16s.**; or mixed, all colours, **11s. per 100.**

Tulips will be dearer and scarcer this year, owing to the great increased demand, but having made very advantageous purchases, my prices will be but little above those of last year.

I shall have a very select collection of Narcissi at reduced prices, and I shall have a grand lot of Scilla sibirica, Chionodoxa Luciliæ, Snowdrops, Crocuses, Winter Aconites, Ixias, English and Spanish Iris, Ranunculus, Lilium Harrisi, &c., &c.

A full list ready shortly, and sent post free on application.
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SUNFLOWERS, DOUBLE PERENNIAL, TWO VARIETIES.—The numerous customers throughout the British Isles that had from Cork the "Double Quilled form" now in flower should at once state through the press the gross imposition that has been practised on them by me in sending them "as new" a plant that was so exceedingly common in England. A note from Chester, Kew, York, Glasnevin, Langport, and Tottenham, through the press, should certainly stamp me as an impostor, and it will have the effect of frustrating the further sale of such a worthless plant. A box of magnificent blooms, post free for six stamps, will be in further condemnation of WM. BAYLOR HARTLAND, Seedsman, Cork.

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Next Week's Engagements.

MONDAY, August 26th.—Bulb Sale at Protheroe & Morris's, and Stevens' Rooms.
TUESDAY, August 27th.—Royal Horticultural Society: Meeting of Committee at the Drill Hall.
WEDNESDAY, August 28th.—Bulb Sale at Stevens' Rooms.
THURSDAY, August 29th.—Ludlow Flower Show. Bulb Sale at Protheroe & Morris's Rooms.
FRIDAY, August 30th.—Sandy Flower Show. Sale of Orchids in Flower at Protheroe & Morris's Rooms.
SATURDAY, August 31st.—Bulb Sale at Stevens' Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

The Gardening World.
SATURDAY, AUGUST 24, 1889.

CURRENT TOPICS.

THE VEGETABLE CONFERENCE AT CHISWICK.—At length the revised schedule of the committee having charge of the arrangements for this conference has been put into circulation, and as our readers will note in our advertising columns, copies may be had at once on application to Mr. Barron. Being most anxious to see this conference a real success, we strongly urge our readers to obtain them at once, and then set to work and see how far it will be possible as well as convenient for them to take part in the conference by sending or, better still, bringing up their best products to Chiswick for exhibition. We are having a good vegetable season, and good samples of the main season or autumn vegetables should be abundant.

The proposal to hold a big gardeners' dinner and reception in connection with the conference has also been cordially adopted, both by the Council of the Royal Horticultural Society and the committee, and a sub-committee has been appointed to carry it out. Mr. H. J. Veitch will preside, and the dinner will be held at the Cannon Street Hotel on the first evening of the conference. The price of the dinner ticket will be 5s., consequently, a large gathering may be expected, and it will be well for all proposing to attend to make an early application for tickets, as the space available is not unlimited.

Every gardener attending will not only meet with a hearty welcome from his fellows, but with a special personal welcome from the chairman and other of the leading metropolitan horticulturists, so that no one will find himself a stranger amongst strangers, but rather amongst friends. This gardeners' gathering should make with the conference the horticultural event of the season.

VEGETABLE NOMENCLATURE.—A serious task has been set to the committee charged with the supervision of the Chiswick Vegetable Conference. One of the objects of that conference is to revise nomenclature so far as to give to every vegetable, if possible, its original or correct name. At one of the meetings of the committee held recently a resolution was passed that in determining names, priority of origin of introduction shall be followed as far as possible. That resolution, it will be seen, is prominently placed at the head of the schedule of selection as a guide to those undertaking that responsible duty. We do not know how far a record of the original names of vegetables has been kept at Chiswick, but it is obvious that unless some such record is to be found, endless trouble may arise to judges or members of committees in determining matters so subject to dispute.

Whatsoever course may be taken at the conference, and we hope to see the above resolution strictly adhered to, yet it is certain that few, if any, will adopt its spirit later and amend their nomenclature. Of course, the conference is in no way bound by that. It is the duty of the committee just as if no such thing as the seed trade or its irrelevant methods of naming vegetables existed. The honour of raising or of introducing any good vegetable should be placed on the right shoulders, whilst if the variety be not good no one need be anxious to obtain a dubious honour. The carrying out of this matter firmly and rigidly should lend great additional interest to the conference proceedings; and gardeners, and indeed all classes of exhibitors, might do much to assist the committee by giving all information they may possess in regard to the names of their exhibits.

THE CHISWICK TOMATOS.—Although there were many objects of interest at the Drill Hall meeting on the 12th inst., yet for once—in spite of a beautiful array of flowers—fruits in the shape of Tomatos may be said to have taken the cake. The plants from Chiswick, sent up by Mr. Barron, were superbly fruited and rich in colour, because of the wealth of glowing red fruits each one carried. The new variety, miscalled Chiswick Hybrid, for no cross products of varieties of the same species can be hybrids, is a first-rate kind, having the merit of carrying less lengthy clusters of fruit than Horsford's Prelude, one of its parents, of having rather finer and deeper coloured samples, as also of finishing up more fully. Everybody interested in Tomatos should now see the house devoted

to their culture at Chiswick, as to many it would prove to be an eye-opener in relation to Tomato culture.

We must compliment the recently formed British Apple and Fruit Company on their first appearance as exhibitors, although their Apple products were "Love Apples," as once so called, an appellation for the Tomato now almost forgotten. The fine kinds shown by this company, especially Livingstone's Favourite, the original probably of all the Perfection type, were highly meritorious, and formed a most attractive feature. In the face of such superb samples as came from Chiswick and Fosbroke, it is a matter for surprise that such kinds should be put into commerce as are occasionally met with, and are so ugly and so objectionable in colour.

It is stated with some authority that medical men are decrying Tomatos for the reason that they seem to possess so many excellent medicinal properties as to render medical attendance comparatively needless where the fruits are regularly but still moderately consumed. The notion is both amusing and exceedingly interesting.

THE NATIONAL CHRYSANTHEMUM SOCIETY.—The award of a Certificate of Merit to a new early Chrysanthemum at the Drill Hall last week may well serve to remind our readers that the season of the Chrysanthemum is close at hand. Practically, so far as the "National" is concerned, it begins next month with the early Chrysanthemum show at the Royal Aquarium, Westminster, on the 11th and 12th, with which also is wisely allied a fine Dahlia and Gladioli exhibition, as experience has shown that early Chrysanthemums alone fail to make up a really meritorious display.

But as evidence of the great advantages the society offers for its moderate annual subscription, not only do members secure free admission on both days to the autumn show, but also on both days to the grand Chrysanthemum show in November—literally, the finest show of the popular winter flower to be seen in the whole world. Again, the same privilege is afforded to the mid-winter show in January, and the provincial show at Hull on November 21st and 22nd; and as though even then subscribers would not be satisfied, there are the meetings of the Floral Committee held on October 9th and 23rd, November 26th, and December 11th, also there are the ordinary general meetings, conferences, &c., so that the privileges afforded exceed by far those offered by any similar society in the kingdom for the subscription. Who would not, therefore, be a member of the National Chrysanthemum Society?

There is ample reason for believing, so admirably on the whole have plants done this year, that we shall see in the late autumn flowers of unusual excellence, and the real centenary of the introduction of the Chrysanthemum seems as if it would be celebrated in the best possible fashion, by our having a glorious season for the flower. The "National" is doing its work so well that it merits the hearty support of every lover of Chrysanthemums, especially those within the metropolitan district. May hundreds of new members join the "National" during the present season!

HOLLYHOCKS.—Judging by the very beautiful spikes of Hollyhock flowers to be seen in all directions this year, it would seem as if that old pest, the warty fungus (Puccinea), was less destructive this year than usual. To some extent its ravages ever have been local, as even when some growers have had their plants decimated others have scarcely found evidences of the disease. But there can be no doubt but that for several years the fate of Hollyhocks trembled in the balance, and many were perforce induced to forego their cultivation altogether. Happily, the worst seems now to have passed, the fungus is, perhaps, wearing out, or it may be that it finds more difficulty in thriving when showers liberally prevail. Still, so erratic are its operations that last season a long row of fine plants was literally eaten up by it in spite of the wetness of the summer, whilst this year the same row of plants are blooming capitally.

However, we strongly recommend constant raising from seed. Still farther, it is well to secure changes of seed. That seems to be a good plan in relation to many things, but it is specially so in the case of all plants affected by diseases, such as Hollyhocks, Potatos, &c. If seed be sown now in a frame, plenty of stout plants will be produced to put out next spring early, and these will carry fine spikes of flowers late in the summer. We rather prefer to have Hollyhocks blooming in the autumn, because the cooler weather enables the flowers all the longer to endure. Still, such plants, if the shoots be thinned the following spring, will throw up two or three fine spikes during the summer, and make a brilliant and beautiful show.

Practical Fruit Growing.—Messrs. George Bell & Sons announce the publication shortly of a treatise on planting, growing, and storage of hardy fruits for market and private growers, by Mr. J. Cheal, of Crawley.

Fruit-Growing in Carse of Gowrie.—The *North British Agriculturist* reports that the famous Carse of Gowrie orchards are this year showing a crop which is much below the average yield. It is also stated that, as the result of the unprofitableness of the crops in recent seasons the trees have got to be in bad condition, being covered with moss and showing a good deal of dead wood.

Gardening Engagements.—Mr. R. Russell, as gardener to the Earl of Mayo, Palmerstown, co. Kildare. Mr. J. Arkell, as gardener to J. Hopton, Esq., Canon Frome Court, Ledbury. Mr. Fleming, as gardener to C. Saxton, Esq., Riverdene, Cookham, Berks. Mr. J. G. Kitching, as gardener to John Beard, Esq., Manor House, Linton, Burton-on-Trent. Mr. J. Burke, as gardener to J. Caldwell, Esq., Forest Hall, Essex.

New Plants Certificated in Ghent.—At the last meeting of the Syndical Chamber of Belgian Horticulturists, Certificates of Merit were awarded to Mr. Aug. Van Geert for Croton Montefontainensis, Nephrolepis Philippinensis, and Gymnogramma Mulleri; to Mr. A. Van Imschoot for Brassia Keliana and Odontoglossum Schilleriana; and to Mr. L. Spae for Pandanus Lennei.

Gale and Heavy Rainfall on Monday Night.—In the course of Monday night and Tuesday morning a smart gale from the westward was experienced over nearly the whole of England, with exceedingly heavy falls of rain in all the more western and northern parts of the United Kingdom. These unpleasant conditions have been brought about by a small barometrical depression of growing intensity, the centre of which has travelled north-eastwards across the St. George's Channel, Wales, and the north of England to the North Sea.

National Chrysanthemum Society.—A conference of cultivators and others interested in the Chrysanthemum will be held on September 11th, in conjunction with the National Chrysanthemum Society's exhibition of early-flowering Chrysanthemums, with Dahlias and Gladioli, at the Royal Aquarium. The programme prepared by the sub-committee appointed to carry out the arrangements includes a paper by Mr. W. Piercy, of Forest Hill, on "Early-flowering Chrysanthemums," and one by Mr. J. Doughty, of Angley Park, on the "Treatment of plants (grown for the production of exhibition blooms) a short time previous to the shows." The chair will be taken at 4 p.m.

The American Timber Trade.—The chief of the Forestry Division of the United States Department of Agriculture says that England heads the list of the countries to which are shipped the largest quantities of lumber. This country is closely followed by the West Indies, the Argentine Republic comes next, and then Austria, Germany, and Canada, with almost equal participation in the export trade. In wood manufactures, which form less than one quarter of the exports of forest products, agricultural implements and house-hold furniture alone are of importance, each with about £450,000 worth. England, France, the Argentine Republic, Austria, and Germany, together take over two-thirds of the United States' wood manufactures.

Pot-washing Machine.—"B. L." writes: "The pot-washing machine illustrated in your last issue is simplicity itself in construction, and admirably effective, no doubt, as far as it goes. For washing the insides it is doubtless perfect, but what about the outsides? For this something else is wanted, and I would suggest a hollow cylinder, with the brushes inside, at one end of the shaft."

Souvenir de Mirande Pelargonium.—Under this name we noticed a new variety of zonal Pelargonium the other day in the nurseries of Messrs. John Laing & Sons, Forest Hill. It is of French origin, as the name indicates, and presents rather a distinct, novel and attractive appearance. The lower petals are of a bright rosy carmine, fading to white or almost so at the very base, while the upper petals are tipped only with rosy carmine, and more than half of them are white. The amount of the latter is the distinguishing feature of the flower, while the lively colour of the rest renders the variety a charming one. The leaves are small and uniformly green, and are borne on stiff-growing short-jointed stems, while the truss of flowers is well thrown above the foliage.

The Scarlet Leather Flower.—Such is the popular name given to Clematis Viorna coccinea, owing to the great thickness of the sepals, which in this species and a few others assume a position very different from what usually occurs in the better-known and cultivated kinds at least. The four sepals are connivent—that is, they approach one another and form a pitcher-shaped structure like a true corolla, although they are really quite separate. The typical C. Viorna has similarly-shaped flowers, made up of four sepals that are purple externally and yellow internally, but in the variety under notice they are of a warm vermilion externally and yellow internally. A fine plant of it about 6 ft. high may be seen on an east-aspect wall at Kew, where the upper part of the plant is now well furnished with bloom. It is a very slender-growing species, and requires to be carefully supported as growth proceeds. Whether it is decidedly hardy is rather doubtful, but with the aid of a south-aspect wall in the more favoured parts of the country it not only lives but flowers with moderate freedom, and indeed looks handsome. The leaves are pinnate, with ovate leaflets, and being deciduous, protection can be readily given during the severest winters.

The Spotted Richardia.—Botanically this is Richardia maculata, which was once considered to be a variety of the popular R. africana, but the leaves are narrower and longer, and the white spots of the leaves are reproduced by seed sowing, which would not generally be the case if the plant were a mere sport from R. africana. It may be well, however, to bear in mind that there are exceptions. For instance, the variegated Sycamore (Acer Pseudo-Platanus variegata) bears seeds freely, and a large percentage of the seedlings have variegated leaves, even from the first pair onward. R. maculata also seeds freely, and the seedlings have green leaves the first year, but possess the characteristic white spots the second summer. Double and even triple spathes are by no means uncommon in this country, and are now pretty well known in the case of R. africana; but a double-spathed R. maculata has quite recently appeared on the Continent, as recorded by the *Revue de L'Horticulture Belge* for this month. The spathes originate opposite one another or nearly so, and are slightly different in size, as is generally, if not always the case with R. africana. The plant is as suitable for table and window decoration as the old favourite, and when placed between the eye and the light, the sub-transparent white spots are shown off to the best advantage.

Ealing Gardeners at Windsor.—The members of the Ealing and District Gardeners' Mutual Improvement Society, had their first excursion on Tuesday, August 13th, when thirty-three members and friends spent a very pleasant and profitable afternoon at Windsor. After visiting the Royal Chapels, Tower, and State apartments, the party walked to Frogmore, where they were shown round the Royal Gardens. On the way the Cedar of Lebanon planted by the Shah of Persia on a former visit was pointed out—a fine healthy tree. The Wellingtonias in the avenue were noted as getting to their best, making shorter growth every year. The visitors' book having been signed, the party went through the fruit and plant houses, which are built of

iron, and are very light and strong. The early vinery and Peach houses had their lights off, and the wood was observed to be in a very promising condition for next year. In the late vineries were heavy crops, and the Pine and Melon pits contained fine healthy fruits. The Orchids were in excellent health, the Calanthes and Phaius especially looking very promising. The Nepenthes were pitchering very freely, and the Croton house contained some very nice healthy and well-coloured plants. A fine plant of Cycas revoluta was noticed as having thrown up two tiers of fronds after flowering two years ago. In the large conservatory the Camellias were the picture of health, with an abundance of buds. In the Ferneries were some fine Adiantums for cutting, and the Aralia houses contained some fine red and white Lapagerias in bloom, planted out against the back wall. On the Peach wall the fine trees bore a fair average crop. After a look round the kitchen garden, the party returned to Windsor and partook of refreshments (Mr. J. Cannon occupying the chair, and the hon. sec., Mr. Chadwick, the vice-chair), after which a hearty vote of thanks was accorded to Mr. Jones for his kindness, and the party returned to Ealing, all well pleased with the outing.

FLOWERING PLANTS IN SEASON.

Perhaps at no period of the year can such a wealth of floral beauty be seen as at present, and both indoors and out there is ample diversity of colour, form, or effect to gratify the eye and please the most fastidious taste. Up to the present time the season has been very favourable for continuous flowering. The bright summer weather we had a few weeks ago produced grand results, and the beautiful rain coming after gave renewed life to vegetation of all kinds. It is, however, to indoor subjects that these remarks apply, and those named will comprise only a few of the many now in bloom, but which recommend themselves by being so universally popular, and therefore well tried in every respect.

In the stove a foremost place must be given to Allamanda Hendersoni, with its gorgeous yellow flowers, produced so profusely, and next comes Stephanotis floribunda, the blooms of which are pure white, borne in clusters, and so sweetly scented. Being climbers, a position on the roof is often given them, but failing this, trained on wire trellises in pots will allow of their being seen to full advantage. Eucharis amazonica is always welcome, as also are the scarlet spathes of Anthurium Scherzerianum, which are very effective and lasting. For making a show, Gloxinias deserve more than a word of passing recognition. The strides made in the improvement of this plant in recent years have resulted in some valuable additions being made to the lists. The erect-flowered ones are quite an acquisition, enabling their full beauty to be seen to better advantage than is the case with the drooping-flowered strain. The colours are very diverse, almost all shades being represented, and on this account are very useful for decoration or as cut flowers. Bougainvillea glabra, with its rose-coloured flowers, can be grown in an intermediate house, and is always useful, the profuseness of its blooming enabling one to use the knife about it freely, and often come again.

In the greenhouse and conservatory there is an abundance of flowers on every hand, and when carefully arranged, a grand display is the result. Zonal Pelargoniums give great variety, and among them may be mentioned as doubles, Wonderful, Guillon Mangelli, magenta; Madame Thibaut, bright rose; Candidissimum plenum, F. V. Raspail, vermilion: and as singles:—Henry Jacoby, one of the best, trusses of good size, of deep colour, and free; Celia, rich crimson; Niphetos, white; Imogen, salmon; Lucy Bosworth, rosy pink; all these are worth cultivating. Fuchsias, with so many varieties, and the brilliant tuberous section of Begonias are now in full beauty, and the autumn-flowering Begonia, B. Weltoniensis, is equally serviceable and pretty. Crassula (Kalosanthes) coccinea is unique, and lasts a considerable time when cut. Celosia pyramidalis with its two varieties deserve notice, their tall plumes rising amid a mass of flowers are very striking. Agapanthus umbellatus with bright blue flowers, many of which are produced on a scape, are exceedingly pretty and useful, the colour relieving the brilliancy of other subjects. As a creeper for the conservatory, Trachelospermum jasminioides, with its pure white beautifully scented flowers produced in little clusters, is quite a desideratum; it flowers freely, and requires a minimum of attention. Early Chrysanthemums, represented by Madame Desgranges, will soon be in full bloom, and from now throughout the dull months to come, we shall have them in our midst. All the foregoing will remain in beauty for some time to come, and when interspersed with such plants as Coprosma Baueriana variegata, Coleus, and Ferns like Lomaria Gibba, Pteris serrulata, Blechnum Brasiliense and its variety Corcovadense crispum, with waxy and crispy edges, are seen to better effect, and of course are rendered more artistic.—*F. R. S.*

PHLOXES.

The hardy perennial hybrid Phloxes of garden origin are again to the front, and remind us how beautiful they are, how profuse in flowering, and yet withal so comparatively neglected. Some years ago they were grown to great perfection, and exhibited in pots. Now, however, they are cultivated in beds, or merely stuck into ordinary herbaceous borders amongst a host of other subjects, where they receive none of the special cultural treatment which is necessary to obtain the finest results. We refer specially to what used to be known in gardens as autumn Phloxes in contradistinction to summer Phloxes (hybrids of P. glaberrima suffruticosa). The autumn kinds have been obtained by hybridising P. paniculata and its variety P. p. acuminata with P. maculata, known under a variety of synonyms, such as P. decussata, P. longiflora, P. suaveolens, &c. The forms have been so intercrossed with one another that it is difficult to refer the garden varieties to their respective types. A great number of them are infinitely beautiful, and exhibit a great variety of colouring, producing an enormous quantity

The Perennial Phlox.

of flowers for cutting purposes. The colours are finely brought out and the effect is handsome when these plants are flowered under glass. Out of doors the soil should be rich and free, well tilled, and manured. Phloxes are surface-feeding subjects, and to get the best results a good mulching should be given them, in order to preserve the moisture about them in summer, especially in the more southern and drier counties. Our illustration will give a general idea of the appearance of this class of Phloxes to those who have not yet attempted their cultivation.

THE MAIDENHAIR TREE (GINKGO BILOBA).

A prolonged visit to the very worst smoke-infested slums of London has now quite convinced me that the Maidenhair or Ginkgo Tree is one of the most valuable that can be planted in the impure atmosphere of a town garden. Few trees, I am fully aware, can compare with the one in question for withstanding the deleterious effects produced on vegetation generally by coming in too close contact with the impurities of our great centres of industry. The ample delicate green foliage betrays—even late in the season, and when about to be cast off—little evidence of the fierce struggle that must almost incessantly go on between vegetation and the smoke and filth of our towns and cities. That the thick leathery leaves and strong constitution of the tree play an important part in keeping it free from disease is clearly evident, while the fact of the leaves being renewed annually must go a long way towards casting off the sooty nodules which work such havoc on the tender foliage of most trees.

At no less than five places in and around the great metropolis—and such places, too, where one is almost stifled with the fumes from chimneys, and pastry-cook shops—the Maidenhair Tree may to-day be seen almost in as fresh and flourishing a condition as those enviable specimens on the Isle of Man; indeed, about as large trunks as can be pointed out anywhere may be seen in smoky Chelsea, and the little less agreeable parts of the Victoria district. Another grows where the daily smoke and filth would kill an ordinary rustic gardener in a fourth of the time that it has taken to build up the majestic trunk, about 2 ft. in girth, of that handsome Ginkgo tree.

But why, we may well ask, is the Maidenhair so neglected a town tree? This is readily answered. It is not well known, therefore not often asked for, and consequently but little propagated by the trade. That it is of the easiest culture, succeeding well in any fairly good soil if not too damp, readily enough propagated by layering, and a most desirable subject for the town or country garden, few who have had even a limited experience of the tree will care to deny. Not only as a standard tree is the Maidenhair valuable, but it is also one of the prettiest wall plants with which I am acquainted, and how many bare ugly erections of brick and stone in our city streets want a bit of greenery I would not like to say.—*A. D. Webster.*

THE FLORAL COMMITTEE OF THE R. H. S. AS INTERPRETERS.

The Floral Committee of the Royal Horticultural Society were tempted to perform in a new character at their meeting on the 13th inst., namely, that of interpreters of schedules of prizes. I do not think they are likely to shine in this capacity, but if they choose to try they must hazard the chance of success or failure. The secretary of the Devon and Exeter Horticultural Association wrote to the secretary of the R. H. S., asking if the society thought that in a class of "forty-eight Dahlias, doubles, distinct," Cactus and Pompon varieties could be shown. The Council, though quite competent to revise the work of the Floral Committee, did not apparently regard themselves as competent to deal with such a knotty point as this, and referred it to the Floral Committee; and it is worthy of note that the selfsame query was submitted to the editor of the *Gardeners' Chronicle*, and possibly to other papers. We have, then, the singular spectacle of a committee that had drawn up a schedule of prizes being unable to satisfactorily interpret their own conditions. No one can look over the schedule of prizes without coming to the conclusion that what was in the minds of the framers of the class was, that forty-eight blooms of show Dahlias were required, and that the class, being open to all, is intended to induce the large growers of exhibition Dahlias—like Turner, Keynes, and others—to compete; and the term double is used in the same sense as show. On turning to class 30, I find the same phrase used: "Twenty-four Dahlias, double, distinct"; and then follow classes for Cactus and Pompon Dahlias. Reasoning, therefore, from analogy, I should say that what is meant by double Dahlias is the large-flowered show class.

What I protest against is the Floral Committee setting itself up as an interpreter of schedules of prizes. They had not in this case either the schedule of prizes or the regulations of the society to refer to. The letter was read, and some members of the committee thought it a great privilege to have a matter of this kind submitted to them—it tickled their vanity. They said, "This Exeter Society is paying us a great compliment by remitting the matter to us. Yes, Cactus and Pompon Dahlias can be shown"—and so the matter was settled with a kind of rush, without time being afforded for consideration and reflection.

In a great many schedules of prizes there is a regulation to the effect that in case of any question arising as to the conditions under which exhibits can be shown, the interpretation shall rest with the judges. The judges are the proper authority to have the interpretation of what can be rightly termed a double Dahlia in this particular instance, and not a hybrid and foreign body like the Floral Committee of the Royal Horticultural Society. Had I been called upon to act as one of the judges at the Exeter show, I should have flatly declined to be bound by any conclusion arrived at by a number of irresponsible persons in London; and it is obvious that no Dahlia grower would be foolish enough to peril his chances of a prize by putting up blooms of Cactus and Pompon Dahlias with his large show flowers. Were prizes offered for a collection of Dahlias the thing would bear a different aspect. The case is one in which the interpreters of the schedule should endeavour to get at the intentions

of the framers of it; and in offering good prizes in an open competition intended to bring to Exeter the leading growers of the day, it is obvious that they wanted forty-eight of the best show varieties. Fancy a single bloom of Gem, White Aster, or any other Pompon Dahlia being staged by the side of one of Mrs. Gladstone, H. W. Ward, or any other full-sized show variety!

I trust that in the future the Floral Committee of the Royal Horticultural Society will be careful how they are led into doubtful paths of this character. It is altogether foreign to their legitimate work to play the *rôle* of interpreter. The judges, and the judges alone, are the proper persons to which to refer doubtful phrases, and their decision, whether right or wrong, should be accepted as authoritative and final.—*R. D.*

ALDERMINSTER LODGE.

About five-and-a-half miles from Stratford-on-Avon is the residence of the Rev. J. A. Williams, so well-known as a rosarian. In the month of August each year, Mr. Williams has for his parishioners a cottagers' exhibition of garden produce, which is supplemented by honorary exhibits from numerous friends, so that a very pretty exhibition is held, and that of a few days ago was well attended. Groups of plants were contributed by Mr. Haylock, gardener to Mrs. Shirley, Eatington Park, Stratford-on-Avon; and Mr. Wilson, gardener to J. R. West, Esq., Alscot Park. Mr. Haylock also contributed a collection of vegetables of great merit, including monstrous Flat Red Italian Tripoli Onions, Veitch's New Scarlet Carrot, very fine indeed, Beet, Potatos, &c. The Rev. J. A. Williams set up a collection which included Pen-y-Byd Vegetable Marrow, Silver Ball Turnip, the best exhibition variety, as well as being so good for garden use, and Sutton's Royal Jubilee Pea, an exhibition variety of excellent quality; also a fine lot of Tea Roses and cut herbaceous flowers; Eckliuville Seedling and ripe Irish Peach Apples, the former a very fine early sort. In his stand of Teas, Jean Ducher, Catherine Mermet, Marie Van Houtte, Souvenir d'Elise, Innocente Pirola and Madame Hippolyte Jamain were very fine.

Messrs. Dicksons, Limited, Chester, sent a collection of Roses, containing fine blooms of Earl of Pembroke, Duke of Edinburgh, Fisher Holmes, A. K. Williams, Duchess of Bedford, Xavia Olibo, and François Michelon. Mr. George Prince, of Oxford, personally attended with six boxes of splendid blooms, which were much admired. The following were very fine blooms: H. P's.: Marie Verdier, Eclair, Edouard Morren, Louis Van Houtte, Marshal Wilder, Fisher Holmes, Annie Wood, Ulrich Brunner, Jean Soupert, Mrs. John Laing, Earl Dufferin, Paul Néron, Chas. Darwin, and Queen of Queens. Teas: Madame de Watteville, Beaute de l'Europe, Jean Ducher, Madame Hippolyte Jamain, François Kruger, Souvenir d'Elise Vardon, Marie Van Houtte, Madame Lambard, Madame A. Jacquier, Perle des Jardins, The Bride, Catherine Mermet, Cornelia Koch, Madame Cusin, and twelve superb blooms of Comtesse de Nadaillac.

Tea Rose, Claire Carnot, will make a good climber, somewhat in the style of Comtesse de Nadaillac, with a strong saffron tint in the bud. Mr. Dean, florist, Solihull, sent in a fine lot of blooms of Hollyhocks, Border Carnations, Pansies, and Violas. Tea Roses luxuriate in Mr. Williams' garden, and all the best kinds find a home there, some of the plants being of great size, and bloom so freely.

SEEDLING PALMS.

The greatly increased use of Palms for house decoration, and also for filling conservatories, is being met by a corresponding increase in the number of seedling Palms raised from year to year in the establishments of many of the leading florists. That this branch of the business may be overdone in the near future is an opinion freely expressed by some florists; but as the public knowledge of the great utility of these plants becomes more general, it may reasonably be expected that the demand for well-grown plants will quite equal the supply for some years to come.

It is not, however, to the commercial side of Palm-growing that I propose to call attention, but rather to give some general remarks in regard to their culture.

The first requisite to success in the raising of seedling Palms is good fresh seed, and this, in the case of some species, is difficult to procure, on account of the long ocean voyage, during which the seeds invariably lose much of their vitality unless very carefully packed. It will be found that some species suffer much more than others from this cause. Kentia Belmoreana, for example, apparently decays much more rapidly than K. Forsteriana when packed in precisely the same manner and sent at the same time.

The seed of that most useful Palm, Areca lutescens, though easy to germinate, does not keep well, and consequently it should be sown as soon as possible after its arrival, and if it is fresh it will germinate in three or four weeks, and may be potted off at the end of three months.

Among the Palms in general use probably the easiest and quickest to germinate is Livistonia chinensis, or, as more generally known, Latania borbonica. Seeds of this species under favourable conditions germinate in about two weeks after planting, and are ready to pot off in two months' time.

Cocos Weddelliana is one of the easiest of its family to raise seed from, though not always making so good progress after the first potting, owing to the fact that the long, stiff tap-root, which is made during the first growth of the seedling, is very brittle, and is, in consequence, frequently broken or otherwise injured in potting. This gives the young plant a severe check; and if accompanied with a slight excess of water, such an injury often causes the death of the seedling.

The Kentias are rather slower in germinating, and sometimes take from six to eight months for the operation, and besides this it is seldom that more than fifty per cent. of the seeds prove good. This fact, coupled with that of the comparatively slow growth of the young plants, undoubtedly has much to do with the high prices at which good plants of this species are sold.

The soil for Palm seeds should be rather lighter in composition than that in which established plants are grown, and may consist of equal portions of peat and light loam, with sand enough to make the mixture open and easy to drain, the latter point being worthy of attention, for when the soil is allowed to become too wet, many of the seeds are sure to rot.

The seeds may be planted in either pots, pans, or wooden boxes, an objection to the latter being their liability to breed fungus. The earthenware vessels are therefore found the most satisfactory, and for convenience 4-in. to 6-in. pots are preferable. As a steady bottom heat is essential for the rapid germination of Palm seeds, the pots containing them should be placed in the propagating house or some similar structure and plunged in coco-fibre or coal ashes, the coco-fibre being the better conductor of heat of the two, and also cleaner to handle.

Care should be given to watering, to keep the soil damp without making it sodden until the seedlings have developed their first leaves, after which water may be given much more freely without injury to the plants. As to the time for potting off, it will be found best with most species to wait until the second leaf begins to push up, but with some of the free-growing sorts, such as Areca lutescens and Livistonia chinensis, it is not necessary to prolong the time to this extent, and plants may be potted as soon as the first leaf is fully expanded; but they should in any case be kept in a warm house and shaded from the direct sunlight until well established.—*W. H. Taplin, in Garden and Forest.*

NEW AND RARE PLANTS.

Certificated by the Floral Committee.

August 13th, 1889.

Gladioli of Lemoine's Strain.

André Chenier.—The flowers of this variety are closely arranged on a two-ranked spike, and are of a pale yellowish tinge suffused all over with pink. The lower segment of the outer series is crimson till near the tip, while the lateral ones are crimson with bright yellow tips. The blooms are of large size, and very distinct from the usual run of garden productions.

Alsace.—Like the above mentioned, this takes after its parent G. purpureo-auratus in the form and somewhat in the colouring of the flowers. The perianth segments are pale sulphur with a crimson blotch on the base of the lower inner segment, as well as in the throat. These two were shown by Messrs. J. Veitch & Sons at the last meeting, and were awarded a Certificate of Merit.

G. Nanceianus President Carnot.—The individual flowers measure about 5 ins. across, and all the segments spread widely and are recurved at the tips, with the exception of the upper one which is erect. They are of a dark rose-red, often flushed with scarlet in flakes, and the two lateral ones of the inner series are spotted with purple on a creamy yellow ground. The anthers are violet. In the form of the flowers the variety takes after G. Saudersii. About 4—8 flowers were open, and 10—12 buds in various stages of development were on each spike. Also exhibited by Messrs. J. Veitch & Sons, and received a First Class Certificate.

Hippolyte.—This is also one of Lemoine's strain, and takes after G. purpureo-auratus. The perianth is of a pale, soft yellow, tinted with blush, and marked with a large crimson blotch on the lower segment, and also in the throat. The flowers are large, open, and a great improvement upon the typical G. purpureo-auratus. Specimens were shown by Mr. J. S. Whall, Park Street, Worksop, and received an Award of Merit.

Nægelia Achimene Pyramidal.

Plants of this hybrid have quite the aspect of an Achimenes, having large, oblique, deep carmine flowers, fading to rose at the margin, with a conspicuous orange mottled throat. The blooms are borne in small or reduced cymes in the axils of the upper leaves, and these being in whorls of three, the flowers also have a whorled appearance. The leaves are ovate, acute, serrate, and larger than those of Achimenes usually are. Specimens were exhibited by Messrs. H. Cannell & Sons, Swanley, Kent, when they were accorded an Award of Merit.

Rhododendron, Duchess of Fife.

The flowers of this variety are of a pale salmony blush, with a decided tint of yellow. The filaments and anthers are purple, and a faint median line of the same colour runs along the middle of each segment of the corolla. It belongs to the Javan type of what is known as hybrid greenhouse Rhododendrons, and has a comparatively short tube and wide-spreading lamina. The leaves are elliptic, large, and shining. A truss of bloom was exhibited by Messrs. J. Veitch & Sons, and an Award of Merit was granted.

Nepenthes Curtisii superba.

The pitchers of this beautiful Nepenthes are cylindrical, somewhat widened upwards to the mouth, rich deep brown, and beautifully marked with oblong greenish yellow blotches. The annulus is very much broader than in the type, recurved, and finely corrugated or ridged transversely, deep brown, and shining. The lid or operculum is deep brown externally, paler internally, blotched with pale green, and heart-shaped. The leaves are oblong-elliptic and moderate in size. The plant is also dwarf in habit, a grand ornament of its kind, and much superior to the type. A plant was exhibited by Messrs. J. Veitch & Sons, and a First Class Certificate was awarded it.

New Tuberous Begonias.

Mrs. Cayzer.—A young plant of this new variety had flower-stems about 6 ins. high and well above the leaves, which were scarcely raised above the level of the pot. The blooms are double, and consist of many rosettes of an apricot colour. The leaves are half cordate, bronzy green and shining, and of medium size.

Mrs. Litkie.—Equally dwarf as the last. This is very dwarf in stature, and bore a number of huge, and charmingly beautiful rosy pink flowers, consisting of many rosettes of broad and much-undulated petals, resembling a good double Hollyhock.

A. Blanc.—The flowers of this sort are equally as double as the above, but not quite so large as those of Mrs. Litkie. They are of a Composite nature, and are made up of a large number of rosettes, the petals of which are flat, rounded, overlapping, of considerable size, and rose coloured tinted with red. The leaves are moderately broad, half cordate, and of a deep green colour. All three varieties were exhibited by Messrs. H. Cannell & Sons, and received each an Award of Merit.

Dahlia, W. C. Harvey.

This is a new and rather distinctly-coloured variety, with very broad, much overlapping, and obovate or elliptic rays. The latter are of a clear not a dusky buff-yellow, with a dark crimson blotch at the base of each ray-floret, while the disc is clear pale yellow, thus forming a pleasing and rather uncommon combination of colours. It was exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, and received an Award of Merit.

Dahlia, James Scobbie.

Amongst single Dahlias this is to the single kinds what the striped fancies are amongst the double exhibition sorts. The ray-florets are broad, well imbricated, irregularly striped and mottled with scarlet on a yellow ground; the disc is also yellow. The whole head is of good size, and the variety will no doubt find admirers amongst those who like variegated flowers. It was shown by Messrs. J. Cheal & Sons, and an Award of Merit was accorded the exhibit.

TRITONIA SECURIGERA.

A Botanical Certificate was granted for specimens of this plant exhibited by Mr. James O'Brien, Harrow-on-the-Hill. The flowers are of good average size, and pale orange-yellow or pale brown, with darker veins. On each of the three lower segments there is a yellow blotch, with a yellow, bluntly-pointed process projecting from each of the three yellow blotches. They are not, however, always present, so that, when missing, the specific name, which means hatchet-bearing, seems inapplicable to the species. The leaves are narrowly ensiform and considerably shorter than the flower-scapes. There is a figure of the plant in the *Botanical Magazine*, t. 383, under the name of Gladiolus securiger.

GARDENING NOTES FROM IRELAND.

DUNMORE EAST FLOWER, FRUIT, AND VEGETABLE SHOW.

THIS is an annual local event of great interest to the gardening fraternity around this fashionable watering-place on the Irish south coast. It is generally held on the 15th of August ("Lady-day," and a holiday in this country), and, as usual, large crowds collected from all directions. This year there were additional attractions. In the bay immediately in front, and engaged in naval manœuvres, were the Channel and torpedo fleets, among the officers being Prince George of Wales, who landed and mingled with the people, freely conversing with all he met. What a pleasure it must have been to this royal prince to see the people as they are, without scaring them away by a gorgeous retinue or a lot of snobbish sycophants!

The society is under the presidency of the Hon. Dudley Fortescue, D.L., Summerville, who is assisted by an excellent committee, consisting of the local clergymen, both Roman Catholic and Protestant, and employers and gardeners — an arrangement worth imitating, and pretty sure to be followed when peace and tranquillity prevail in Ireland.

The schedule is divided into four sections, and plants, cut flowers, fruit and vegetables are thus provided for. I will not intrude on the limited space likely to be at your disposal by more than a reference to each section.

PLANTS.—First prizes for exotic Ferns (admirable specimens), tree Ferns, plants of ornamental foliage, and a miscellaneous collection of Crotons, Dracænas, Palms, Caladiums, &c., went to the hon. president (gardener, Mr. J. A. Calthorpe). Lady Carew, Woodstown (gardener, Mr. O'Brien), had first prize for tuberous Begonias, and second for Coleus. Mrs. Malcolmson, Villa Marina, Dunmore, and Ballinakill, Waterford (gardeners, Messrs. Dumpley and Noonan respectively), had the first prize for the finest Palm in the show—a large Chamærops excelsa—and second for very fine exotic Ferns, and stove and greenhouse plants of ornamental foliage. The first prize for native Ferns went to Mrs. Jacob, Waterford.

CUT FLOWERS.—First prizes for Roses, Asters, and Gladioli, and the second for a hand-bouquet, went to Lady Carew. First prize for Dahlias, Asters, and zonals went to Sir Robert Paul; Mrs. Jacob getting first for a magnificent hand-bouquet and Pansies, and second for Zinnias and Dahlias. The Hon. M. Fortescue scored for Carnations, Picotees, Gladioli, Marigolds, and Zinnias.

FRUIT.—The exhibits in this section were first-rate generally, though early. The Hon. M. Fortescue got first for Black Hamburgh and White Muscat Grapes, and second for Lady Downes, the latter being cut a few days too soon. The same applied to his scarlet-fleshed Melon, while first place for a green-fleshed variety went readily to Horticultural Prize. Mrs. Malcomson's Peaches were splendid, and very creditable to Mr. Noonan, as also were Morello Cherries, each gaining first prize. Lady Carew came first for Plums, baking and kitchen Apples, but her Pears were just past. Mr. Jacob gained first for Gooseberries.

VEGETABLES.—This show is always strong in these indispensable garden products, and six and eight entries of almost equal merit in a class tested the judges' discernment. The largest number of prizes went to Ballyglan, Sir R. Paul getting first prizes for Carrots, Cauliflowers, red Beet, fifty pods of Peas, white Turnips, Salsafy, and fifty pods of Beans. Prizes for Lettuce, Cabbage, seedling Onions, Globe Artichokes, and Tomatos (Perfection), went to Summerville. Woodstown had first prizes for Tripoli Onions, French Beans, Scarlet Runners, and four dishes of Potatos, with second for Parsnips and red Beet. The majority of the remaining prizes went to Villa Marina and Ballinakill; the individual specification would take more space than you can afford me, and would be chiefly of local interest only.

Two creditable departments in addition were the children's exhibits—first prizesf or garden and wild flowers, among several entries, going to Miss Susan Calthorpe and Miss Gilmour (daughter of the Rector) respectively—and also for outdoor window gardening, patronised and encouraged by Lord James Butler. No report would be complete without a special meed of praise to Messrs. Saunders, Friar's Walk, Cork, for their public spirit in sending—a show in itself—more than 100 miles. One great advantage of such to a local show—and I direct the Editor's attention specially to it—is to enable gardeners, who do not travel out of their immediate locality, to see what they must aim at to attain the perfection to which such firms grow their plants and flowers. More than 300 individual blooms were staged, and consisted of very fine hybrid perpetual and Tea Roses for the time of the year; double tuberous Begonias, splendid, such as Flour de Thé, Louise Goussancourt, Pavillon Jaune, M. Paul Vicq, Mdme. Marié, Blanche Duval, Virginalis, &c.; forty-eight varieties of single and double zonals in trusses of three; and really fine double Dahlias for this early period. A special feature was the exhibit of hardy outdoor flower-spikes, which I had better reserve for special notice. It only remains to say that Mrs. Malcomson, who is a tower of strength to this society, hospitably entertained the officers, the press, and the judges at her magnificent residence, the Villa Marina. The latter were Mr. Hugh Crawford, Kilcronagh Gardens, Mr. John Crehan, Minella Gardens, and your own correspondent, *W. J. Murphy, Clonmel.*

NOTES FROM SCOTLAND.

The Antirrhinum as a Bedding Plant.—It is not often that we see the Antirrhinum used in the flower garden as a bedding plant, but the other day when looking through the nurseries of Messrs. Ireland & Thomson at Golden Acre, Edinburgh, I was very much struck with a fine bed of a very pure white variety, of a neat and compact habit of growth, and about 1 ft. in height, and which, being used in large beds against other colours, had a very decided effect. I think for a hardy and pure white plant for bedding, this is worth a place in the flower garden for effect. —*W. S. O.*

Peas.—The supply and the quality of Peas have been more satisfactory this season than for many years past, and even in poor gardens which have not raised good crops in former years they have done ample justice to the care bestowed on them. The fine growing May and mild June, before the absence of rain was much felt, caused Peas to become well established in the soil, and where kinds were carefully selected to give successional crops, good supplies have been realised. After the copious rainfall in July the haulm started with fresh vigour, and flowering and fruiting goes on at present simultaneously. Topping the gross kinds is most advantageous in preventing premature cessation of podding. The same rule applied to Sweet Peas is attended by the best results, as we never saw them do better than this season. Fresh growths are starting vigorously, and we expect a fine display of these very appreciative flowers till frost puts an end to them. Among the best older kinds of Peas which have been extra good and are yielding abundant supplies at present (middle of August) are Champion of England, Telephone, Ne Plus Ultra, and Dr. McLean. Veitch's Autocrat and Sharpe's Queen, grown here for the first time, are of fine quality and very prolific.—*Stirling.*

Strawberry Planting.—Those who have work of this kind remaining unfinished should not lose an hour now in completing such operations. Small plants are often inserted in the soil at this season by the inexperienced, and the complaints next spring are that they were thrown out by frost or drawn into the soil by worms. When one gets behind (in Scotland especially) with Strawberry planting, it is a good practice, which we have adopted more than once, to take the outside growths off the old stools, clear them of old roots, and plant them in heavily-manured ground in the usual way. We have practised this system during September and had excellent crops the following season. Young plants would have barely lived through the winter, besides occupying ground the following summer without giving any tangible return. Three years ago, when pressed for time, we planted Strawberries about the first week in September, placing three strong plants together. Each trio formed fine fruiting stools the following summer. The crop was not heavy, but the fruits were of great size. Soot and fine ashes were dusted frequently among them during winter to ward off worms.—*Stirling.*

Onions.—We happen to live in a district where Onions have much attention. The sowing of them in pots, and subsequent treatment to attain the object in view, seem to meet the reward due to such arduous attention as they receive; and we hear of some growers out-distancing all their previous efforts. One veteran (Mr. Neilglass, at Carbrook) is said to have bulbs 21 ins. in circumference. I do not think we have seen such dimensions by any of the great growers in the best districts. We are well acquainted with the great attainments of the Banbury growers (having acted as a censor at one of the greatest of their Onion shows), but do not think we saw any of their specimens over 18 ins. round. It would be interesting to learn what have been some of the heaviest weights of Onions. Weight is a more important item than circumference, as weight, when in proportion to size, indicates good keeping qualities. The latter is what we aim most at, and last year kept our latest stock of several kinds to June, and they were then not at all spongy or soft. By far the finest Onion in our stock of some half-dozen kinds is Banbury Improved, along with it are grown Giant Zittau, Rousham Park, Cranston's and Dauver's Yellow, which are good, but the Banbury Improved is very superior to all its fellows, holding a position equal to Veitch's Main Crop last year.—*Stirling.*

Vale of Alford Horticultural Association.—On Thursday, the 15th inst., the annual show in connection with the above society was held in the Town Hall, Alford, Aberdeenshire. This was the twenty-third annual exhibition under the auspices of the society, and in every respect it was worthy of the district and the association. In the matter of its shows the Vale of Alford Association has always kept a leading place in the county, and a remarkable feature of it is that the successful competitors are not confined to a narrow circle, as is too often the case, but that out of the whole of the exhibitors at least three-fourths carry off prizes. This fact denotes healthy vitality in the association, and emulation in the art of horticulture, both amongst amateurs and professionals in the district. A substantial sum in prize-money is awarded, and the fund is generally contributed to by a large number of residents in the surrounding district, the landed proprietors subscribing handsomely. Thursday's exhibition, in some respects, showed a contrast to its predecessors. The amateurs, for instance, although they held a highly creditable position, were not so well forward as they are wont to be—a fact which, in a great measure, may be due to the peculiar nature of the season. Flowers all over were a fine display, and notwithstanding the wet weather of the past few days, it may be said that the cut flowers were altogether a nice show. Dahlias were well shaped and above an average. Carnations were beautiful. but Roses and Pansies, owing to the wet, were not so nice as they might have been in more favourable circumstances. Stocks were a fair display, and annuals in bunches were good. Pot plants were simply grand, Fuchsias and Pelargoniums being very pretty. The display of fruit was greatly admired, including as it did monster Gooseberries, large and luscious Strawberries, nicely-shaped Apples, well-developed Cherries, and numerous entries of Blackberries and Currants. The table and hand bouquets were a nice feature of the show, their arrangement being done with much skill and taste. Perhaps the finest department of the exhibition, however, was the vegetable sections. Nothing could exceed the beautiful display of Potatos, which contained many perfectly-shaped and monster-sized esculents. Cabbages were enormous, Peas and Beans were more than ordinarily large, and Carrots were fair, but Turnips were somewhat rough. Leeks were not up to their usual standard, but Onions left nothing to be desired. Altogether the show was interesting and superior, and gave evidence of the spread of horticultural knowledge in the district. During the day, although rain fell freely, large numbers of the public visited the hall. Much of the success which has always attended the society is due to the energy displayed by the large executive committee, headed by Mr. Peter Murray, Upperhaugh, as chairman, and by Mr. George Nicholson, teacher, Alford, the genial secretary.

FLORICULTURE.

The Growl from Oxford.

A "Disappointed but Inquiring Novice" has written you a very able, temperate and well-reasoned letter. He has also adduced certain facts of much interest, not alone to exhibitors, but to cultivators like myself, who look to these exhibitions as the fountain-head of authority on the best types of the flowers we cultivate in common. Your correspondent says, with the authority of an eye-witness, that in two instances—viz., in that of the premier Picotee and in that of the premier yellow ground—the referee's decisions were overborne by some pertinacious elder brother, who must be indeed strangely unacquainted with the very element of arbitration, which is that the referee's decision is final. If the facts are as the writer describes them, then the premier awards, both of Picotee and yellow grounds, have been wrongly made, and were it worth while to do so could be upset. These are matters of fact of general interest, but your correspondent, Mr. Sydenham, thinks it is a reply to them to tell us how many years he has grown Picotees and Carnations, and that he has been a prize-winner at London, Oxford, and elsewhere! I should be glad to see an argument on the other side which touched the questions of fact raised by "A Disappointed but Inquiring Novice."—*B.*

Your correspondent, the "Disappointed Exhibitor," being behind the scenes of course knows more than I can profess to do, but I, too, came away from the Oxford show without a prize. Still, I was not disappointed, simply for the reason that I expected nothing. I certainly took a number of what I thought were pretty good blooms, and when I looked on some of those of my neighbours, there did not appear such a great superiority in theirs at first sight, but when I came to see them on the show table, there was such a metamorphosis in those of my neighbours that I cast mine into the box, and spent my time in the admiration of the plants in pots. The fact is, that although an old decorator, I am not an expert in what is called dressing for the stage. I admire the Carnation in its natural beauty of form and colour, and I could not possibly set to work to slit the calyx, pick out each single or defective petal, stretch out the guard petals to nearly double their original length, then turn and twist the remainder of the bloom until the form and size were out of all proportion to the natural blooms, adding a stiff card at the back to keep the parts from falling to pieces. I love the beautiful in almost every shape, but I could not distort it to such set forms.

A split calyx is disallowed! Is it? Could these blooms be made to cover such an extent of surface unless every section of the calyx was torn down, and the natural support of the bloom withdrawn? Take away the card from any of those grand show flowers and what pretty things they would be! I have had and now have hundreds of beautiful blooms—Germania, to wit, is magnificent—but unless I almost tear them to pieces I cannot possibly make them cover above half the surface of card.

My yellow-ground Carnations and Picotees, of which I have about fifty named varieties, are magnificent to my eye, and excellence of form and colour is to me a great part of their beauty; the variety of form, colour, and marking is so charming that nothing could induce me to interfere with the diversified forms; still, tastes differ, and I will not find fault with my neighbour because his taste differs from mine. Let us each follow our own course, but I do think that if an exhibitor is to win with blooms so moulded and dressed, he should be expected to dress his own flowers; if the flower is to be judged by its dressing, or what I should call distortion, then let the dresser have the prize awarded to him. If the disappointed one could have secured an expert to form and shape his flowers, it is quite possible that he might have taken both prizes and honours. I speak not of the "Oxford" alone, but of the National and every other Carnation exhibition where the same course is followed. Still, if the Carnation is to extend its influence, I think that in all fairness there should be a class or classes provided for those who prefer the natural to the artificial, and, as a distinction, let it be termed the loyal and natural section, let the blooms be exhibited on tolerable stems, accompanied by a portion of the natural foliage or grass, and instead of a card of white let it be cushioned in a bed of green moss, as is the case in staging a good box of Roses.

The blooms of most good varieties may be guided into a good form whilst growing, without distorting them with the tweezers after they are cut from the plant. I am told that this would never do, as the custom of tweezer dressing is so universal that the growers would continue to follow the old plan. Well, possibly so, but it is worth a trial, and if a few of the "naturals" will but combine, we may possibly see a few, or probably many, "natural" Carnations staged in 1890.—*W. W.*

Carnation and Picotee Union.

As supplementary to the recent exhibition by the Carnation and Picotee Union at Oxford, I may state that the annual business meeting of the members took place in Mr. Dodwell's garden in the evening. Mr. Samuel Barlow, J.P., one of the vice-presidents, presiding, there being a good attendance of members. The minutes of the last annual meeting having been read and signed, it was unanimously resolved that the officers and committee be continued in office, the latter with power to add to their number. Eventually the name of Mr. Wynne Foulkes was added to the committee. The expenditure of £15 12*s.* for clerks assistance, postage, and the despatch of plants to subscribers, was allowed. Some modification has been made in the method of distributing plants to subscribers, and offers of surplus stock for the purpose were made by Mr. R. Sydenham and other growers.—*R. D.*

GARDENING AS A RECREATION.

Gardening as a recreation holds a unique position, for prince, peer and peasant can alike pursue one or more branches of the art, and may all derive pleasure in carrying out and watching the various processes of culture and growth that take place in their respective domains. Possibly, too, there is no other pursuit in which the peasant can beat the peer in square competition, and to this fact is due the slight put upon gardening and gardeners in some quarters. Of this I am certain, for there are those among us who, proud of their social position and wealth, do not like to be outdone by their poorer brethren, and so give gardening as little encouragement as they decently can. Cottagers and amateurs generally derive more pleasure from the cultivation of their gardens than those who follow the calling as a means of obtaining a livelihood, because they have a greater control over their circumstances, and are not subject to so many of the annoyances that the professional man often has to contend with, and which do so much to mar the pleasure otherwise to be derived in pursuit of that which on all hands must be conceded to be in itself one of the most pleasurable avocations.

There is no other hobby which a cottager can indulge in where he is less fettered by his circumstances, for provided he has the good fortune to have a few rods of ground attached to his dwelling, or an allotment within an easy distance, he can by energy and perseverance equal and even excel those far above him in the social scale in the quality of his productions, and at a very moderate outlay for seeds and plants. Of this there is ample evidence given at the numerous cottagers' shows held in all parts of the country. The exhibits of cottagers on these occasions give at least some excuse for a feeling of envy that will sometimes arise in the breasts of professional men when seeing themselves outdone through no fault of their own, but from being placed at a disadvantage as regards labour. As for cottagers in country districts, I believe that many of them derive as much pleasure in the cultivation of their gardens as does the rich man when viewing his paintings or sculpture, or even his gold, for after toiling in the fields or factory, the cottager can turn with renewed zest to his pet subjects, and find in tending them a relaxation and pleasure which nothing else can rival; and if all cottagers had gardens, as they should have, many a man might be led to devote his spare time to it, and be weaned from pursuits more or less questionable, in which his money is squandered, to the detriment of himself and family.

Too many in the higher ranks of society do not, from a faulty early training, derive the pleasure from gardening which they might otherwise do if their minds had been instilled with a knowledge of botany and natural history, with a love of flowers for their own intrinsic beauty of colour and structure. Gardening would then be to them a source of purer and more elevating enjoyment than it often is. With far too many, the sole idea, as regards flowers, is their use for personal and room decoration, utterly regardless of how plants may be mutilated, provided their personal vanity is gratified.—*W. B. G.*

CATTLEYA WARSCEWICZII HARDYANA.

Mr. Hardy's Cattleya is certainly one of the finest in cultivation. It is generally considered to be a natural hybrid between C. labiata Dowiana aurea and C. l. Warscewiczii, better known under the name of C. gigas. When first introduced it was supposed to be the latter, but the difference was discernible as soon as the first flowers expanded. The blooms are notable for their great size, often measuring 8 ins. across, and are very richly coloured. The general distribution of the colours may be seen by reference to our illustration. The sepals and broad wavy petals are of a warm rose-purple, and paler at the base. The lip is of great size, especially the lamina, which is broadly oblong, bifid, much undulated and wavy at the margin, and of an intense magenta-purple. This colouring is continued down into the tube, where it is veined and reticulated with golden yellow. The bright lines lead up to a large yellow blotch on each side of the opening to the tube, and the two give the flower a very characteristic appearance. The side lobes and the tube externally are of the same rich colour as the upper part of the lip. The reticulations on the tube recall those of C. Dowiana, hence the supposition of that form being one of the parents. It originally flowered in the collection of Mr. George Hardy, Pickering Lodge, Timperley, and when shown at a meeting of the Royal Horticultural Society in August, 1885, deservedly received a First Class Certificate. It was again exhibited at the meeting of the society on the 13th inst. by Henry Tate, Junr., Esq., Allington Beeches, Liverpool.

BEGONIAS AT FOREST HILL.

The Begonias planted in the open ground in the nursery of Messrs. John Laing & Sons, at Stanstead Park, Forest Hill, are now commencing to make a fine display, and during the course of the next six weeks they have time to make a great improvement, and show their real characters, by which the novel or more choice kinds may be selected. About an acre of ground laid out in twenty-four beds is planted with something like 125,000 seedlings of this year's raising. The effect would have been splendid early in the season if the same space had been occupied with old plants. As it is, the display can hardly commence before August, and continue up till frost destroys their foliage, when, of course, they are lifted. The different colours were assorted into about twelve different kinds before planting, and it is surprising how true many kinds come to colour. A few plants of Zea Mays variegata are planted at regular intervals throughout the beds, and are rendered all the more conspicuous by the side shoots near the base being almost white. Tarbat Blue and Duchess of Sutherland Lobelias are planted alternately along one side of the ground. The latter is pure white, and both are dwarf, compact, and floriferous.

Begonias Under Glass—Doubles.

Under glass the single and double varieties are mostly confined to separate houses. There is a large number of unnamed varieties, both single and double, many of which have been lifted from the beds out of doors; and it is needless to state that they have been selected for some novelty in colour, improvement upon old types, or advancement of one kind or other. The different shades of white, blush, pink, rose, cream, yellow, orange, bronze, scarlet, and crimson are really endless. Flowers consisting of a single rosette of petals are at present greatly in favour, and a large number of seedlings now show that character. Several resemble the variety known as Octavie, but have larger flowers of broad flat petals, and one with dark green slightly-lobed leaves was very distinct in character. It is impossible in the space at our disposal to notice a tithe of the numerous distinct types, which must be seen to be fully comprehended and appreciated according to individual taste.

Very bright orange-scarlet are the flowers of Henshaw Russell, consisting of several rosettes. Mrs. French is a pale creamy yellow flower of one rosette; Apricot is another of the same type, with erect flowers of a dark apricot colour, and very choice. An unnamed seedling had erect bright yellow flowers, and another was pure white. Others of the same class had white, deep salmon, rose, rose and white-centred flowers, but without names it is impossible to specify them. They differ, not only in colour, but size, habit, and foliage. Triomphe de Nancy has very large flowers, and broad petals of a creamy yellow; while Duchess of Teck is a light yellow, of several rosettes, and the outer petals

are very broad, forming a guard to the flower, like that of a Hollyhock. The pure white flowers of Princess Maud are large, flat or hemispherical, and very distinct. Luna has large, loose, rosy red flowers. Two of the brightest flowers are Scarlet Perfection and Mr. F. Nettlefold, the former having a good erect habit, and medium-sized flowers with closely imbricated orange-scarlet petals, and the latter having flowers similar in colour, but with short, stout, erect peduncles and wavy petals. Those of Lady Stafford Northcote are orange-salmon, while the petals of Leonora are pale rose, and the petals edged with salmon. Alba fimbriata, with its deeply toothed or fringed white flowers is now well known. Others exhibit yellow, buff, or differently shaded flowers, many of which are difficult to describe.

Cattleya Warscewiczii Hardyana.

Single Varieties.

One of the most brilliantly coloured flowers amongst the singles is Prince Albert Victor, with flowers of a brilliant orange-scarlet; they are also most freely produced. Being of large size, and exactly intermediate between scarlet and yellow, it would be difficult to match them with anything else amongst greenhouse plants. Whether the largest size attainable amongst Begonias has been reached or not, it is quite evident to anyone that they are large enough, and development in that direction should not be encouraged. The deep rose-coloured blooms of Queen Victoria are certainly large enough, as are those of Gigantea, a rose-coloured variety, with a paler centre. The stout stems, about a yard in height, are also very prominent features of this sort.

One of the largest and finest of yellows is that named Star of Gold; it is also very tall for the yellow sorts, which take after B. Pearcei chiefly as their parent. Equally good in their way are Princess Louise and White Perfection, both having very round, pure white flowers, and in the latter case about the size and shape of a Christmas Rose. Very delicate and fine is Lady Cloncurry, with rosy blush flowers of great size. A tall, floriferous variety of great size is Princess Sophie, with rose blooms of handsome dimensions. Miss E. F. Cooper differs in having rosy salmon flowers, drooping on long pendent peduncles.

A fine round bloom is Lady Idsleigh, orange, tinted with deep bronze in the centre. Another and very distinct type is that represented by Charmer, having bright rosy carmine flowers, fading to white or nearly so in the centre. In other varieties, which may be termed the Picotee-edged type, the deeply-coloured border has become gradually narrower until it forms a margin to the petals of greater or less extent, just as happens in real Picotees. A goodly number of this class are seedlings, and as yet unnamed. One we noticed had white flowers with a bright rose edge, while a second had altogether larger blooms with a slender margin. In other cases the colour had altogether disappeared, except from the outer petals. It may here be noticed that white varieties, when grown in the open air and exposed to direct sunlight, are more or less tinted with pink on the back. A seedling without name was noticeable on account of the broad brilliant carmine-red, almost vermilion border, to its otherwise white flowers, rendering it both distinct and attractive. In contrast to the kinds already mentioned, a seedling may be noticed with a dark maroon flower, similar to Duke of Edinburgh, but more intense in tone.

Before dismissing the subject, reference may be made to the use of Begonias in baskets. When so treated, our advice is never to use stiff erect-habited kinds for the purpose, because although highly suitable certainly for pot culture, they seem altogether out of place when slung up to the roof and out of reach of the eye. Here several slender-stemmed and free-flowering sorts are grown in mixture in huge baskets depending from the roof, and the effect is certainly fine. Others are grown separately, such as Pendula, which has large deep rosy carmine flowers, six to ten on a long drooping peduncle, which brings the blooms into a position to be seen to advantage.

HOME-GROWN APPLES IN THE MARKET.

When the matter is well looked into, it will be seen that the bulk of the market Apples grown in this country are consumed before they reach maturity. The markets have been supplied for some time past with home-grown produce, and just now, van-loads of Apples in open baskets are pouring in from all parts of the suburbs of London and the surrounding country.

Orchards are, perhaps, most plentiful in Kent; but a large quantity of fruit is also grown in the western part of Middlesex, and may be seen pouring into London by the van-load. On the off market mornings, advantage is taken to supply the greengrocers and inhabitants generally at the west end, with fruit and vegetables, by holding what is practically a market at Kew Bridge, although its legal standing is somewhat doubtful. A large number of vans, however, take up their position there for a time on three mornings of the week, and at present, Apples figure largely amongst the produce for sale. There are several reasons for disposing of home-grown Apples thus early. In the

first place there is always a demand for them as soon as they can be had; then competition is less severe from foreign produce; and when gathered now there is greater immunity from the attack of the Codlin grub, and windfalls, occasioning loss in that respect; and what is more important than either, an immediate return is secured. The latter point is one of which old market growers like to boast. Grow early varieties, they say, for the London markets, sell the produce, pocket the money, and there is no further trouble in the matter.

One of the earliest varieties to appear in the market is Early Julian, a medium-sized fruit, ridged rather prominently from the eye downwards, with a pale greenish yellow skin more or less suffused with orange or red on the exposed side. It is an Apple of excellent quality, suitable either for dessert or culinary purposes, and when well coloured has rather a tempting appearance early in the season. The tree is hardy and dwarf, but an abundant bearer. Irish Peach is equally early as the above and generally pretty highly coloured. The fruit is small and medium-sized, somewhat flattened and angled; on the shaded side the fruit is suffused with reddish brown, but on the sunny aspect becomes of a beautiful red, variously mottled, streaked and variegated with yellow. The samples on sale this year are of good average size and apparently clean. It is a dessert variety of great excellence, and it is chiefly disposed of for immediate consumption. The supply does not as a rule last for any length of time, and is most abundant about the middle of this month.

Notwithstanding the finer season, the specimens of Devonshire Quarrenden seem even smaller than they were last year, the greater part of them not being larger than a pigeon's egg. At present they are clean and highly coloured, but evidently unripe, as they have not yet assumed that shining or burnished look, which gives them so tempting an appearance. If record is to believed concerning this Apple, it has greatly degenerated in size from what it was many years ago. The fruits, however, sell at good prices in the market, and apparently all the more readily because stated to be English. The market people sell them under the name of Quarentine or English Quarentines. It is a very old Apple, having been recorded as early as 1690, and like several other old kinds is considered to be degenerating from sheer old age. The three above-mentioned kinds, although not exactly mature, are nearly so; but this can hardly be said of the Keswick Codlin, a culinary variety often used for tarts by the end of June. There is, therefore, a long season in which it can be sold before reaching maturity, and, in fact, comparatively few really ripe specimens can be bought in the market for reasons above stated. It is a useful Apple, but by no means tempting in appearance, as the fruits are consumed while yet green, and before they assume their ultimate yellow colour, which they would do towards the end of August and in September.

Other kinds are Lord Suffield, Manks' Codlin, and Duchess of Oldenberg. The first bears the largest fruit of any mentioned, and would, no doubt, always fetch a good price, notwithstanding its sober green colour, were it not so liable to the black spot, which is usually very strongly developed by October, spoiling more than half the specimens exposed for sale.

POTATOS AT CHISWICK.

The several varieties of Potatos on trial this year in the Royal Horticultural Society's Gardens were examined on Tuesday last by members of the Fruit and Vegetable Committee, and the following varieties were selected as productive and good in appearance. The heavy rains of the night previous to lifting affected the whole of them prejudicially, and though several were cooked, it was considered advisable to submit them to a further trial for satisfactorily determining their qualities.

Vegetarian (Dean).—Oval, white, free cropper, fine sample.

The Cannon (Dean).—White, round, medium size, splendid crop.

Edgcote Early.—Kidney, medium size, good shape and good crop.

The Governor (Dean).—Kidney, white, large, even, and good crop.

Crown Jewel (Fletcher).—White, round, evenly shaped, medium-sized tubers, great crop.

Bedfont Purple (Dean).—Fine uniform tubers, and a good crop.

Irishman (Kane).—White, round tubers, large with somewhat deep eyes; very heavy crop.

Debutante (Ross).—Bright crimson, round, uniform; good crop, rather small tubers.

Early Victor (Oakshott & Millard).—Large, white, flattish oval, even-sized tubers; good crop.

Satisfaction (Oakshott & Millard).—White, round, heavy crop of good-sized tubers.

Tacoma (Bliss).—Pink, large, roundish; a heavy crop.

Ellington's Prolific.—White, round, medium size, even; very heavy crop.

GARDENING MISCELLANY.

Queen of the Prairie.

Botanically this is Spiræa lobata, an old-fashioned herbaceous plant that has been cultivated in Britain since 1765, but for some unaccountable reason or other it has not been very plentiful for the last twenty or thirty years at least. It is liable to mildew when grown in dry rather light soils, and then presents a sorry spectacle rather than a pleasant one. When grown in damp places or near water, the stems attain a height of 4 ft. to 6 ft., and in its native country (North America) is said to reach the height of 8 ft. The flowers are of a warm rosy pink or rich peach-blossom colour, and are produced in terminal, much-branched, cymose panicles, much in the same manner as in our native Queen of the Meadows (S. Ulmaria). The leaves are divided much in the same way as those of the latter species, but they assume a very different appearance on account of the great size of the terminal lobe or leaflet, which is large and seven to nine-parted, appearing as if it constituted the whole of the leaf, as in the case of S. kamtschatica; but the foliage of both these species show how a transition can be made towards the strictly palmate leaf of S. palmata. There is a beautifully dwarf form of S. lobata on the rockery at Kew, not exceeding 10 ins. or 12 ins. in height, and being constant, it might not inappropriately be named S. l. pumila or S. l. nana, for it is a real pigmy compared with the wild types, reaching a height of 8 ft., or even in comparison with the plant seen in old gardens under the name of S. venusta, which, of course, is a mere synonym of S. lobata.

Eccremocarpus scaber.

A very interesting subject for covering walls and trellis-work is this Chilian climber. It is evidently hardier than most gardeners generally believe it to be, as it thrives and flowers almost as freely many miles north of the Tweed as it does in the more sunny south. The root consists of a large fleshy tuber, and if the safety of this is secured by planting it in a well-drained soil at the foot of a wall, the plant withstands the severity of our winters without artificial protection; and even if this were necessary a small quantity of coco-nut fibre or dry leaves placed over the top of it would answer the desired end. Provided the tuberous roots are kept in a moderately dry condition during winter, no difficulty will be experienced in growing the plant in almost any part of Britain. The leaves are twice or three times divided into broadly ovate, slightly-toothed leaflets unequal at the base, and terminate in a repeatedly-branched tendril. The primary divisions of the leafy portion are opposite, while the secondary and tertiary divisions are alternate. Curiously enough the branching of the tendrils are just the reverse, and this is all the more remarkable seeing that they constitute the apical portion of the leaf, so that they must have developed along different lines after being reduced to the condition of tendrils. The primary divisions are alternate, while all the rest are repeatedly forked, each branch of the fork being equal. The orange-scarlet, tubular and ventricose flowers are produced in one-sided racemes opposite the leaves.—*F.*

Eryngium planum.

Those who object to E. giganteum, E. alpinum, E. Oliverianum, and others of that class on account of the size of the heads and the somewhat stiff and rigid habit of the plant cannot complain in that respect with regard to E. planum. The stems are comparatively slender, very much branched, and bear a great number of moderate-sized heads of blue flowers, surrounded by six to eight deep steel-blue-coloured bracts. The lower leaves are oval, and serrated with a cordate base, and quite unlike those of the species above mentioned. The stem-leaves are very much smaller and deeply five-lobed. The species is a native of eastern Europe, is quite hardy in this country, and is one of the oldest inhabitants of our gardens, having been originally introduced in 1596. The stems average about 2 ft. in height, and the herbaceous border is therefore the most suitable place for the plant, although it is occasionally grown on the rockery, where its deep blue heads and bracts contrast finely with other subjects. Propagation is effected by means of seeds and by division of the rootstock. As the latter does not increase very fast, division must be carefully effected with a knife or something that will make a clean cut without unnecessarily injuring what is left.

Judging Potatos.

I should like to have the opinion of some of the Potato growers and exhibitors who are readers of The Gardening World, as to the expediency or wisdom of cutting Potatos when they are being judged at flower shows. At the exhibition of the Taunton Deane Horticultural Society, on the 15th inst., a large number of very fine Potatos were staged, and particularly in one class—that for cottagers, of six varieties. The awards were made by two judges, who, I think, were gentlemen's gardeners residing in the district; and they made a point of cutting through one tuber out of the twelve forming the dishes, and it appeared that if anyone of these tubers showed the slightest sign of blackness in the flesh they were passed over. The result appeared to be that large but worse Potatos came to the fore because they successfully passed the ordeal of one tuber being cut. Now, I think, if one is cut all should be cut. The system of cutting only one cannot possibly be satisfactory, and as to cut all would be wanton destruction of good Potatos, the best plan is to judge according to external appearance, as is done at all the London exhibitions. I hope, therefore, the committee of the Taunton Deane Horticultural Society will put a veto upon this foolish practice in the future.—*A Sufferer.*

The Lettuce, New York.

The testimony as to the excellence of this variety given by Mr. Kipling is, I find, quite in accordance with the experience of others who have tried it. The supplementary details as to culture so kindly given by Mr. Kipling in your last, leaves no doubt now as to its distinctness and value. What surprises me more than anything is its adaptability to the transplanting process, for Lettuces, as a rule, bolt quicker after transplanting than they do when left as sown, after being thinned. On this account alone the variety in question should be worthy of extended cultivation. The largest and best-hearted sort I have grown is Buttercup, which stands longer than All the Year Round, a variety it much resembles, except in its citron-coloured leaves.—*A Kitchen Gardener.*

The Old Vines at Pledwick House, near Wakefield.

At the residence of Mrs. Norton, Pledwick House, near Wakefield, there are some enormously large Vines about fifty years old, and which, owing to neglect and mismanagement, during a period of several years had got in an unfruitful and otherwise sad condition. During the past three years they have been under the management of the present gardener, Mr. Griffiths, and it is with pleasure that I record the fact of his close personal attention being attended with the happiest results, for the fine old Vines are now healthy and fruitful, and bear an excellent crop of large bunches. Mr. Griffiths' skill as a cultivator is evidenced also in other departments, for on a recent visit I noted fine crops of Peaches, Nectarines, Cucumbers and Melons under glass, a fine strain of Gloxinias in the conservatory, with other choice flowers, and some magnificent specimens of Eucharis amazonica, perfect masses of bloom. The bedding out in the flower garden is also of the most attractive character.—*W. Pearson, August 19th.*

Dianthus Seguieri collinus.

Whether the type or this variety is grown, it certainly constitutes a very handsome and gay plant for either the border or rockery; for it proves quite at home in either. Something of its floriferous nature may be recognised when we state that almost every shoot that springs from the rootstock produces a flower-stem, so that during the flowering season it would be impossible to propagate it extensively from cuttings. Later on, however, cuttings are more plentifully produced. Owing to the want of foliage, which is so conspicuous a feature, and forming evergreen cushions in D. caryophyllus, D. plumarius, D. cæsius, and others, D. Seguieri is all the better for the support of a few stakes to keep the flower-stems from falling about or being laid by heavy rains, when grown in soil conducive to a rank and vigorous growth. The flowers are of a bright rosy purple, and the petals are moderately broad, toothed at the apex, and furnished with a transverse irregular dark purple line, which gives to the whole flower a zoned appearance. The species enjoys a pretty wide distribution in south and eastern Europe, and Asia, and was originally introduced in 1832, although by no means so common yet as its merits deserve. The flowers are as large as those of a good wild type of D. plumarius, the common Pink.

Tagetes Parryi.

Mostly all of the species of Tagetes or Marigolds of that genus cultivated in gardens are annuals, and raised from seeds yearly, but T. Parryi is a perennial, and evergreen. The flower-heads have a few rays only, of a bright golden yellow colour, but they are sufficiently long and broad to give the plant an attractive appearance when well studded with them. The leaves are pinnately divided into five or seven ovate or elliptic segments, and the whole plant being of slow and compact growth, has an attractive appearance. The foliage, moreover, has the characteristic odour of a Marigold, but is rather more pleasant than some of them. The plant is half-hardy, and although it cannot outlive a severe winter in the open air, yet it forms a beautiful and distinct subject for rockwork, and from its nature would flower all the more freely by being grown in a rather dry and well-exposed position. During winter it may be preserved in cold frames, propagating small plants from cuttings for this purpose some time in July or August. When it can no longer be grown out of doors, the plants may be lifted and transferred to a cool greenhouse.

Swallow-wort Gentian.

Of all the species of Gentian that come under our notice in gardens, none thrive in so many situations, nor under such different conditions of soil, climate, and temperature, as Gentiana asclepiadea. The stems are very slender, and vary from 1 ft. to 2 ft. in height, according to the suitability of soil and moisture. A little shade from the afternoon sun also favours the lengthening of the stems, although there is not much advantage to be gained by increase in that way, as the stems then require support. Flowers are produced singly in the axils of the leaves along a great part of the stem, and are clustered at the top. They are tubularly bell-shaped, and in the type are of a bright blue. There is also a white variety, which is equally floriferous and accommodating under the varying conditions incumbent upon artificial treatment, but it can hardly be considered so handsome a plant as the typical blue form, although proving sufficiently interesting and pretty to be grown as a contrast and in proximity to it. No special soils or methods of culture are at all necessary, as is incontestably proved in various gardens all over the country, even in the far north, where it is simply grown in the herbaceous border with other plants, and when once established is equally able to take care of itself.

Veronica spicata

The Speedwell under notice is certainly the best of all our British species, and like V. longifolia has given rise to a great many forms in gardens, some of which are very distinct. Taken, however, in its typical form it is an elegant little plant, generally about 6 ins. or 8 ins. high, with long spicate racemes of blue flowers. Although entitled to the rank of a British plant it is very sparingly found in a wild state, and that in a few of the southern counties only. Its cultivation is exceedingly simple, as it will grow almost anywhere, provided the situation is not too dry. It also delights in a free exposure, and although it will not absolutely refuse to grow if heavily shaded, yet the plant forms a more compact and sturdy growth if fully exposed to light. The rockery is really the best place for growing it on account of its diminutive stature, whereas it would be comparatively lost in a border of tall plants. The foliage varies considerably in colour, according as it is felted with whitish pubescence or nearly smooth, and of a dark green. Probably the smallest and prettiest is the dwarf variety V. s. minor, the stature of which is less, and the leaves are mostly confined to the base, forming a close carpet covering the ground, and the flowers if anything are of a darker blue. Another choice kind is V. s. corymbosa, the flower-buds of which, instead of developing normally, become produced into lateral-flowering racemes, forming a sort of corymb instead of a raceme of flowers.

Polygonum amplexicaule.

Few out of the long array of species belonging to this genus are entitled to take a place amongst the other occupants of flower borders, but P. amplexicaule may justly lay claim to a prominent position, for it is indeed a graceful and, in the typical form, brightly-coloured plant. Under favourable conditions, it grows from 2 ft. to 3 ft. high, and all the larger heart-shaped leaves are confined to the base, while those on the stems are smaller, stalkless, and stem-clasping. The flowers are small, as in the whole family generally; but they are of a bright rosy red, and produced in long, slender, somewhat branching racemes. There is a pure white variety (P. a. alba), which is equally pretty, and perhaps more graceful than the type, and when seen in association with plants of other kinds, its interesting and charming character is even more enhanced. It is a Himalayan species, and proves quite at home in this country. What adds to its value is that it never becomes weedy, like many other species of the same genus. Propagation by division cannot therefore be effected so rapidly, but cuttings can always be obtained. The flowering season lasts from August to October.

Parnassia nubicola.

The different species of Parnassia, popularly known as the Grass of Parnassus, do not differ greatly in habit nor general appearance, and a casual observer would probably take the most of them to be one and the same thing. The species under notice is a native of the Himalayas at great elevations, a fact which is referred to in the specific name, which means cloud-inhabiting. The flowers are comparatively of large size, and produced singly on the top of stems about 6 ins. in height, so that a tuft or patch of the plant in flower has a very pretty effect. They are cup-shaped and white, with conspicuous veins running through the petals, but less numerous and not so distinctly branched as in our native P. palustris. The glands between the stamens have thirteen or fourteen branches in the latter, but in P. nubicola the barren glandular stamens are yellow and three-lobed or divided. The radical leaves are heart-shaped, while the cauline ones are elliptic and stalkless. All of them are essentially bog plants, and require to be grown in a bog bed, or where they can get a plentiful supply of moisture. They also form exceedingly neat and compact plants for cultivation in pots, to which they are highly amenable, and if kept well watered they are beautiful and interesting subjects, as well as ornamental. They can readily be increased from seeds, which they ripen in this country. The species can be seen in the bog bed at Kew.

The Amateurs' Garden.

Rose Cuttings.

Those who would like to try their hand at the propagation of Roses from cuttings, and so obtain them on their own roots, would find the process a very simple one. The best method of procedure is to get ready some thumb pots, filling them with a light sandy compost, and then covering the top with some sand. Water down the whole, and then go in quest of the cuttings while the superfluous moisture is draining away. Short-jointed cuttings just getting firm are to be preferred, otherwise the tops are liable to flag, making the rooting of them more precarious. If they can be taken off with a heel so much the better, as they more readily form a callus, and are less liable to rot than if the wood is soft and pithy. With a sharp knife make a clean cut obliquely across the base of the cutting, or in the direction of the wood, so as to preserve as much of the heel as possible, and yet make the surface smooth. Remove the lower leaf or two, and the cutting is ready for insertion. Make the holes with a bluntly-pointed dibber, or piece of wood, so that the cuttings when inserted will reach the base without being hung up, as it were, when the soil is pressed against them. Many losses accrue from bad workmanship like this, as the base of the cutting is left clear of the soil, and in all probability dry. Insert one in each pot, and after accomplishing this, remove the whole to a frame or hand-light where the pots may be plunged in sand, light soil, or even coco-nut fibre; then water with a rosed watering can, and keep close and shaded from bright sunshine.

Violets.

Violets intended for flowering in winter should now be planted in frames or hand-lights, or in beds where they can be covered with such means of protection on the approach of cold weather. Without this arrangement Violets cannot be expected to flower in winter, except in very favoured localities, and not at all in the immediate vicinity of large towns, owing probably to the smoke and other deleterious influences in the atmosphere, and more especially to damp, foggy weather, which causes the leaves to rot. Employ only the best and healthiest plants from which a good supply of bloom may reasonably be expected, and plant them just close enough to occupy the space without waste, but at the same time far enough apart to prevent the leaves from crowding and engendering decay during dull wet weather. In making up a frame for their reception great advantage would accrue if the bottom be filled up with partly-fermented stable manure, so that a mild and steady heat will give the desired impetus to vegetation during the autumn and winter months. Cover the dung with about 6 ins. of good soil, so as to bring the plants as near as possible to the glass without touching, for the sake of fully exposing them to light. A southern exposure is best in winter. Give plenty of ventilation on all favourable occasions when the roots have become established after transplanting. The best varieties for this purpose are Marie Louise, lavender-blue and white; Neapolitan, pale lavender; and Comte Brazza or Swanley Double White, both being the same thing. All the three have double sweet-scented flowers.

Bedding Plants.

Cuttings of various subjects used for the decoration of the summer flower garden must now be taken, so that they may get well rooted before the approach of winter. This is all the more important where there are no heated frames or greenhouses in which tender or half-hardy subjects may be stored during winter. There is less liability to damping when the cuttings are well rooted, so that an abundance of ventilation may be given on all favourable occasions. Bedding Pelargoniums may be inserted in boxes, or even in the open border, where a good percentage will root and occasion little or no care till the approach of frost compels lifting. They will by that time have formed nice little plants that may be potted up singly or stored in boxes according to convenience. A large number of cuttings may be removed at this early date without disfiguring the flower beds by judiciously selecting shoots where they will least be missed. Where there are no stock plants of Lobelia in pots the sooner that cuttings are made the better, as the plants keep best when the pots are well filled with roots. Verbenas, Fuchsias, Heliotropes, Alyssum, Gazanias, Petunias, and plants of that class may also be struck, placed in frames, and shaded from bright sunshine till they form roots. The shading should not, however, be overdone, otherwise many of the cuttings will be more injured than benefited. Many prefer to raise Petunias from seed every year, but good kinds often turn up which it is desirable to preserve for next year's work, and this can only be done by cuttings if it is desirable to preserve the variety true. Bedding Violas may be propagated at any time till the end of next month, provided cuttings can be obtained.

Hollyhocks.

Those wishing to save seeds of their best varieties, whether single or double, had best make a selection at the present time, when in full bloom. Unless a large quantity of seed is desired, a few flowers will be quite sufficient to save from, and these should be of the very best. There will be no difficulty with regard to single flowers, but the petals are so dense in the finest double kinds that bees and other insects have difficulty in effecting an entrance to the flower, which therefore stands a bad chance of setting seed. In cases of this kind the cultivator would greatly facilitate the work of bees by pushing aside the dense masses of petals in places, so as to facilitate the useful work done by bees in seed-setting. As these double flowers fade, it will often be found necessary to pull off the mass of petals and stamens, especially in wet weather, to prevent the rotting of the fruit. This will also disturb or remove maggots, which find shelter amongst the petals until they bore into and effect a lodgment amongst the carpels and seeds, which they often destroy in large quantities.

CARNATIONS.

Being an ardent lover of all hardy flowers, and especially of the Carnation, I should like, with your permission, to say a few words on its cultivation. I have annually layered a few hundreds early in August, and planted them out as soon as well rooted in a soil consisting of a good holding loam inclined to clay, previously prepared by being well dug up and incorporated with a good quantity of old lime-rubble. In such a soil they always pass safely through our severest winters. I plant them 1 ft. apart, and they make a fine display the following season. Then in the autumn I remove every alternate plant, and allow the rest to have their own way, when they make large plants from 2 ft. to 3 ft. across, and throw up from twenty to thirty stems of flowers. So convinced am I of the hardiness of the Carnation that I fear any attempt at coddling will end only in disease and eventually death.

I have two beds of Pride of Penshurst planted out,

which I shall test for hardiness during the coming winter, and have no doubt that they will do well. I would not say, do away with Carnations for flowering under glass, but let the house in which they are to bloom be kept as cool as possible. They enjoy sunshine, but not a close stuffy atmosphere. I intend this autumn to plant out a lot of good named varieties, which I have no doubt will stand the winter. When going through a nursery the other day I saw a lot of starved little plants in pots; I said to the man in charge, "Why don't you plant them out?" "Oh," he said, "these fine named sorts will not do outside." Carnations like a soil containing lime, and if it is not naturally there it should be added in some form or other, and anyone beginning their cultivation should make a note of that. I have seen some Carnations planted along the top of a low wall where they were rooted into the lime rubble, and hanging over the wall as they did, looked well and seemed to have grown and flowered on for several years in succession.—*Dianthus, Edinburgh.*

A NEW RACE OF LILACS.

There may still be found in some gardens a very old variety of the common Lilac under the name of Syringa azurea plena. I do not know the origin of this plant. It produces small panicles of clear-coloured flowers, in each of which there are a number of corollas arranged one within the other. It is a teratological curiosity, but as an ornamental plant quite destitute of value, as the rare flowers are quite hidden by the foliage. This variety, as the flowers have no stamens, and the pistils are either abortive, or so hidden among the numerous corolla-lobes as to be beyond the reach of insects, does not produce seeds naturally. But it will sometimes seed with the aid of artificial fertilisation; and seeds secured in this way produced the first of the double-flowered Lilacs introduced during the last few years.

It is eighteen years since this plant, artificially fertilised in my nursery with pollen of various Lilacs, bore a few seeds, which afterwards germinated. Some of the best varieties of Syringa vulgaris, such as Ville de Troyes, sanguinea, &c., were selected as the pollen parents in this experiment, and the pollen of Syringa oblata, a species remarkable for its early flowers and for the brilliant colouring of its foliage in autumn, was also used. The characters of this species, to which an article recently published in *Garden and Forest* has called attention, were transmitted to one of the seedlings derived from this cross. This was the first sold under the name of Syringa hybrida hyacinthiflora plena. The term hybrida, which is still found in the catalogue of the Maison Lemoine, was used to show that this plant is a true hybrid between two species of Syringa.

Syringa hybrida hyacinthiflora is already out of flower, although the flowers on most of our Lilacs are only just opening; and in autumn it is exceedingly ornamental, with its brilliant red foliage. The panicles of flowers are large enough, although the corolla lobes of the double flowers are narrow and reflexed. But the production of this plant was a step in the right direction.

The other seedlings from this first crop of seed showed no trace of the blood of S. oblata, but there were some of them which were handsomer than S. hyacinthiflora plena. The best plant of this set was sent out under the name of S. vulgaris Lemoinei. The thyrse of this plant is 8 ins. long, and covered with lilac-blue double flowers, with numerous imbricated corolla-lobes. A number of other good varieties were in the set, differing from S. vulgaris Lemoinei in the shape of the flowers, in their colour, in the colour of the flower buds, or in the shape and size of the thyrse. These varieties are Renoncule, Rubella plena, Mathieu de Dombasle, and Le Gaulois. An attempt was made as soon as these different varieties flowered to get seeds from them, and the old S. azurea plena was discarded as a seed bearer. The best single-flowered varieties with flowers of different shapes and colours were used to cross with the new double-flowered race, and pollen from the flowers of S. chinensis even was tried; but this last experiment produced no results. A new set of seedlings was obtained from the second cross, and among them were some very remarkable and beautiful plants. From this sowing came Alphonse Lavallée, Michel Buchner, President Grévy (pyramidal), M. Maxime Cornu, &c. Here we have, in addition to the form and the colour of the flower, remarkable variations. The corolla-lobes in one variety are round and flat, resembling a Ranunculus; they form in another a globular head, with the lobes all incurved; in another they are all reflexed; and in another they are crumpled.

I will not give now a detailed description of each of these varieties; and it need be said only that we are constantly experimenting with double-flowered Lilacs, and that each spring-time sees a new set of flowers produced, with forms and colours entirely unknown before. Nearly all the shades of colour found in the flowers of single Lilacs have been produced already in this new race. Shades of blue are represented by A. Lavallée, Michel Buchner, President Grévy, and Léon Simon. The darkest reds appear in Comte Horace de Choiseul and La Tour d'Auvergne; a delicate rose in Virginité; and we have now obtained a variety with large, pure blue flowers. This has not been sent out yet, but it appeared at the Exposition in Paris.—*V. Lemoine, Nancy, in Garden and Forest.*

THE AIGBURTH NURSERY, LIVERPOOL.

This nursery, of Croton fame, is situated at Grassendale, a pleasant thirty minutes drive from Liverpool, *via* Dingle, or a few minutes run by the Manchester, Sheffield, and Lincolnshire Railway. I went there lately specially to see the Crotons, and was much pleased that I had found time to do so. The dazzling brilliancy of the leaf-colouration displayed in the Croton-house proper it is impossible for pen to describe, there being charming combinations of crimson, red, orange, white, and gold, added to healthy foliage and well-feathered plants, specimens ranging from 5-in. to 12-in. or 14-in. pots, and some of them several feet in diameter. The individual characteristics of the different varieties also stood out most prominently, rendering the whole a most delightful and instructive exhibition in itself.

The house in which these superb specimens are grown is span-roofed, about 50 ft. long, 12 ft. wide, and 8 ft. high in the centre. The sash bars are 22 ins. apart, thus allowing an abundance of light, and ample ventilation is provided. Out of about fifty sorts grown, the following were noted as specially effective:—Aigburthensis, angustifolium, Baroness Rothschild, Disraeli, interruptum aureum, majesticum, Mortii, Prince of Wales, Newmanii, Queen Victoria, aureum gracilis, Burkmanii, Warrenii, and Aigburth Gem.

Another specialty here is the Cyclamen, of which several thousands are grown in three houses entirely devoted to them. They are a fine sturdy lot of 1888 seedlings, from a cross between the C. magnificum and C. giganteum strains, and certainly these Aigburth varieties, as they are termed, represent now the most even lot I have ever seen, and promise to be unusually attractive in their season.

Other houses are replete with stocks of hard and soft-wooded plants, clean and healthy, whilst the nursery grounds are well stocked with all the plants incidental to a well-regulated nursery. The soil, apparently a deep sandy loam, resting on a red sandstone formation, suits some of the Conifers, such as Retinosporas and Cupressus, amazingly. Altogether I was highly pleased with what I saw in Messrs. Ker's establishment.—*B. L.*

ROSES IN SCOTLAND.

After some ten days or so of heavy rains, the display of Roses has become almost nil, and many plants heavily loaded with buds and opening flowers are now being relieved of a mass of decayed inflorescence. It is worthy of note that while many of the new favourites, and others which are valued as prize-takers, have succumbed to the wet weather, some of the good old kinds, so familiar to us in our youth, and which were among the first to open their flowers, are still very gay, standing up bravely against the rains and full of promise for an autumn display. Amongst the best are Gloire de Dijon, Jules Margottin, General Jacqueminot and Souvenir de Malmaison.

It is often a mistake, which leads to bitter experience, to plant a collection of Roses, the qualities of which are learned from the exhibition table, or from plants grown in a favourable locality for special purposes only, as the same kinds planted in certain localities prove most disappointing. We have known proprietors of gardens make complaints regarding their non-success as compared with what they have seen so grand at shows, but they were unaware of course how the latter had been tended, flowers picked off, shoots reduced, liquid manure given *ad lib.*, mulching removed and replaced regardless of appearance or smell, with a course of manipulation such as could not be practised in well-appointed private gardens except where ground is set apart for exhibition flowers, and especially where labour power is so reduced that making a specialty of one thing is ruining another.

When a proper collection of Roses is made, the number of individual kinds can be increased, and in our opinion the grandest displays of the queen of flowers are where large beds of individual sorts are planted, and if grown strongly and the finest of the growths pegged down annually, a system which we have practised since our boyhood, Roses would not be the ragged, struggling plants one often sees them. W. Allan Richardson has grown well with us this season, but the flowers are very inferior in colour and form to what they were last year. —*Stirling.*

NATIONAL CO-OPERATIVE FLOWER SHOW.

The fourth annual show, held under the auspices of the Agricultural and Horticultural Association, Limited, took place in the Crystal Palace on Saturday last, and in many respects may be considered a greater success than that of last year. Some classes certainly showed an improvement, as in the case of Tomatos, Apples, and certain vegetables. Altogether there were about 4,000 entries, representing many kinds of flowers, fruit, and vegetables. The latter were the most important feature of the exhibition, and very creditable to the industrial classes showing them.

There were thirty-five entries for a collection of six varieties of vegetables, open to members of industrial and co-operative societies, and the coveted premier award was taken by Mr. Wm. Thayre, of the Crawley and Ilfield branch of the association. The eighth prize lot even was a very fair sample. Tomatos, Cauliflowers, Potatos, Onions, Carrots and Turnips were amongst the chief features of the exhibits; Long-pod Beans brought twenty-six, and Broad Beans seventeen entries. There were seventy-four exhibits of Scarlet Runners, of which forty dishes were good samples, varying from 6 ins. to 9 ins. in length. French Beans numbered fifty-one dishes, most of which were good samples of their kind. White kidney Potatos numbered some fifty-nine entries; red kidneys, fifty-one dishes; round white, fifty-eight dishes; and round red fifty-four dishes, and that, too, independently of those shown by the Agricultural and Horticultural section of the exhibition. As might be expected, the samples varied enormously in size, and some were very rough. The prizes were taken by clean and even specimens of medium size. There were fifty lots of Carrots, fifty-nine dishes of Peas, sixty-four bunches of spring and thirty-six bunches of winter Onions. The first prize lot of the latter, shown by Mr. T. Nunn, of the Maldon and Heybridge Co-operative Society, was a very creditable one. There were thirty-two lots of Turnips, a white variety taking the first prize; of Beet there were fifty-seven samples, but many of them were too large, with branching roots. Vegetable Marrows supposed to be fit for table numbered seventy-one entries, and the specimens ranged from 6 ins. to 20 ins.; but as might be supposed, the prizes went to moderate-sized specimens. There were also about twenty-four entries of Cabbages; twenty-one of Lettuces; twenty of Leeks; twelve collections of herbs; thirty-five of Shallots; thirty-four of Celery, the greater bulk of which was red; eleven of Cauliflowers, the first prize sample being a good one; twenty-one Tomatos, of which there were ten or twelve good samples; forty of Parsnips; a fair quantity of Radishes, and three entries for a collection of six dishes of Potatos. In all there would be 500, or thereby, dishes of Potatos.

The first prize for a collection of fruit in this section went to Mr. W. H. Selby, New Swindon. The fruit consisted of Apples, Pears, Plums, Cherries, Gooseberries, and Currants. Grapes were represented by seven entries; dessert Apples, by twenty-nine; cooking Apples, by forty-seven; Pears, by 104; and small fruits by a fair number of entries. Cut flowers included some twenty entries of Gladioli, fairly well flowered, with eight to twelve open blooms on a spike; also sixty-three exhibits of Dahlias. Large quantities of Sweet Peas, Marigolds, Phlox Drummondi, Stocks, Asters, Zinnias, and Annuals were represented by some of the above, as well as by Candytufts, Mignonette, Centaurea Cyanus, Rhodanthe Manglesii, Chrysanthemum carinatum, and C. coronarium. Pot plants included many of the above subjects, particularly Phlox Drummondi, Marigolds, China Asters, as well as Godetias, Lobelias, Fuchsias, Musk, Coreopsis Drummondi, and others. One pot of Musk stood a yard high.

In the classes open to members of the Agricultural and Horticultural Association, or their gardeners, the display was of a higher order of merit in several respects, but the number of exhibitors was limited compared with that in the first section. The first prize

for a collection of vegetables consisting of ten varieties, was taken by Mr. C. J. Waite, gardener to Col. The Hon. W. P. Talbot, Glenhurst, Esher. He also took the first prizes for Scarlet Runners, Dwarf Beans, Tomatos (twelve fruits, very fine samples of Perfection), also a collection of six varieties of salad plants, nine round Potatos, and for a collection of eight dishes of Potatos. First prizes for winter Onions and Cucumbers were taken by Mr. Geo. Martin, gardener to Edward Vansittart Neale, Esq., president of the association. Mr. Thomas A. Beckett, Pen Amersham, took first prizes for spring-sown Onions, Cauliflowers, and Carrots. Mr. R. Philipps, gardener to Dr. Barber, took the first award for Leeks; Mr. O. Goldsmith, gardener to Sir W. Farquhar, Bart., first for Beans; W. Salmon, Esq., West Norwood, first for Cabbages; Mr. F. Batt, Norwood, first for Peas; Mr. W. Dance, gardener to Mrs. Lowe, first for kidney Potatos; and Mr. Charles Osman first for Celery. The first prize for a collection of eight kinds of fruit in this section was taken by Mr. Lewis Budworth. Mr. C. J. Waite had the best black; and Mr. Maher, gardener to A. Waterhouse, Esq., the best white Grapes. The latter had also the best Nectarines. Mr. Geo. Martin was first for Apricots; Mr. R. Phillips for Peaches; Mr. O. Goldsmith for a collection of Currants; Mr. Jas. Butler, Sittingbourne, for dessert Pears and a collection of Apples. There were also some good samples of Plums. Many prizes were offered for cut flowers, mostly annuals, as mentioned above, for the industrial classes. Dahlias were also well represented, together with some entries of cut flowers of stove and greenhouse plants.

ORCHID NOTES AND GLEANINGS.

Cypripedium Godefroyæ var.

A newly-flowered and certainly very distinct variety of this species may now be seen in bloom at Forest Hill, in the nursery of Messrs. John Laing & Sons, where it has opened for the first time. It certainly approaches the beautiful C. bellatulum, but has smaller and more numerous blotches of a rich and clear purple on a pure white ground; many of the blotches being strung together give the petals a marbled appearance. The latter organs are notched or shallowly bifid at the apex. The standard or upper petal has also prominent markings internally, and is marked purple externally, while the midrib, as well as those of the petals, has the blotches running together, forming a line. The labellum is pure white with numerous small purple spots. The staminode is triangular with nearly acute upper angles, and distinctly tridentate at the lower edge. It is white with a large transversely oblong deep yellow blotch in the centre and numerous purple dots all over the other parts. The flower stands only about 2 ins. high, the peduncle being almost suppressed, while the deep brownish purple ovary emerges almost directly from the spathe, but the stalk may get longer as the plant gets established. The leads range from 3 ins. to 6 ins. in length, and are deep green conspicuously marbled with grey above, while the under side is pale green with a few purple markings, and is altogether distinct from those forms which have the leaves almost black on the under surface.

THE GARDENERS' CALENDAR.

THE STOVE.

Caladiums, Gloxinias, &c.—Many of these are now going past their best and must be induced to ripen off gradually, not suddenly by withholding water all at once, acting on the presumption that they have now served the turn for which they have been grown and need no further feeding. In order to render the tubers fit to pass the winter in safety they must be ripened off gradually in a dry, airy atmosphere of course, but water must not be withheld so that the leaves flag and wither directly, otherwise they will be forcibly destroyed rather than matured in a natural way. The foliage must also be exposed to light as long as it is green and able to assist the tubers in becoming stored with nourishment. The same treatment applies to the early batches of Gloxinias and Achimenes that are now too far gone to be of any further use this year for the decoration of the conservatory.

Foliage Plants.—Any stove plants of this class now in too small pots to stand the winter should have a shift at once, so that the soil may again be well permeated with roots before the approach of winter. The mornings and evenings are now much colder, as if autumn were upon us, and what sun-heat we may yet get should be economised for the purpose of properly maturing the young wood, or to set the bloom buds as the case may be. Foliage plants will still require syringing during bright weather, and occasionally to be supplied with stimulants in the case of many things; either manure water may be used, or a bag containing soot may be placed in the tank from whence they are watered.

THE GREENHOUSE.

Pelargoniums.—The show, fancy, and decorative Pelargoniums that were cut down some time ago will now be sufficiently far advanced to require potting. Shake them out of the old soil, and reduce the ball considerably to allow of the plant being placed in a smaller pot than that from whence it was taken. A shift may then be given later on in autumn, by which root action will be more stimulated than if placed in the flowering pots at once. All the more robust and vigorous-growing kinds should be potted with good fibrous loam; but the weaker ones will require a lighter soil, with a fair quantity of sand. Pot firmly, as it always gives the most satisfactory results.

Winter-flowering Plants.—Salvias, Bouvardias, Poinsettias, Euphorbias, Sericographis, Peristrophe, Justicias, Eupatoriums and all plants of that class should enjoy full exposure to the sun, in order to mature the wood already made, and to preserve in short-jointed sturdy condition what is still growing. In the case of the first two subjects, this hardly applies if they were located in a proper position in the open air during the early part of summer. All that requires to be done then is to keep the stems well secured from wind, feeding with weak liquid manure until the time arrives for housing the plants. Pot on such as require it. Primulas and Cinerarias give most satisfaction when partly shaded, or if situated so that but little direct sunshine will play on the foliage.

Tree Carnations.—If a large stock of young plants are required of these useful subjects, the best way is to layer the shoots in small pots arranged in any convenient manner round the plants to be operated upon. A ready means would be to plunge the old plants in a bark or coco-nut fibre bed so as to bring the shoots within easy access of the small pots intended for them. Souveuir de la Malmaison is always in request, and always gives the best results when grown in pots under glass—at least, during the flowering period. The old plants or stools will shoot up again and afford useful material for next year's layers, although they cannot be expected to flower.

Vines.—All lifting must soon be brought to a close, for it should be remembered that the success of the operation greatly depends on the formation of young feeding roots after they are placed in the new soil, and that too before the fall of the leaf. After the operation keep the house shaded for a few days till the roots are again able to furnish the requisite supply of moisture to prevent the leaves from flagging.

Figs.—As the nights become colder and longer more artificial heat will be required to keep up the necessary degree of temperature to ripen the second crops of fruit now advancing towards that stage in second early houses. The atmosphere must be kept moderately dry, but at the same time the roots should be well supplied with tepid water from a tank in the house, and the results will even be better if a small pipe be taken through the tank, so that the temperature may be quickly raised after emptying or drawing large supplies for watering purposes. This had best be given in the morning, so that all superfluous moisture may be drawn away through the ventilators during the day. Free exposure to light and plenty of ventilation will also greatly improve the quality of the fruit.

THE KITCHEN GARDEN.

Wall Trees.—Now that the fruits of Apples and Pears are swelling fast, some assistance may with great advantage be rendered them by heavily syringing with the garden-engine so as to wash the foliage, the walls, and also supply moisture at the roots. Manure water will also assist the trees greatly, not only for the present crop but also for that of next year.

Potatos.—Proceed with the lifting of early Potatos as they ripen to prevent second growth from setting in, which is almost sure to happen should the weather become warm after the recent rains. Carefully remove any that may appear diseased, and store thinly in a dry loft secure from frost. After thoroughly ripening off under these conditions they may be piled up to some depth if the space is required by other kinds to be stored later.

Obituary.

With deep regret I write to inform you of the death on the 17th inst., at Exeter, of Mr. G. D. Vallance, of the Tresco Abbey Gardens, Isles of Scilly. For some time past Mr. Vallance had suffered from an affection of the heart, but had not been obliged to relinquish his duties until quite lately, when his family made arrangements for him to leave the island and take up his residence at Yatton. One of his sons brought him across on the 16th inst. and proceeded as far as Exeter the same day, and there he passed peacefully away on Saturday last.

Mr. Vallance commenced his gardening career at an early age in the gardens at Stockpole Court, Pembrokeshire. Here he served his apprenticeship, and remained for a time as journeyman. Then he went to one or two other places, one of which was in the neighbourhood of Warminster. He was for a short time in Garraway's Nursery at Bristol, and from there he went as gardener to Farleigh Castle, near Bath, where he stayed seventeen years. Subsequently he went to Ven Hall, near Sherborne, where he stayed thirteen years, and then became gardener at Tresco Abbey, where he faithfully and ably discharged the duties of his position for fourteen years.

He was a man of a kindly genial nature, warm hearted, and always ready to help in any good work, especially anything calculated to benefit the rising generation. At Farleigh he established an evening school during the winter months, and for five nights a week he gratuitously taught the young men of the village. Many of these hold responsible positions to-day, and still more there are who owe to him their start in life. In the village churchyard there is a memorial stone erected to the memory of his first wife by the parishioners, as a mark of their gratitude to him for his many acts of kindness while residing at Farleigh Castle. When at Ven Hall he continued his good works, outside of his garden duties, and left a name that will be long remembered in the district. Mr. Vallance was a good all-round gardener, and left all his places much improved by his energy and ability. He was ever kind and considerate to those who served under him, as the writer can abundantly testify, and ever ready to forward their interests. He leaves behind him a host of warm friends who will regret to hear of the death of the good old man.—*J. C., Forde Abbey.*

QUESTIONS AND ANSWERS.

Begonias.—*T. T. P. C:* 1, The address you require is M. Felix Crousse, horticulteur, Nancy, France; 2, we think not.

Carnation.—*W. D.:* We still fail to identify it with any named variety we know, but cannot adopt your suggestion to provide it with a name. On account of its depth of colour (yellow), you should grow it on as a border flower, and send us a good leading bloom next season.

Carnation.—*C. Brassington:* Your seedling, Duchess of Fife, has all the good points but one of a fine self-coloured flower. It is large, full, brilliant red, tinted with rose in the centre, and deliciously fragrant. Its serrated petal is against it from a florist's point of view, but it ought to make a grand border variety.

Dahlia Low Moor.—*W. C.:* The seedling is a pretty single variety, deep crimson with a broad band of white flushed with purple on the centre of each ray floret. We have seen something like it before, but do not recollect the name.

Names of Plants.—*C. S.:* 1, Catalpa syringæfolia; 2, Hibiscus syriacus; 3, Colutea cruenta; 4, Pavia alba, better known as P. macrostachya; 5, Spartium junceum; 6, Pieris floribunda, better known as Andromeda floribunda. *Tyro:* 1, Polypodium (Phlebodium) aureum; 2, Reineckea carnea; 3, Bartsia Odontites; 4, Achillea Ptarmica; 5, Scabiosa (Knautia) arvensis; 6, Valeriana officinalis; 7, Lychnis diurna alba. *Strathearn:* 1, Ionopsidium acaule; 2, Eccremocarpus scaber; 3, Erica vagans. *Omega:* Yellow-flowered plant is the Field Sow Thistle (Sonchus arvensis); that in fruit is the Enchanter's Nightshade (Circæa lutetiana).

Tulips and Narcissi.—*Omega:* Tulips, single: White Pottebakker, Yellow Prince, Scarlet Pottebakker, and Keizers-Kroon. Tulips, double: Rex Rubrorum, scarlet; La Candeur, white; Yellow Tournesol, yellow or Yellow-rose. Polyanthus Narcissi: Grand Monarque, Grand Primo, Gloriosa, Soleil d'Or, Bathurst, and Staten General.

Communications Received.—J. B.—W. E. G.—B. L.—J. D.—G. G.—J. C.—W. D.—S. C.—T. S. O.—H. M.—Reseda.—C. T.

TRADE CATALOGUES RECEIVED.

Sutton & Sons, Reading.—Bulb Catalogue for 1889.

Dicksons, Limited, Chester.—Dutch and other Bulbous Flower Roots.

John Taylor & Son, Norland Road, Notting Hill, W.—Garden and other Cutlery and Fancy Leather Goods.

J. M. Krannich, Mellenbach, Thuringia, Germany.—Miscellaneous Garden Requisites.

LONDON SEED TRADE.

August 19th.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a moderate inquiry for Trifolium incarnatum. Tares and Rye at unchanged rates. Mustard steady. Rape has advanced 4*s.* per quarter, owing to some large orders for crushers having cleared the present supplies off market.

THE WEATHER.

At the Royal Observatory, Greenwich, the mean reading of the barometer during the week ending August 17th was 29·67 ins.; the lowest reading was 29·34 ins. on Sunday morning, and the highest 29·88 ins. on Tuesday evening. The mean temperature of the air was 59·3°, and 3·1° below the average in the corresponding weeks of the twenty years ending 1868. The mean exceeded the average on Thursday and Friday, but was below the average on the other days of the week, the deficiency on Monday being 7·9°. The general direction of the wind was S.W., and the horizontal movement of the air averaged 11·2 miles per hour, which was 1·1 miles above the average in the corresponding weeks of sixteen years. Rain fell on three days of the week, to the aggregate amount of 0·19 of an inch. The duration of registered bright sunshine in the week was 26·8 hours, against 24·5 hours at Glynde Place, Lewes.

COVENT GARDEN MARKET.

August 21st.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s.d.	s.d.		s.d.	s.d.
Apples .....½-sieve	2 0	4 0	Pine-apples, Eng., lb.	1 6	3 0
Grapes .....per lb.	0 6	1 6	Pine-apples, St. Michaels.....each	2 0	7 0
Peaches ....per doz.	1 0	6 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s.d.	s.d.		s.d.	s.d
Artichokes, Globe, doz.	3 0	6 0	Herbs ....per bunch	0 2	0 4
Asparagus ....per 100			Horse Radish, hundle	3 0	5 0
Beans, French, per lh.	0 6		Lettuces ..per dozen	1	2 0
Beet .....per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages .... per doz.	1 6		Onions....per bnshel	7 0	9 0
Carrots ....per hunch	0 6		Parsley....per bnnch	0 6	
Canliflowers, English, per dozen	3 0	6 0	Radishes ..per dozen	1 6	
Celery....per bundle	2 6		Small salading, pnnnet	0 4	
Cucumbers ....each	0 4	0 10	Spinach, per strike ..	2 0	
Endive, French, doz.	2 6	3 6	Tomatos ....per lb.	0 6	0 9
			Turnips ....per bun.	0 6	

POTATOS.- Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

No alteration in prices of CUT FLOWERS and PLANTS in POTS.

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Next Week's Engagements.

Monday, September 2nd.—Bulb Sales at Protheroe & Morris's, and Stevens' Rooms.

Wednesday, September 3rd.—Bulb Sale at Stevens' Rooms.

Thursday, September 4th.—Bulb Sale at Protheroe & Morris's Rooms.

Friday, September 6th.—Grand National Dahlia and Fruit Show at the Crystal Palace. Sale of Orchids in Flower at Protheroe & Morris's Rooms.

Saturday, September 7th.—Bulb Sale at Stevens' Rooms.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

The Gardening World.

SATURDAY, AUGUST 31, 1889.

CURRENT TOPICS.

Mr. Gladstone on Fruit Growing.—Mr. Gladstone has once more taken up the mantle of a prophet, and has declared that in this country there is a great future for fruit. We believe that to be the case also, but, all the same, think that the process of fruit culture is best developed by small aids, and in no way better than through the agency of small holdings, allotments, and well-stocked gardens. The planting of large areas of fruit is a speculation of too risky a kind. Still further, it tends simply to place the bulk of the resulting crops in the hands of the jam manufacturers and the dealers, rather than into the mouths of the people direct.

We want to see a widespread development of fruit culture amongst the small holdings and gardens of the kingdom, so that the mass of the people may secure it direct, and if of their spare produce they can sell direct to their less fortunate neighbours, so much the better. In that way myriads may be benefited, while no one is tempted to enter into dangerous, and possibly illusive, speculations. The absurd objection of one person, that fruit consisted so largely of water, was well and properly replied to by the ex-Premier. What is there in nature that does not largely consist of water? Why, meat contains some 75 per cent of water, and yet its prime cost to the consumer is (relative to the cost of fruit and vegetables) enormous, whilst it is produced in the most roundabout fashion. Even water itself is composed of gases, and thus everything in due time resolves itself into gases, so that it might be pleaded that it is folly to produce solid food at all, as being but gases in another form. If we must have solid food, and that is an indisputable requirement, we can hardly have it in a more pleasing form than in that of sweet wholesome fruit.

Apples on Pears: A Slight Mistake.—That the ex-Prime Minister is a reader of our contemporary, the *Journal of Horticulture*, seems to be evident by his reference to that paper in his recent Hawarden speech, and therefore it is all the more unfortunate for the credit of garden journalism that he should have—doubtless misled by the authority in which the matter was found—quoted so ignorant and ludicrous an assertion as that "when Pear trees cease to bear, they should be cut down and re-grafted with Apples." Editors cannot, of course, be responsible for the ignorant views held by some correspondents; but even Mr. Gladstone may not at all times, in the hurry of reading, notice that considerable difference exists between practical and non-practical opinions.

It is unfortunate that such an absurd proposition as that Apples will thrive if worked on to Pear stocks should ever have been admitted into any gardening publication; and we see the resulting evil in this case—that an eminent statesman, who took the journal's authority as sufficient, regarded the suggestion as practical, whilst it is the very reverse. It may be good policy when such statements are made to publish them accompanied by conclusive evidence that they are wildly absurd, because it may tend henceforth to prevent others from entertaining or holding similar illusions. Those afflicted with stunted Pear trees which have become barren will, perhaps, act most wisely if they will grub them out altogether; but if they decline to do that, at least they may take their heads off, and re-graft with some robust free-fruiting kinds of Pears, which may in time develop into large healthy heads.

Onions.—An esteemed Scotch correspondent last week alluded to the dimensions of some fine Onions grown in his locality, and seemed to desire comparison southwards. We are now able to take up the challenge, for but the other day at the Basingstoke Flower Show, Mr. Kneller, gardener to Wyndham Portal, Esq., of Malshanger Park, very easily took first place in the competition for twelve bulbs with some wonderful samples of Mr. Deverill's grand variety Ailsa Craig. The samples weighed in the bulk no less than 30 lbs., an average of 2½ lbs. each, but the largest were a little over that weight, and some were a little under. Then the bulbs were also very handsome; there was not an awkward-grown one amongst them.

The Ailsa Craig variety partakes somewhat of the globe form, as its great weight is found more in depth than in breadth. Still, every bulb was admirably proportioned. This variety seems, so far, to present the very finest bulb producer yet introduced. It was worthy of notice that prior to the appearance of Mr. Kneller's samples, it seemed as if the splendid bulbs of Rousham Park Hero, put up by Mr. Bowerman, of Hackwood Park Gardens, could not be excelled. The dozen of these Onions weighed 20 lbs., were wonderfully handsome and clean, and also very bright; the largest weighed 1¾ lbs., and measured 18 ins. round. This variety, however, is very flat,

and so far is somewhat disappointing in weight, as the surface of the bulbs covers as much ground as do those of Ailsa Craig, perhaps even more.

Hampshire is to be congratulated on the production of these superb samples; they are the product of fine strains, of high cultivation and a grand season. We should like to see these bulbs at the Chiswick Vegetable Conference, with others equally meritorious in friendly rivalry.

Gardeners' Royal Benevolent Institution.—We understand that Mr. Edmund Yates, Editor of *The World*, has kindly consented to preside at the annual friendly dinner of the subscribers of this institution, which will be held about the 17th of January next.

Gunnersbury Park Gardens.—We understand that Mr. J. Roberts is retiring from the management of the Messrs. Rothschild's gardening establishment at Gunnersbury, and will be succeeded by Mr. Reynolds, who has been at Gunnersbury for some fifteen years.

Clianthus Dampieri.—A correspondent writes:—This is usually considered a most difficult plant to do well, and certainly I have seen few good specimens of it in pots. Judge then of my surprise to find the other day, in Messrs. Sutton & Sons' nursery at Reading, a very handsome plant growing in the open air. It was planted in the open ground at the end of May, the seeds having been sown in February. The plant has nine shoots about 3 ft. high, covering a radius of about the same diameter, and producing some five or six dozen of its most curious scarlet and black flowers. This, I take it, should teach us that the plant does not require so much coddling as it generally receives at the hands of those who attempt to grow it.

Presentation to Mr. James Huntley, of Trowbridge.—Advantage was taken of the fortieth exhibition of the Trowbridge Horticultural Society, held on August 21st, to make a presentation to Mr. James Huntley, who has filled the post of honorary secretary for a period of twenty-six years. The presentation was made at the luncheon to the judges by Mr. A. P. Stancomb, one of the vice-presidents, and it consisted of a handsomely carved overmantel, an elegant clock and bronze ornaments to match, together with an elaborately illuminated address signed by the president on behalf of the society. Mr. Huntley returned thanks in a suitable manner. The society is specially fortunate in securing the services of a gentleman in Mr. Huntley's position; he possesses the utmost confidence of the exhibitors, and many of them subscribed to the testimonial fund.

Fatal Accident to a Gardener.—On Saturday afternoon last an inquiry was held at St. George's Hospital concerning the death of Sidney Bixley, aged forty-four years, gardener to F. C. Burnand, Esq., 42, Hyde Park Gate, who was fatally injured on the 21st inst. It seems from the evidence given that Bixley was lopping the branches of a large Acacia tree, when he overbalanced himself on the ladder and fell to the ground. Mr. Le Cronier, house-surgeon at St. George's Hospital, said that the deceased died about five hours after his admission without having recovered consciousness. He had received shocking injuries, his skull and six ribs being fractured, and his lungs and kidney ruptured. The coroner said the case was a very sad one, the deceased, who had been in his situation about fifteen years and was a very respectable man, having left six children unprovided for. A verdict of "Accidental death" was returned.

Window Plant Competition.—The annual competition for prizes for window plants grown by children—members of the Christ Church Band of Hope, Chelsea—took place on Wednesday of last week in the parish room adjoining the schools, and the whole of the arrangements were ably carried out by the secretary, Mr. Colin Rae, in conjunction with the vicar, the Rev. Arthur J. Spencer. There were ten competitors for three prizes, the exhibits consisting principally of Fuchsias and Pelargoniums. It is gratifying to notice the growing popularity of children's flower shows, especially in the metropolis. The idea is worthy of every encouragement, for apart from initiating the little ones into the science and mysteries of the gardening art, it is a means whereby many of the crowded streets and alleys of large towns and cities may be made brighter. We believe the time is not far distant when exhibitions of window plants, grown by children, will be supported in a more practical manner by the affluent and heads of our large schools than is the case at present, and we hope to see sooner or later added to the Education Code the art of growing ordinary plants, so that this interesting knowledge and healthy occupation may form a part of every child's education.

Gladiolus, Leonard Kelway.—This new variety or kind is stated to be a hybrid between G. purpureo-auratus and G. Gandavensis. In habit, and in the open and expanded nature of its flowers, as well as their size, it certainly takes much after the latter, which was probably the seed parent. A fine specimen was exhibited at the meeting of the Royal Horticultural Society on Tuesday last by Messrs. Kelway & Son, Langport, Somerset, but arrived too late to be placed before the Floral Committee. The flowers are large and closely arranged on a one-sided spike, while all the segments are broad, much overlapped, with the exception of the lateral ones of the inner series. They are of a rich dark crimson, more or less tinted with rose, especially when they first expand, and are evidently somewhat flaked with crimson and rose towards the margins; the smaller lateral ones of the inner set above mentioned have a very dark median crimson blotch surrounding a pale or whitish midrib. The upper and inner segment is of a warm rose colour for more than half its length upon first expanding, but gradually deepens to crimson or scarlet. The anthers are violet, and the stems and bracts are tinted with bronzy red. Altogether it is a very fine and richly-coloured flower.

Edinburgh Plum Congress.—From a circular letter issued by Mr. Dunn, of Dalkeith, we learn with reference to the Special Exhibition and Conference on Plums, to be held in connection with the Royal Caledonian Horticultural Society's autumn show, on the 11th and 12th September, that while collections of Plums are solicited from all parts, for comparison and instruction, the chief object of the conference is to utilise the favourable opportunity presented this season by the fine crop of Plums in Scotland, for gaining useful information about them, comparing their merits and correcting their nomenclature. All who are interested in the growing of Plums are therefore invited to send as complete a collection as possible of the varieties (ripe or unripe) grown in their district, and as the object is solely educational, there will be no competition and no prizes. It is not necessary that the fruit should be grown by the sender, but those sending collections from a district should specify the place where each sample was grown. No limit will be put as to the number of varieties which any contributor desires to send, but the number of fruits of each variety should be from three to six, according to circumstances. The Council of the society are anxious to procure a complete representation and record of the varieties of Plums grown in Scotland, therefore each variety should be distinctly labelled with the name, or names, under which it is known in the locality, and each collection should be accompanied by all the information possible about the climate, altitude, exposure, soil, methods of cultivation, and other particulars, which will be of much value to the committee in drawing up their report. The specimens being strictly for examination and instruction, they must necessarily be at the disposal of the Council. In the case of a new or unknown variety, specimens of the fruit should be accompanied by a bearing branch, with fruit and foliage, to show its character and bearing qualities. Intending exhibitors must give notice to the secretary or assistant secretary, in writing, not later than Wednesday, 4th September, stating the number of varieties they intend to exhibit—for which space will be allotted and plates provided by the society. The Council will pay the carriage of any Plums sent to the exhibition and conference, and will also see that they are carefully staged for the inspection of the committee, but they will not be held responsible for any error, damage, or loss of fruit consigned to them, although all possible care will be taken of it.

Fuchsia, Countess of Aberdeen.—Light-coloured Fuchsias are plentiful, but there are few exhibiting both white sepals, petals and tube. Usually either the sepals and tube are dark with a white corolla or the latter may be of some shade of purple, red, violet, or even blue, with the calyx and its tube white. But in Countess of Aberdeen the corolla is pure white; and the calyx with its tube is also white, but of a slightly different shade. The blooms are moderate in size, but the distinct break in colour is a thing amongst Fuchsias that should be well taken in hand by the florists, in order to develop a race with large and pure white flowers, distinct from the usually bi-coloured types now so plentiful everywhere. The variety under notice is evidently of slow growth and upright habit, with small dark green leaves. Forms with drooping branches and pure white flowers would be an acquisition for those who grow Fuchsias well and use them for conservatory decoration.

Dahlia, James Scobbie.—We learn from an Edinburgh correspondent that the new single yellow Dahlia, James Scobbie, for which Messrs. J. Cheal & Sons received an Award of Merit from the Floral Committee on August 13th, and which was described in our last issue at p. 818, was raised at the Pinkhill Nursery of Messrs. R. B. Laird & Sons, and was sent out last spring. It is also further stated to have a fine dwarf habit, and to throw its blooms well above the foliage.

TREE PLANTING IN TOWNS.

In order that success may crown the effort, it may truly be said that no work of the horticulturist requires more tact and good management than the proper planting of trees alongside streets and avenues. That the materials with which roads are usually made up are ill fitted for sustaining a healthy condition in trees, at least for any great length of time, is well known to those who have taken any interest in the matter—broken stones, clinkers and gravel affording but small support to vegetation, be it of whatever kind, but particularly large-growing trees and shrubs. Many failures in street planting from this very cause might be pointed out, and the result is that the public generally have got tired of the subject and become prejudiced by unworthy endeavours. Not a few cases of street tree planting could be pointed out, the future result of which will certainly be discreditable to all concerned, simply because the work has not been well done.

In crowded streets and avenues, where the air is vitiated with impurities and the soil hard, and, as is frequently the case, surcharged with gaseous matter, tree planting becomes far more difficult and is quite a different undertaking to what is the case along a country lane or field side. In the latter case it may be sufficient to simply open a fair-sized pit, insert the tree and stake it; but in any of our large towns the case is very different, for the soil, hard as iron and composed mainly of clinkers and shingle, affords but very little nourishment to a rapid-growing tree, and one that, moreover, has to do battle above ground with the deleterious effects of an impure atmosphere. Another cause of failure in street planting is having the paving placed above the roots and in too close proximity to the stems. The roots should always be allowed plenty of breathing room, and to effect this a good-sized space should be railed off around the stem of each tree, no paving being allowed within the boundary. By so doing a double benefit is brought about, in allowing the free access of rain to the roots, and also by preventing the accumulation of noxious gases beneath the ground surface (as has been proved to be the case when pavements are used), which are inimical to the welfare of the trees. In proof of what is said we may refer any person to the trees along the Victoria and Thames (Chelsea end) Embankments, which have been planted as above directed; and that success has amply crowned the effort cannot be denied, for certainly that noble avenue has no equal in any British town.

Where street trees are to be planted, a good-sized patch of ground—say at least 6 ft. in diameter and 4 ft. in depth—should be thoroughly broken up, and if the soil is of inferior quality, which will assuredly be the case in 90 per cent. of the pits, good fresh loam should be substituted instead. By undermining the sides of the pits a much larger receptacle for the fresh soil will be formed, and this will not occasion so much of the footway and pavement being torn up as if the pits were of equal diameter top and bottom. The plants used should be such as have been specially prepared for the purpose by being frequently transplanted for some years previous to being placed in their final position. They should be stout, stocky, well rooted, clean, and from 6 ft. to 8 ft. in height.

In planting, spread the roots well out around the stem, and do not bury too deeply, the mark visible on the stem as to how deep the trees stood in the nursery border being the best criterion to go by. As regards the best time to plant trees in a town opinions differ, but there can be little doubt that spring is preferable, and for the good reason that, as they start into growth at once, they are not so likely to suffer from smoke and other deleterious affections, as if they remained for several months or during the winter without hold of the soil and in an inactive condition. Staking firmly or tying the trees so as to prevent rocking by the wind, and consequent damage to the roots, should be set about immediately planting is finished. Circumstances will alone be a guide as to how this should be done, but it is generally found necessary, even when the trees are surrounded with iron railings, to drive a stout

stake firmly into the ground on the windward side, and as close to the stem of the tree as possible. To this the tree should be made fast with teased-out tarred rope, and to avoid friction the rope may be crossed between tho stem and stake.—*A. D. Webster.*

NOTES ON VEGETABLES.

Ellam's Dwarf Cabbage.

We have grown this quick-hearting and compact little Cabbage for several seasons, and notwithstanding the rivalry of other sorts grown in competition it still remains the best both for earliness and flavour. Says the cook, in early summer, "Send us in that little sort, master wants but little, but wants it good." It is truly both little and good, and we keep it in season as long as possible.—*A Kitchen Gardener.*

Livingstone's Favourite Tomato.

You have spoken well of this Tomato, but from a trial of several plants we find that it is not such a free setter as some, though there is some compensation for this in the fruits being larger. It is very handsome, round and smooth, and the flesh is solid with little core. Altogether it is a desirable sort to grow. Your allusion to the doctors decrying the eating of Tomatos on account of their health-giving properties is amusing enough, but if their occupation goes, I hope they will not seek their revenge by becoming gardeners themselves!—*A Kitchen Gardener.*

The Duchess Pea.

The prophecy in your columns of a year ago, with reference to this variety, is already being justified by all gardeners who have grown it this season. A couple of rows have been with us a marvellous sight, the greater proportion of the pods measuring 5 ins. in length, and being quite full of grand dark green peas of delicious flavour when cooked. The habit of the plants is robust, not much more than 4 ft. in height, and it is an excellent cropper. It is emphatically the Pea for the show tent, the small garden, and the dining table.—*A Kitchen Gardener.*

CHRYSANTHEMUM NOTES.

Hirsute Varieties.

Mr. William Falconer, writing in *The American Florist*, says:—"A pink-coloured 'hairy'-flowered Chrysanthemum of the same style as Mrs. Alpheus Hardy I have known the existence of for some time, but not till to-day did I know that it had escaped from its prison in Japan. But it has, and Peter Henderson has got it. This is the second time he has had it; the first time every plant was dead when received. That horticultural veteran, Peter B. Mead, was telling me about it a couple of months ago. Mr. Mead's daughter was for several years a resident in Japan, and officially connected with the royal families of the country. She used to treat her father here to descriptions and sketches of the hidden floral treasures of the princes' gardens, and laid particular stress upon this pink 'hairy'-flowered Chrysanthemum; but she found it impossible to obtain a plant of it to send to her father at Mamaroneck. This shows how true is the proverbial attachment of the Japanese to their pet plants."

Are Agréments de la Nature, Bertier Rendatler or Curiosity Distinct?

This question has, I believe, been discussed before without any definite decision being arrived at; some assert a negative, and others, equally emphatic, an affirmative, with the result that they are still retained as distinct in the catalogues of most firms. Looking through my collections this morning, I thought it singular that four plants (two of each) I had from Messrs. Cannell & Sons, who I have not yet known to send one variety for another, should all be the same height, the same foliage and habit, and all to present their crown buds together, though differently labelled. The flowers, too, are well known to be similar. Is it worth while filling catalogues with names, and long names too, where the difference, if any, is so slight?—*W. J. Murphy, Clonmel.* [Curiosity and Bertier Rendatler are regarded as synonymous by the nomenclature committee of the N. C. S.—Ed.]

Maud Pitcher.

This is a sport of great merit from the well-known yellow Precocité, and is equally if not more floriferous than that variety. The leaves are small and deep green, while the stems are much branched, and about 2 ft. in height, more or less. The flower-heads are of good form, full in the centre, orange above, and yellow on the reverse of the florets. It was shown by Mr. Geo. Stevens, St. John's Nursery, Putney, at the last meeting of the Royal Horticultural Society, and received an Award of Merit.

GARDENING NOTES FROM IRELAND.

The Autumn Show of the Royal Horticultural Society.

This show was held in the grounds of Sir Cecil Guinness, St. Stephen's Green, on the 22nd inst., and was an all-round good exhibition, the various exhibits being of first-class order, and the competition good. The show was held in tents, and it was fortunate that the rain during the forenoon ceased in sufficient time to make the afternoon enjoyable to visitors. The plant department had very fine collections, and for the class of singular or variegated foliage, Mr. Flynn, gardener to L. G. Watson, Esq., Newstead, was first, and for a collection of exotic Ferns he was also first. In this lot was exhibited a grand plant of Todea superba, said to be the largest specimen of its kind to be seen in Ireland. For a group of nine foliage and flowering plants, Mr. Coughlan, gardener to Richard Pim, Esq., Stradbrooke Hall, was first, every single plant in the collection showing the care and high cultural skill for which Mr. Coughlan has long been famed. Fuchsias, Begonias in pots, and zonal Pelargoniums were fairly well done, but they do not call for any special reference.

Florists' flowers, notwithstanding the late heavy rains, made a splendid exhibition, and Roses, Dahlias, Begonias, &c., were in as fine condition as if the state of the weather had been all in their favour. In private collections for Roses, Mr. Porter, gardener to Lord Ashtown, was first with twenty-four, and for twelve Roses, Mr. Ennis, gardener to Viscount Carlow, Emo Park, was also first with a very nice lot. From nurserymen came collections that would be considered fine even in midsummer. The Messrs. Dickson, of Newtownards, put up a splendid stand of forty-eight blooms, and in this lot was exhibited, for the first time, a seedling Rose named Dixie Coddington, and to which was awarded a First Class Certificate. The form and substance was all that could be desired, the colour being a bright crimson. In this class the Messrs. McGredy, Portadown, were second. The Messrs. Dickson also put up a stand, not for competition, of Mrs. J. Laing Rose, which was very much admired by visitors. Cut Begonias were shown in trusses by Mr. Downes, gardener to J. T. Poë, Esq., Nenagh, and were splendid examples of what the Begonia can be brought to. The twelve different kinds shown in this box were all doubles, and obtained the first prize, Mr. Porter securing second prize in this class. The Messrs. Hartland, of Cork, contributed some fine stands of Begonias, which were highly commended by the judges.

Dahlias were fine, and, as usual, the premier prize in the class for twenty-four fell to the lot of that veteran grower, Mr. Shortt, gardener to W. F. Leland, Esq., Drogheda. The flowers were staged in the most perfect condition, and could hardly be excelled. Mr. L. McCormick, Kilsallaghan, was second. The nurserymen's class for thirty-six Dahlias brought out two fine collections from the Messrs. Dickson, and Messrs. McGredy, the former being awarded the first, and the latter the second prize. Gladioli were a very conspicuous feature of the exhibition, some very fine stands being shown. Among private exhibitors, Mr. Lombard's stand of thirty-six carried off the society's Cup, and fairly outdistanced all other competitors. Special prizes were given to two stands of twenty-four; that exhibited by Mr. Campbell, Gourock, secured the first, the second prize being taken by Messrs. McGredy. The latter lot was a very fine one, but it had no chance when pitted against Mr. Campbell's stand.

Fruit was well to the front, the collection of Grapes being very large. Mr. Roberts, of Charleville Forest, Tullamore, after a long absence from the exhibition table, has again put himself in evidence, and again has he had the lion's share, the first prizes in all the Grape classes falling to his lot. In other classes of fruits the competition was also good.

Vegetables were of a good class, but the judgment which gave the first prize to the collection of twelve, exhibited by Mr. J. L. W. Naper, of Loughcrew, was very much criticised by various good vegetable growers, the collection belonging to Mr. Cassells, which was left out in the cold, being considered the best of three lots put up. Mr. Moore, curator of the Royal Dublin Society's Gardens, contributed a fine lot of Palms for decoration, as well as a mixed lot of foliage and flowering plants. The Messrs. Henderson, also sent in a lot of very nice-grown flowering and other plants, as did also Messrs. Luke Toole & Co.

NOTES FROM SCOTLAND.

Royal Horticultural Society of Aberdeen Annual Fete.—The annual floral fête in connection with this society was held on August 22nd, 23rd, and 24th in the Duthie Public Park, Aberdeen, under the most favourable auspices as regards both number and quality of specimens in almost every department of horticulture. As on previous occasions, a large space was enclosed in the park for the purposes of the fête, and greater tent accommodation was provided than heretofore, though still not enough. Inside the marquees the appearance of the various stands was rich and beautiful in the extreme. Individual collections of plants have for some years been one of the chief features in the society's show, and one that perhaps more than any other arouses the interest of the outsider. This year two collections only were arranged, and though the examples were in both cases very good indeed, the paucity of entries was disappointing. The first prize, a beautiful Silver Cup, presented by Mr. James Murray Garden, chairman of the society, was deservedly secured by Mr. Proctor, gardener to Lord Provost Henderson, Devanha House, Aberdeen; the second prize going to Mr. Grigor, gardener to A. O. Gill, Esq., of Fairfield. Besides these tables in the centre of the marquee were the individual exhibits of pot plants, and among them were many beautiful specimens. Especially rich and fiuely flowered was the collection of Cockscombs and Begonias, while the commoner Fuchsia and Pelargonium were very well represented indeed. Of zonal Pelargoniums there was a splendid display, all being grandly flowered, especially those of A. Forbes, Esq., Morkeu (Mr. William Ogg, gardener), who also took first prize for show Pelargoniums, with plants which were almost perfect in bloom, the opinion being expressed that they never had been excelled at any of the Aberdeen shows.

The plants for table decoration were numerous, and embraced some very pretty specimens, the first prize being awarded to Mr. Alexander Howie, Fordoun. Of Orchids the display was not imposing, but the specimens that were exhibited were very creditable to Mr. Proctor, Devanha House. In the class for Vines in pots there was only one exhibit, a very creditable one, which was shown by Mr. A. Grigor, Fairfield. In the section open to amateurs the first place was also given to plants in pots, and on entering the tent attention was at once directed to the tables which were arranged for effect. The first prize here went to Mr. Sherriffs, Esslemon Avenue, for a tastefully arranged collection. The honours for stove and greenhouse plants were divided by Mr. George Maitland and Mr. W. D. Brownie. The latter also took prizes for Ferns along with Mr. A. Gillespie.

There was a grand display of cut flowers in all the sections, notwithstanding the recent heavy rains, which might have been expected to have damaged the blooms considerably. There was a large increase in the entries in this section, and the quality was fully up to the standard of the best of previous years, if not better in some cases. In the division set apart for nurserymen there was one of the most exciting competitions of the fête. For a long time now Messrs. Cocker & Sons, of Aberdeen, have been closely run by Messrs. D. & W. Croll, of Dundee. The competition was for thirty-six H. P. Roses. After a long and careful examination the judges lowered the colours of the local firm, and the Messrs. Croll accordingly carried off the Silver Cup presented by Messrs. Shirras & Son.

A novel feature of the exhibition, and one which deserves a word of commendation, was the display of baskets of flowers by ladies. Mrs. William Maver, Aberdeen, took the first place with a beautiful basket. Another competition which was confined to ladies was that for baskets of Roses, and here the prize was deservedly won by Miss Lizzie Cocker, Sunnypark, Aberdeen.

The entries in the fruit section looked well, notwithstanding that the season was early this year, and the specimens forwarded included Grapes, Melons, Pears, Plums, Tomatos, Apples, Peaches, red and black Currants, red and green Gooseberries, Cherries, and Strawberries. Turning now to the kitchen-garden products, it was admitted on all hands that these formed one of the best displays ever seen at any of the society's shows. The baskets were particularly good, containing as they did some first-rate specimens of the various edibles. Mr. Milne, Cluny Castle, well deserved the honours he received with his collection.

The exhibitors of miscellaneous contributions included Messrs. Ben. Reid & Co., Smith & Son, Cocker & Son, Aberdeen; Dobbie & Co., Rothesay; and John McPherson, Deemount.

FLORICULTURE.

Carnation Gossip.

The Rev. A. Rawson, Fallbarrow, Windermere, writes under date of August 15th :—"As a yellow self none has come near Germania ; it is a splendid flower, not very large, but perfect in form and petal. I can get no pollen for crossing, except from semi-double flowers, but I find that old plants which were potted up last September, and are now blooming, seem to seed much more readily than young ones. Have you noticed this? I let the bees come into the house where they are, but whether this may damage the quality of the seedliugs remains to be seen. Be as careful as you please, and boycott everything you don't want, the seedling will be erratic, for I have now blooming a small bed of them grown exclusively from yellow parents all seeded in a close greenhouse, and there is not a shade of yellow among the blooms."

Man is powerless in the presence of the subtleties of pollen. Sun, air, wind, and insects bring results little dreamt of, oftentimes little desired. But the longer I live—the more I note Nature—the more I marvel at aud admire her wonderful diversity, and surely no tribe exhibits this iu a larger measure thau the Dianthus. As I go back upon my experience my admiration rises in an increasing measure, though year by year experience teaches how vain are many of our aims and aspirations. But we are moving! Great strides have been made in the Carnation in the past half century.—*E. S. Dodwell, Oxford, August 17th.*

The Present Method of Exhibiting Carnations.

On my return from a local flower show last week, my feelings were much the same as those of your correspondent "W. W." The orthodox plan of exhibiting these flowers is simply hideous, from an artistic point of view, apart altogether from the systematic "doctoring" that each specimen receives from the tweezers. A green board with twelve white paper discs equidistant, each bearing a differently-coloured "lump" in its centre, and the "effect" is complete! Why should snch a system be allowed to continue? I saw no Carnations in their natural beauty and grace, not even a leaf to relieve the glare of colour, this being in strong contrast to some other exhibits, which had both foliage and buds attached, thus showing, to a great extent, the habit of the plants, besides lending an additional attraction to their stands. There are several classes of plants besides the Carnation which are equally murdered for the want of a little artistic taste in arranging them, and hence the too common remark by the general public, "If you have seen one show you have seen them all." —*W. K. G.*

The Growl from Oxford.

To the growling from Oxford I must needs add my growl with the evidently large number of growlers. On glancing over the class for single blooms, in the first place I was struck by their large number, and it at once suggested itself that quantity gave place to quality, and the great need of adopting some such rule as that of the National Society, limiting the number of blooms exhibited by any exhibitor to two in each division. If this rule were adopted I believe it would greatly increase the popularity of the class, and scarcely diminish the nnmber of exhibits, as many who now do not trouble to put up blooms would do so. Next, in the division "Scarlet or rose Picotees," I noticed several splendid blooms of Mrs. Payne (staged I believe by Mr. Rowan); these were all set aside, for what reason I could not ascertain. They were far superior to many which were given places. Now, sir, the only conclusion I can come to is that time would not allow the judges (who, by the way, our worthy "referee" hurried up in my hearing more than once) to fairly criticise the blooms, or they were awarded places on something like the first-come-first-served system, owing to want of time to do the thing thoroughly.

Referring to "W. W.'s" letter, I cannot see how dressing is to be abolished. It is an institution connected with the Carnation and Picotee, and will not easily be put an end to; you might as well expect to find a Rose exhibited ungroomed as a Carnation undressed. I quite agree that every exhibitor should dress his own flowers, for although not exhibitors in a certain class, there were judges who dressed flowers in those classes and judged them afterwards. We hear much of the impartiality of the judges, but can they ignore blooms they have helped to stage, and more especially if they belong to their most intimate friends?

Mr. Sydenham is like most of us, quite a "youngster," and we should like an "older hand's" opinion on this subject. No doubt the business is done as well as the time and crush will allow, but judging with such a crowd of witnesses is a difficult task, and as long as the tent is at the mercy of all who like to walk in during judging, so long will growls follow the annual show of the Carnation and Picotee Union.—*V.*

Hollyhocks.

It is so seldom now that we see the noble Hollyhock shown in such perfection as was common some ten to fifteen years ago, tbat I was quite delighted with a grand lot staged at the Shrewsbury show last week by Messrs. Laing & Mather, of Kelso. The spikes were magnificent, and the varieties of the best. They sent the old growers into ecstacies again, and were greatly admired by the visitors generally.—*A Grower.*

PHŒNOCOMA PROLIFERA.

Nearly ten years ago a gardener friend received a few cuttings of the above from a plant at that time in my possession. One of those cuttings is now a large specimen plant, a model in form, and a picture of health, but has never flowered. Though it has not flowered in the customary way, it can scarcely be said from a botanical standpoint that the peculiar excrescence which natnre essays to produce in the stead of a flower is not an inflorescence. The floweriug shoots, just when expected to show flower, branch into several new growths, and almost simultaneous with this, a kind of amentaceous minute inflorescence embraces closely the whole shoots on whose points the flowers should appear.

When carefully examined, this apparent woolly substance is virtually an assemblage of colourless flowers from two to three lines in diameter. The plant has been treated in the acknowledged way for its proper culture, and is under the care of a most intelligent and efficient gardener. The peculiarity has been examined by a considerable number of gardeners of repute in the locality, none of whom were able to give any definite explanation of the seemingly phenomenal character of the abortive inflorescence. Some of them hazarded the conjecture that the original plant was budded, and that the cutting which produced the plant in question was excised from beneath the budded part. Of course, this is extremely unlikely to have been the case, as such never showed itself in the original plant; still the wide gulph between the flower of the parent and that of the cutting almost excuses such a theory. Perhaps some of your numerous readers and correspondents will be able to throw some light on this strange freak of nature.—*Gamma, Edinburgh.*

BEGONIA JOTTINGS.

Work being pretty well over for the season, one feels inclined to see other people's flowers and compare results. By the way, everybody seems to wish to grow Begonias. Even the Shab, so I am told, was no exception to the rule, and soon, no doubt, we shall have the Duchess of Teck (the Begonia, I mean, of course) at Teherau. But, be this as it may, the demand for good things is considerably greater than the supply. It was quite touching the other day at Forest Hill, to hear the anxious inquiries of certain visitors after one of Mr. Laing's beauties, more especially when, by hard pleading, one had just secured the only plant of the same likely to be sent out this season! The gem of this collection just now is, without doubt, the above-named "Duchess of Teck," a double yellow flower, with large petals and of undeniable quality. Its form and habit are both excellent, and, in my opinion, it is far beyond all such Continental yellows as have yet come to hand. Mr. Laing seems to recognise that people have made up their minds for upright flowers, and I saw even a scarlet, with large flowers, standing well above the fine leathery foliage, which I venture to predict will be a grand improvement.

Pure white doubles of the same stamp were scarce, both at Forest Hill and Swanley, but Mr. Cannell has one named Mrs. Midson, which deserves special mention. It is of exquisite shape and purity, more like a large white Rose than a Begonia, with fine dark foliage, and a habit and carriage which leaves little to be desired. Among the double yellows at Swanley I think Rev. E. Lascelles is the finest, flowers and petals large, and the colour deeper than any I have seen here or elsewhere; the growth of the plant being strong and free there should soon be a fine stock of it. A pale yellow, Mrs. W. F. Bennett, is also very beantiful; and Mrs. Cornwallis West, yellow with shades of bronze. The house devoted to this year's double seedlings is now stocked with flowers of remarkable beauty, the stems in many cases carrying the blooms well above the foliage. Pink, cream and flesh are the prevailing colours, and in these, or shades of these, Mr. Cannell would be hard to beat. The most noticeable fact is the great improvement in habit and the lnsty growth of the plants. There is a grand show of singles, both in and out of doors, at Swanley, the bronze and orange-yellow shades having advanced greatly since last year.

Talking of Begonias out of doors reminds me that a word of admiration is due in regard to the great Begonia field at Forest Hill. To those who know all that it means to raise a thousand or two, this enormons display is the more astonishing. The beds of singles—the scarlets especially—produce a grand effect. By the way, I wonder if Mr. Kipling recollects the friendly lance he broke with me in these columns on the snbject of current-year's seedlings as bedding plants? I could not help wishing I had him beside me at Forest Hill, or better still—for every man has a partiality for his own show, however humble—that I had him here in Somersetshire, where (August 24th) the beds are filled with January-sown plants which have shown a mass of bloom for the last six weeks, through rain and sunshine! As this has happened in an amatenr's garden for three successive years, it is snrely not far from a reliable precedent. Of course, I do not know what second-year's tubers would do, never having tried them, but I stoutly deny that it would be possible to get more bloom on the beds than they carry at present.—*Somersetshire Rector.*

SARRACENIA WRIGLEYANA.

There are only some six species of Sarracenia in a wild state, but of these there are a good many varieties in cultivation. The garden hybrids are, however, tolerably numerous, and the plant under notice is a hybrid between S. variolaris and S. psittacina, the former being the seed parent. The pitchers are of moderate size, ranging from 9 ins. to 12 ins. long, and erect. The lower and tubular part is of a bright fulvous green, passing into red above with a deeper red venation. The operculum or lid is inflated and hooded, lying over the mouth of the tube so as to close the orifice, and this, as well as the upper part of the tube, is closely variegated with milk-white blotches, and reticulated or netted with bright red. In many of these characters may be recognised a great preponderance of the influence of the seed parent, but particularly in the upright habit of the plant, the arching operculum or lid, and the beautiful spotting of milk-white blotches, which are semi-transparent, and very interesting from the naturalist's point of view, because they are supposed to act as a great lure to insects, the semi-transparent blotches appearing like openings through which they can make their escape, and so get lured into the pitcher. Both the parents exhibit the inflated incurved lid, nearly covering the opening of the pitcher. It was raised in the garden of O. O. Wrigley, Esq., of Bridge Hall, Bury, Lancashire; and we are indebted to Messrs. J. Veitch & Sons, Chelsea, for the opportunity of illustrating it.

ACONITUM AUTUMNALE.

A showy border subject is the autumn-flowering Aconite. The stems vary from 2 ft. to 4 ft. in height according to soil, situation, and latitude, and the time of flowering also depends in a great measure upon the latter condition. For instance, A. autumnale is already flowering in the south, and that, too, before A. Napellus has finished. This is, no doubt, due to the copious rains that have fallen from time to time through the course of the summer, prolonging the flowering period of all kinds of soft-wooded plants. As a rule the inflorescence of A. autumnale is racemose under adverse conditious as to soil and climate, but when well grown it becomes more or less branched at the base. The flowers are large and of a very rich blue, not unlike the typical blue form of A. Napellus, but altogether bolder. As a rule it is also dwarfer, and appears to like a higher temperature, because it becomes very much dwarfed in northern gardens, and in bad seasons, like that of last year, flowers rather indifferently. Another difference is that the species under notice has fibrous roots quite unlike the characteristic tubers of A. Napellus. It is moreover a fine herbaceous plant, and should be included in every collection.

TO TELL THE WEATHER.

A CORRESPONDENT writes :—In reference to the recent stormy weather, and the happening of storms of unusual severity, it may be mentioned that Benjamin Franklin was the first to discover that storms in America travelled from west to east. He was interested in observing an eclipse, and found that while the observations were spoiled in Philadelphia by a rain-storm that came on just at the beginning of the eclipse, the sky was clear at Boston until after the eclipse was over. By communicating with intervening towns he learned that the storm travelled eastward at a uniform rate. Simultaneous observations taken in all parts of the country show that nearly all great storms follow the same general direction—from the west to the east. The same is true of cold or hot waves. Therefore, to tell what the weather will be in advance we have only to find out the conditions prevailing west of us. This is practically the course pursued by the signal service.

The direction of a storm is frequently diverted by some local cause. A low barometer or larger amount of moisture in the air attracts a storm, and may either change its course entirely, or hasten its advance. The rate at which a storm travels between two points is, in fact, calculated by the gradient or decline of the barometer from one point to the other. When a storm is advancing the wind blows to meet it. Thus a wind blowing from the east or south-east indicates the approach of a storm from the west. When the storm centre has passed, however, the wind changes and follows the storm. If a person has a good barometer and wind guage he can tell pretty correctly when a storm is coming. Without these instruments the clouds may be watched, and when seen to be moving rapidly from the south-east, and there are indications of much moisture in the air, a storm is not far away. The old Scotch saying that—

"A red sky at night is the shepherd's delight,
A red sky in the morning, shepherds take warning,"

while regarded as generally true in the United Kingdom, is said to be only partially true in the United States of America. The red sky in the morning indicates an excess of moisture in the air, and a storm is therefore likely to occur before many days.

The circle round the moon—a lunar rainbow—shows the presence of moisture in the air. Moisture at a high altitnde produces a large bow, and at a low altitude a small bow. The smaller the bow, therefore, the nearer is moisture, and consequently the sooner will the storm develop. The old saying that the number of stars to be seen inside the circle indicates the number of days before the arrival of the storm is not reliable, as the position of the moon in the heavens may make the number great or small without regard to the storm conditions. All attempts at predicting the weather for months in advance are only guess-work. Such superstitions as trying to foretell the severity of a winter by the thickness of the breastbone of the goose, or the fur of animals, originated in some obscure quarter, and are not worth the circulation and attention they receive.

PLUMBAGO CAPENSIS ALBA.

THE white-flowered variety of the well-known Plumbago capensis flowers as freely as the type, and under the same conditions. The beauty of both as climbers in the greenhouse cannot well be gainsaid, but they never appear to more advantage than when brought together by way of contrast, for the white is as pure as the pale blue of the other is constant. One of the peculiar features of this plant is the different temperatures in which it may be grown to perfection and appear quite at home. For instance, it may be grown as a climber for covering the roofs of stoves, intermediate or ordinary greenhouses. The flowers may not last so long when grown in a high temperature, but they can be had earlier in the season, or even twice a year, by cutting back the side shoots after flowering is over, and encouraging fresh growth. In a greenhouse where the temperature is not allowed to fall below 45° or 50° in winter an early and very abundant crop of bloom may be had.

A more recent use to which Plumbago capensis has been put is summer-flower bedding, and when the branches have been pegged down and come into bloom the pale blue flowers have a distinct and pleasing effect, as much on account of their novelty as anything else. The white variety would no doubt flower as well, but unless the two kinds were mixed the white alone would not be so effective or conspicuous. Both forms are flowering freely in the nursery of Messrs. J. Laing & Sons, Forest Hill.

SARRACENIA WRIGLEYANA.

BLUE HYDRANGEAS.

HYDRANGEA HORTENSIS, blue and pink, have long been understood as identical, but it must be confessed that there is something rather complex in connection with the cause which changes the colour from pink to deep blue. I have observed it several times stated that potting in peat, and adding oxide of iron to the soil, would effect this change. This I have tried as late as this year, with the usual negative results. I cannot say that so far as I have experimented with different soils, with a view to changing the colour, any alteration in the hue was noticed. Iron, I am almost certain, does not in the least affect the colour, for the loam I am in the habit of potting with at present contains a large percentage of the red oxide. I cannot, therefore, vouch with any degree of confidence that what I have been taught to regard as one variety is so, yet in every other point no other difference can be detected to even presume that they are distinct varieties. A rather strange thing, perhaps, in connection with the colouration of these plants, is that it is more often met with grown as window plants or out of doors than when under glass.

I have not seen a blue-flowered plant grown under glass for years, though I have no doubt it is not a rare thing; still, it is the exception and not the rule. This would lead us to suppose that the pink is the normal colour, and the blue the abnormal. Chemical ingredients in the soil may assist in effecting a change in flower colour under unnatural circumstances—that is, when it is compelled to imbibe, for the want of some other, any such substance; but, then, surely this cannot take place without materially affecting the constitution of a plant. I must not be understood to insinuate that a plant will absorb into its system any substance whatever, for, as is well known, such would be inconsistent with the theory of absorption. Alum, for instance, is alleged to be effectual in changing the pink Hydrangea to blue. This can only be by some detrimental effect that Alum must have on the spongioles and finer roots, thus incapacitating them for some time from performing their action and supporting the healthy character of the plant. Such a check, no doubt, if applied at the proper time, would more than likely have some influence on the flower. Alum is not taken up by plants, but decomposition will set free the sulphate of potash it contains, and after another process of oxidation, is changed into the nitric form, and then readily assimilated. The sulphate of alumina, the other part of the compound alum, is left behind, and to all intents and purposes has no direct value in the plant's food supply. Potash, the chief constituent of plant structure, is supplied in abundance from many sources, in the same form as when alum is applied, and no change of colour in flowers arises from its excess.

Such being the case, it appears to me that it is a matter of grave doubt whether chemicals play any very important part in the colouration of the Hydrangea. I would prefer to assume that it is more attributable to drainage, atmospheric qualities, a morbid condition of the roots brought about by a cold ungenial soil, and an

exhausted state of the plant or plants from long and continued cultivation in situations, localities, or soils not entirely congenial to them. It would be interesting to learn if the blue has been known to return to the pink colour. Perhaps "F.," who has opened this interesting subject, will kindly give information on this point.—*Gamma, Edinburgh.*

NOTES ON FRUITS.

Apple, Beauty of Bath.

At the Taunton and Trowbridge shows this new early dessert Apple was exhibited in fine condition, and as is generally the case, took the leading prizes. At Taunton the class was for a single dish of dessert Apples, and Beauty of Bath and the Red Quarrenden—the latter unusually fine—divided the honours. At Trowbridge prizes were offered for two dishes of dessert Apples, and in each case where a prize was awarded, Beauty of Bath and Red Quarrenden won. The former was larger in size than I had seen it before. It is a good, medium-sized fruit when well grown, lovely bright red with white spots, clear and even skin, perfect in shape, and very handsome, having a brisk sweet flavour. Mr. George Bunyard states that it is a heavy and certain cropper, and this confirms the testimony of Mr. George Cooling, of Bath, who sent it out. I seem to form a higher opinion of it every time I see it.—*R. D.*

The Melon Pear.

The contradictory character of English names is well exemplified in the present instance, as the plant for which the name is intended is neither a Melon nor a Pear, but Solanum Guatemalense. The foliage offers nothing very peculiar, and taken together with the fruit bears a considerable resemblance to the Egg Plant, with a slightly differently-shaped fruit. This is oblong-oval, with a smooth shining skin, light green, and more or less striped in an irregular manner with purple, but as it matures the general ground colour becomes yellow. The flowers are borne in cymes on extra-axillary peduncles, not exactly opposite to a leaf, but quite in keeping in this respect with the other members of the Solanum family. They are deep purplish blue, with pale or whitish edges, and are drooping, just as the fruits are bound to be—at least, after attaining some size—simply by their own weight. There are two plants in one of the houses of the Royal Horticultural Society at Chiswick generally devoted to the culture of Tomato, another member of the same family; they are about 18 ins. high, and now bearing a few fruits each, possibly the first that have been produced in this country, as although the species has been grown for some years in Britain, some cultivators fail to fruit them. This shy-fruiting character can hardly be peculiar to the Melon Pear in the New World, where it is of some repute from an economical point of view.

THE AMATEURS' GARDEN.

Propagating Alpine Plants.

After a good season of growth like the present, with frequent showers, there is no difficulty in obtaining any quantity of cuttings from these subjects, which increase freely. A frame facing north is a good place in which to strike them. The frame should be kept quite close so long as there is anything in it not yet rooted. Anything giving evidence of being rooted by the fresh growth they are making, should be removed to another frame where a proper amount of ventilation can be given. In the absence of frames, hand-lights may be used. If not overshadowed by a wall, a mat or something that will answer the same purpose should be thrown over the lights during the hotter part of the day, and after a few days be removed early in the afternoon. Get ready some 5-in. pots, and after crocking them well, place a layer of moss over the drainage. Fill up with light sandy soil, with a good proportion of leaf-soil; make the whole moderately firm, and place a layer of clean silver-sand on the top. Water down with a fine-rosed watering pot, and get the cuttings. Short side shoots quite free from flowers are best, and if they can be pulled off with a heel so much the better. In all cases dress the base of the cutting with a sharp knife, and remove a leaf or two in order to get it firmly secured in the soil. Longer shoots should be neatly cut just below a joint. Such things as Campanula pulla, C. pusilla, C. pumila, and others that throw up suckers from the root can easily be rooted by pulling up these shoots. Other subjects of a choice kind are Dianthus alpinus, D. petræus, D. suavis, D. deltoides albus, Helianthemuns in variety, Iberis gibraltarica, I. corræfolia, I. saxatilis, Lithospermum prostratum, and others.

Sedum spectabile.

One of the brightest and most cheerful flowers in the borders during September is Sedum spectabile. It never attains more than 1 ft. in height, and always forms a compact bush with upright or slightly-spreading stems, terminated by a broad corymb of rose-coloured flowers. The pale green or glaucous leaves are fleshy, rounded and stalkless. Those who possess large plants can obtain a fine effect by cutting off a number of the supernumerary shoots and inserting them round the margins of beds or elsewhere. Not only will the flowers expand and look as gay as those left on the plants, but the greater part of them will produce roots and buds at the base, forming nice little plants for the rockery the succeeding year, or they may be potted up and used for greenhouse, window, or balcony decorations. For the latter purpose they are extremely suitable, because if they get dried up occasionally they will take little harm. They might also be used for the door-steps, where the lively effect they will produce in autumn will be much appreciated. For these and similar purposes the plant is not half so much grown as it ought to be. Its neat habit and durability in trying times of drought are facts that should not be overlooked, in searching for subjects that will appear happy and comfortable in exposed places. Plants with a single stem can be grown on from buds with a piece of the rootstock attached to them, taken in spring. Such will prove most suitable for small pots, but specimens of any size may be grown in large pots or tubs. Do not forget to feed them well while making their growth, giving supplies of liquid manure, and the results will be fine heads of bloom.

Herbs.

The best time to collect herbs is when in full bloom. They then possess the greatest quantity of those essential qualities for which they are valued. If allowed to stand on the ground till they are running to seed, they will be deteriorated in proportion to their age. The fragrant and essential oils with which the leaves of Mint, Sage, Thyme, Lavender, Rosemary, and Marjoram are stored, are in perfection just when the vegetable vigour of the plant gives place to that of the production of flowers and fruits, and all those harvested at that time in good condition will give the greatest satisfaction as to quality and flavour. They should be cut when dry and hung up in bundles, top downwards, in some cool airy shed till they become perfectly dry, when they can be stored elsewhere in a dry place or allowed to remain where they are until required for use.

Aucuba, Euonymus and Cherry Laurel Cuttings.

Those who desire to increase their stock of these useful evergreens may now do so by cuttings. The latter should consist of the side shoots that have just been made, and are now getting firm. If taken off with a heel of the old wood they generally root with more certainty. Cuttings of Aucubas 6 ins. to 8 ins. will be quite sufficient, while those of the Cherry Laurel may be 1 ft. in length. The evergreen Euonymus japonicus and its variegated forms need not be longer than 3 ins. or 4 ins. They will also root with more certainty and in greater numbers if they are inserted in pots and stood in a frame or under hand-lights. In the case of Aucubas and Laurels, however, it would scarcely be worth while putting them under glass, as they will root readily in the open ground. A sheltered border on a north aspect should be chosen for them. Take out an opening or trench, and after digging over a second trench into this, cut the sides of it straight by the use of a line, and you will be ready for the first line of cuttings. The latter will require very little preparation, merely cutting the bases neatly with a sharp knife, and removing a few of the lower leaves. When a line of cuttings have been laid about 3 ins. or 4 ins. apart in the row, dig over another trench, breaking the soil carefully over the base of the cuttings, and then treading it firm. The process may then be repeated to prepare the ground for another line of cuttings, and so on till the whole is completed. About 1 ft. between the lines will be quite sufficient. Those that are not killed during the winter will commence to throw up shoots from the base in spring. They will generally be ready for transplanting in autumn if required—that is, after having been a year in the ground.

Gooseberry Cuttings.

Nearly a year will be gained if cuttings are taken now, stripped of their leaves, and otherwise prepared by the removal of the lower buds, and then inserted in the soil of the border. They will root during autumn and the milder parts of winter and be ready to start into vigorous growth in spring. There is also the additional advantage that the best fruiting kinds will still be fresh in the memory.

GARDENING MISCELLANY.

Taxus adpressa variegata.

A plant of this, about 2 ft. in height, was exhibited by Messrs. Fisher, Son, & Sibray, of Sheffield, at the last meeting of the Royal Horticultural Society, when a First Class Certificate was awarded it. We have long had varieties of the common Yew, but the present one is a decided acquisition, and will take its place alongside of the others in gardens where variety is admired. The shrub (for we can hardly call it a tree) forms a compact semi-upright bush, with short, closely-arranged evergreen leaves, broadly and distinctly margined with pale yellow. In this respect it is like the variegated Irish Yew, but the short leaves, independently of anything else, renders it quite distinct. For growing in pots or on the margin of the shrubbery amongst select plants it will be an acquisition.

A New Form of Asparagus plumosus.

There are to be seen in the nursery of Messrs. John Laing & Sons, Forest Hill, some specimens of a form of Asparagus plumosus, with the same habit precisely as A. p. nanus, but much more graceful. We observed it many months ago, but had doubts of its remaining distinct, that is, of retaining its characters. The plants in question are now of some considerable size and age, and have retained their characters quite distinct. The chief points to be noticed are the slender and graceful appearance of the branching plumes, chiefly due to the shortening of the small branchlets, popularly, though erroneously, termed leaves. They are arranged in fascicles or whorls in one plane, exactly in the same way as those of A. p. nanus, and owe their distinctness to their being very much shortened. The different groups do not therefore much overlap one another, if they do so at all; hence the slender and graceful appearance of the stems with their lateral branches. The small, scale-like, but morphologically true leaves are white, and rather conspicuous in the young state of the shoots, but this also is precisely similar in the case of the other forms of A. plumosus, and disappears as the fronds become mature and fit for service.

Pteris serrulata densa.

This may well take rank alongside of P. s. compacta, because the fronds are similarly crested, tasselled, and compactly arranged; but, although it may be compared to that useful variety in habit, the general appearance is quite distinct, on account of the fineness or narrowness of the many segments composing the crest. We have seen other varieties equally finely cut, but the fronds were generally few and straggling, so that this one combines fineness of cresting together with a dense habit. It will no doubt take rank as a useful market variety, especially if it prove equally hardy in constitution as the older variety. A fine plant of it was exhibited by Mr. H. B. May, at the Drill Hall, on Tuesday last, when the Royal Horticultural Society awarded it a First Class Certificate.

The Floral Committee as Interpreters.

Apropos of this matter, a reference to which appeared in The Gardening World of last week under this heading, allow me to state that the exhibition of the Devon and Exeter Horticultural Society took place on August 14th, the day after the matter was submitted to the Floral Committee of the R. H. S. There were three exhibitors in the class, and only show Dahlias were staged. There did not appear to be the slightest conception on the part of any one of the exhibitors that other than the ordinary show Dahlias would be admitted. It would appear that all the bother was caused by a floricultural parson, who, growing Dahlias for the first time, aspired to exhibit; but having only a limited collection, thought he could make up a stand by showing all sorts and conditions of flowers. He made inquiry of the secretary, hence the inquiry addressed to the Floral Committee and the *Gardeners' Chronicle*; but his Reverence did not appear as a competitor. Probably he attended the show. Let us hope he returned a sadder and a wiser man. But the Floral Committee of the R. H. S.! Oh, dear!—*Westward O.*

The Cornish Heath.

The popular name of Erica vagans derives its origin from the fact of its being confined to Cornwall as a wild plant in this country. The specific title refers to its wandering or trailing habit, as it seldom rises above 1 ft. in height, although it will occupy a considerable

extent of space. E. mediterranea is closely similar, but the stems are upright, and its flowers are produced in spring—say, from March to May—whereas E. vagans blooms from July to September, and by the use of E. carnea, which flowers from January to April, we get a supply of bloom for nine consecutive months of the year. The Cornish Heath now in bloom has been so for a long time, and buds in all stages of development show that it will continue to decorate the borders and shrubberies for many weeks to come. The pale purple bell-shaped flowers are produced in axillary fascicles of two, three, or four together, forming a compound spike-like raceme of great elegance. When cut the flowers are very durable, and might be more extensively employed for this purpose. With regard to culture, it is by no means fastidious, any light but moderately and continuously moist soil being suitable, though, like all the rest of its kind, it gives greatest satisfaction when there is a good admixture of peat in the soil, even if the staple does not consist of that material. After having finished flowering, its rambling propensities may be regulated by trimming back, as it will have had time to develop new flowering shoots by July again the following season.

Pascalia virginica.

UNDER this name, which I had on the authority of Mr. A. Hemsley, I saw at Mr. H. B. May's nursery at Edmonton a somewhat tall-growing Rudbeckia-like plant, bearing plentifully large golden yellow flowers with a dark disc. It is wonderfully free, very showy, and a most valuable plant to cut from. It is also a hardy perennial, readily propagated by root division. —*R. D.* [Is not this plant Pascalia glauca, the only known species?—ED.]

Rudbeckia maxima.

WHERE the desire is to obtain a sub-tropical effect with hardy plants, this ought certainly to come in for a due share of attention on account of the deep glaucous hue of the foliage. The leaves are mostly radical, large, oblong or oval, and entire or very slightly toothed. The stem-leaves are few, and far apart, their number depending upon the size of the plant. The flower-heads are borne singly on long peduncles, and have long, drooping, bright yellow rays, with an elongated conical disc. The stems are perfectly upright, and vary from 5 ft. to 9 ft. in height, according to the size and vigour of the rootstock, together with the depth and comparative richness of the soil. It must be borne in mind that vigorous-growing herbs like that under notice are gross feeders, and that if a sub-tropical effect is desired they must be treated liberally, both in deep and good tilth as well as by manuring at the autumn or winter digging. Some advocate the principle of leaving herbaceous borders undug, because forsooth more natural and more akin to their liking; but if such a principle is to be carried into effect, why not apply it to the culture of Cabbages, Peas, Onions, and everything else? R. maxima is not yet common in gardens, but we noticed a promising plant the other day, about 5 ft. high, in the gardens of the Royal Horticultural Society, at Chiswick.

Xeranthemum annuum flore pleno.

THE generic name of this plant is taken from two words signifying dry flower, in allusion to the radiating bracts surrounding the heads being of a dry or scarious nature, just as occurs in other species popularly termed Everlastings in this country and Immortelles by the French. There are some four or five species, and that under notice is the best. The heads are comparatively large and hemispherical, with very numerous purple bracts that have a gay appearance when expanded in full sunshine. For drying purposes, however, they are better when not too far advanced—say, about to expand, or even after they have been open for a day or two, because the bracts will yet close up and hide the disc when the sun is not shining upon them. The double-flowered variety, so-called, bears no relation to what occurs in double-flowered Roses for instance, nor even what happens in the case of so-called double Composites generally. Instead of the florets becoming elongated and flattened as we see them in many varieties of Japanese or reflexed Chrysanthemums, or quilled as in the case of quilled Japanese or Anemone kinds, the bracts of the disc, subtending the florets and usually short, have become elongated so as to fill up the disc or centre of the flower-head. A similar case occurs in Helipterum Manglesii flore pleno. A quantity of the subject under notice may be seen amongst other annuals on trial in the gardens of the Royal Horticultural Society at Chiswick.

Fuchsia triphylla.

THE habit of this species reminds one of a miniature F. fulgens, and in proportion as the leaves and flowers are smaller, so is the floriferous nature of the plant increased. The colour of the flowers if anything is intensified, as they are of a glowing cinnabar-red, and about 1½ ins. in length. They are successively produced in long, terminal, drooping or nodding racemes. The leaves are opposite or whorled in threes, small, and tinted with red, especially beneath and along the principal secondary veins. The whole plant is dwarf, upright and compact, forming a beautiful subject for the conservatory or even the intermediate house, for coming as it does from the West Indies, it will stand a much greater amount of heat without drawing than will the greater number of cultivated or garden Fuchsias. It is as yet by no means common, but its merits deserve attention on account of it dwarf and distinct habit. The central stem varies from 1 ft. to 2 ft. in height, never more according to our observations, so that on the whole the plant possesses characters that might well be taken in hand by the florists for the development of a new and distinct race of Fuchsias. We noticed it quite recently flowering very freely in the nursery of Messrs. John Laing & Sons, Forest Hill.

Annual Chrysanthemums at the Grove, Teddington.

IN the flower garden here a large bed with a line of standard Roses in the centre has been planted with some six varieties of Chrysanthemum carinatum, and the show of bloom has been excellent for some time past. Amongst the finer forms may be mentioned Lord Beaconsfield and Burridgeanum. The former has the greater part of the ray florets of a rich and paler crimson in alternate stripes, with a narrow yellow zone surrounding the disc. The latter is at first pink, but as the outer florets commence to expand and then fade the disc becomes of a deep blackish brown. This is the prevailing character of the disc florets throughout the whole series of varieties. Burridgeanum has the tips of the ray-florets pure white, succeeded inwardly by a rich crimson zone, then a narrow yellow one surrounding the disc. Another fine form has the greater part of the ray-florets of a rich crimson, with a narrow yellow zone surrounding the centre. The rays of the variety Luteum are wholly of a bright yellow, while the disc is of the usual colour. Mr. Gladstone is something in the way of Burridgeanum, while The Sultan more resembles Lord Beaconsfield in being striped, but of a paler colour with the crimson stripes often giving place to a distinct yellow. Having been raised in boxes and planted out, plenty of room has been afforded them to develop, with the result that the flowering period will be continued for months to come, instead of dying away after having produced a few blooms on the terminal shoots, as is but too frequently the case when annuals are sown too thickly in lines and left to struggle with one another in the best way they can.

Tillandsia Zahnii.

AMONGST the moderate-sized species of Billbergia, suitable for decorative purposes on account of the beauty of their foliage, independent of bloom, B. Zahnii stands pre-eminent. The leaves are linear or strap-shaped, moderately rigid, very numerous, and arranged in a somewhat vasiform tuft about 12 ins. or 15 ins. in height. They are of a pale green, and traversed throughout with deep red veins on both sides. Under a bad system of culture and overshading, the red colour will almost or wholly disappear and the plants look anything but ornamental; but when fully exposed to the light the leaves assume their former vigour, and become more and more intensely coloured. It is a mistaken notion to suppose that these Bromeliads require shading, for great numbers of them grow in the most exposed positions, and that under notice will always be most ornamental when well exposed. It is by no means common in cultivation compared even with T. tessellata, and that itself is not particularly plentiful. Specimens may be seen at Forest Hill, in the nursery of Messrs. J. Laing & Sons.

Dalechampia Roezliana.

ALTHOUGH there are some sixty species of Dalechampia, the present is the only one that seems to possess any horticultural merit; for although others have been introduced they probably do not exist outside of botanic gardens. D. Roezliana also differs from other members of the genus in being dwarf and erect, and not a tall scrambling climber. Being a member of the Euphorbia or Spurge family the flowers are, as usual, small and inconspicuous, the beauty of the plant depending upon the large rosy pink heart-shaped bracts or floral leaves. There is a white variety in cultivation, but not very common, the floral leaves of which alone have become changed. The true leaves are broadest above the middle, from whence they suddenly taper to a slender point, and more gradually to a cordate base. It is of upright habit and very slow growth and flowers when only 1 ft. in height or less. The leaves of the climbing species are deeply and palmately lobed, resembling in many respects a Passion Flower, or some of the Cucurbitaceæ.

THE GARDENERS' CALENDAR.

THE STOVE.

SHADING.—The sun is now much less powerful, and overshading must be guarded against in order that both wood and foliage may get thoroughly matured and hardened before winter. Where climbers are grown upon the roof, they will generally be sufficient to break the force of the sun's rays for the greater part of the day, and it will even be necessary in cases to prune back, or partly so, those subjects that have finished flowering, in order to admit more light to the plants. Allamanda Schottii (A. Hendersoni) will continue to flower for some time, and it cannot therefore be sacrificed, but the difficulty may be overcome where the roof has been too much overgrown, by thinning out weak or useless shoots, and tying in others so as to allow of the sun's rays penetrating into the interior.

GLOXINIAS.—The latest batch for autumn and winter flowering should by this time be well started. If so, put them into their flowering pots at once, using rather small ones for this late period of the year. The want of root room can be compensated for by supplying the plants with liquid manure from the time they commence throwing up their flower buds. By this method of treatment the roots and plants generally can be kept in a healthier condition than where a large quantity of soil has been used.

THE GREENHOUSE.

PREPARING FOR WINTER.—Advantage should be taken of the first wet day, in order to give the interior of this structure a thorough clean out before introducing the hard-wooded subjects which have been located in the open air for a couple of months past or more. To do this thoroughly the plants must be removed to one end of the house, or into another, as convenience may direct, and then give the roof a thorough washing, both glass and wood. A syringing with paraffin and water may be applied if insects have been troublesome; but care must be exercised where there are climbers in the way. Treat the staging in the same way, so that the house will be clean and ready to receive Heaths, Azaleas, and New Holland plants in general, whenever it becomes necessary to house them from inclement weather.

THE FRUIT HOUSES.

VINERIES.—Where the earliest Vines intended for forcing are still immature, they should be encouraged to ripen by the use of a little artificial heat during the early part of the day, with plenty of ventilation at all times. Those Vines that were lifted in order to renew the soil of the border should be kept as cool as possible, to prevent the young buds from starting into growth. The roots will now be extending freely and taking possession of the new soil, so that the tops must be kept cool to prevent fresh growth. After a week or a few days of this treatment, the laterals may be pruned back with more safety. Vines with heavy crops of ripe fruit hanging upon them must not be allowed to get over dry at the root, otherwise they will be liable to become exhausted owing to the drain of moisture from them, more especially if the foliage is ample and good, while the berries will be liable to deterioration from shrivelling.

PEACHES.—See that inside borders are not allowed to become dry, otherwise serious results will ensue in spring, even if the danger is not apparent now. It is a mistake—now happily dying out—to keep the borders dry in order to hasten maturity. Out of doors the autumnal rains will do much to prevent this from happening, and the roots will therefore be kept in a more naturally moist medium. Tie in any straggling shoots in late houses, so as to expose the fruit to light.

THE KITCHEN GARDEN.

CELERY.—Keep earthing up Celery during dry weather and guard against soil getting into the crowns. The earliest crop will now be pretty well ready for use, but that need not prevent a final earthing up being given where necessary to assist in blanching what is not likely to be utilised for some time to come. A sprinkling of superphosphate given to late and main crops will materially assist them in making good growth.

FIGS ON WALLS.—Fruits are frequently formed on the young shoots, and which cannot possibly attain maturity this season; nor are they likely to remain in a healthy dormant condition till spring. Therefore they may be removed, which will prevent unnecessary exhaustion of the resources of the plant, with the

chances too that others may yet be formed in their place, but yet in an incipient condition, and so pass the winter to be developed in spring, with the chances of ripening into useful fruit later on.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

There is, perhaps, no Orchid in general cultivation grown in such great numbers as Odontoglossum crispum (Alexandræ), for it appears to be a general favourite, and certainly deserves that distinction, as it is a plant which may be grown to perfection by many who make but a sorry hand at cultivating a miscellaneous collection; and considering the reasonable price at which either imported or established plants may now be procured, it is no wonder that it is grown so largely.

The bulk of the plants of this species having flowered in the spring (say between the end of February and the end of June) will now be started into growth again, and if they require re-potting, the present time is a convenient one for the operation. Some growers prefer re-potting early in the year, and certainly there are many of O. crispum then which are just right for shifting, but the bulk of them are showing flower spikes by the end of January, and I prefer the month of September for re-potting, as the plants get over the shift more quickly when there is no fire heat on the cool house; and acting on the maxim of potting plants just when they indicate by the state of their growth that they are ready, it will be found that in ordinary collections about 75 per cent. of O. crispum are started well into growth by the first week in September. The plants should be sponged over whether they require re-potting or not, for thrips have been unusually plentiful this season, and the washing of the pots when going through the plants is also conducive to the health of the plants, which enjoy sweet and clean surroundings. Good brown fibrous peat and sphagnum moss is still the best compost that can be got in which to grow the plants, being careful that the pots are well drained by being two-thirds full of clean crocks. Any plants which are not growing in a satisfactory manner would be benefited by being turned out of the pot and having all the old compost washed clean away from the roots, and then being put in a pot only just large enough to contain the roots comfortably until thoroughly established again, when, of course, it must be potted on into a larger pot.—*W. P.*

Vanda Sanderiana.

While being conducted through the Orchid houses of C. L. Wood, Esq., Freelands, Perth, a few days ago, by Mr. Sharp, who is the gardener in charge, I noted an exceptionally well-flowered plant of Vanda Sanderiana, with an aggregate of twenty-three splendid flowers of the most magnificent colours, the individual blooms measuring 4 ins. in diameter. Cattleya Dowiana is a great favourite at Freelands, and there are at present there several fine examples blooming with great freedom. Oncidium Jonesianum is another subject that is well done here, one plant noted having a fine spike with thirty fully expanded flowers.—*J. McNab.*

Lælia elegans, Duchess of Marlborough.

The sepals of this beautiful variety are oblong and rosy purple, while the petals are broader and darker. The tube of the lip is whitish externally, and tinted with pale purple; the lateral lobes are rather large, and pale purple internally; the lamina is of a warm purple, with a rich dark purple blotch lying transversely to the orifice of the tube, which is golden yellow internally, with three purple lines running down it from the dark blotch above. The large column is pale purple. A fine piece was shown by the Duke of Marlborough, Blenheim, Woodstock, at the meeting of the Royal Horticultural Society on Tuesday last, and was awarded a First Class Certificate.

Lælia elegans, Cooke's var.

Altogether this is a curious but a pretty variety. The sepals are very narrow, or even linear and purple. The petals are very much broader, but short, oblong-ovate, rosy purple and whitish towards the base. The tube of the lip is short, rose-coloured, and forms a ridge over the column; the lamina is rounded, slightly undulated, and of a rich crimson-purple. In habit the plant is similar to the type but dwarfer. The specimen was exhibited at the Drill Hall, on the 27th, by Malcolm Cook, Esq. (gardener, Mr. D. Cullimore), Kingston Hill, and received a First Class Certificate.

HORTICULTURAL SOCIETIES.

Royal Horticultural.—*August 27th.*

The most prominent features of the meeting on Tuesday last were hardy or out-door plants, such as Dahlias, Gladioli, hardy herbaceous plants generally, China Asters, Pansies, ornamental trees and shrubs, stove plants, such as Crotons, Ferns, Bouvardias, Anthuriums, and hardy fruits. There were also small groups of Orchids, the greater number of which consisted of Lælia elegans and its varieties.

A Silver-gilt Banksian Medal was awarded to Messrs. Kelway & Son, Langport, for a large group of Gladioli, consisting of some thirteen large stands. They had also three stands of exhibition Dahlias. A Silver Banksian Medal was accorded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for a group of Dahlias and herbaceous plants. Similar awards were also made to Mr. H. B. May, Dyson's Lane, Upper Edmonton, for a large group of foliage plants; and to Malcolm Cook, Esq, Kingston Hill (gardener, Mr. D. Cullimore), for a collection of Orchids, consisting of Lælia elegans and several fine varieties, including Cook's variety, which received a First Class Certificate. He also showed fine blooms of Souvenir de la Malmaison Carnation, Niphetos Rose, Belle Nancienne Pelargonium, and Lapageria rosea alba. The Duke of Marlborough, Blenheim, Woodstock, exhibited Lælia elegans Marlboroughense, L. e. Duchess of Marlborough, and L. e. Blenheimensis. A vote of thanks was accorded to A. J. Hollington, Esq. (gardener, Mr. Ayling), Forty Hill, Enfield, for a good plant of Lælia crispa. Several Orchids also occurred in a group shown by Mr. B. S. Williams, Upper Holloway, including Cypripedium oenanthum and Catasetum tabulare lævis. He also brought up Anthurium gandavense, A. candidum, Sarracenia decora, and Carludovica palmæfolia.

A fine plant of Lilium nepalense was shown by Messrs. J. Veitch & Sons, Chelsea, who also had a fine stand of hybrid greenhouse Rhododendrons, including Teysmanni, pale yellow; Princess Alexandra, blush; Thetis, yellow; Hippolyte, scarlet; and Balsamæflorum Rajah. Phaius philippinense, a rare Orchid, was also shown. Mr. James O'Brien, Harrow-on-the Hill, brought up Crocosmia aurea maculata, which had very distinct brown blotches on the outer segments, and larger blotches below the middle of the inner segments. Messrs. Keynes, Williams & Co., Salisbury, showed a collection of Pompon, show and Cactus Dahlias, several receiving Awards of Merit. Messrs. J. Carter & Co., High Holborn, had a group of a strain of China Asters, called the new Queen Aster. There were batches of pale and dark blue, rose, copper-red, white, and crimson varieties, all shown in pots. They varied from 6 ins. to 12 ins. high, much-branched, bushy, and floriferous, bearing large heads of the colours mentioned. A vote of thanks was accorded. Mr. T. F. Dranfield, gardener, Valentines, Ilford, exhibited a fine collection of bedding Violas, including Mrs. Ferguson and Countess of Hopetoun, white; Bullion, yellow; Dysart Gem, primrose; Queen of Lilacs, Archibald Grant, and Mrs. Chas. Turner, blue; Bessie Clark, lilac; and Countess of Kintore, blue and white. Messrs. Fisher, Son, & Sibray, Handsworth Nurseries, Sheffield, showed Taxus adpressa variegata, T. fastigiata grandis, and two seedling Lapagerias—namely, L. rosea maculata and L. r. profusa, both being spotted with white. A large profusely-flowered Clematis of the Viticella type, named Mrs. Baron Viellard, with mauve flowers, was shown by Messrs. Geo. Jackman & Son, Woking, Surrey. Mr. G. S. P. Harris, Orpington, showed some exhibition Dahlias; and Cactus varieties were shown by Messrs. H. Caunell & Sons, Swanley. A good strain of dwarf German Scabious, consisting of red, pink, blue, white, and other varieties, shown by Mr. R. Dean, of Ealing, was commended.

The subjects exhibited before the Fruit Committee consisted chiefly of Apples and Plums. A large collection of the latter was exhibited by Messrs. J. Veitch & Sons. Red kinds were Victoria and Duke of Edinburgh; dark purple or black kinds were Diamond, Mitchelson's, Kirke's, Belgian Purple, Prince Englebert, Large Black Imperial, and Goliath. Denniston's Superb and Tay Bank represented green kinds; and Lawson's Golden Gage, and Early Golden Drop, were yellow sorts. They also showed Lady Sudeley, Early Russian, and Summer Thorle Apples, and the Beacon Pear. A. H. Smee, Esq. (gardener, Mr. G. W. Cummins), The Grange, Hackbridge, showed a good collection of early Apples, including Mother, Williams' Favourite, Early Strawberry, Duchess of Oldenburgh, Nonsuch, Peasgood's Nonsuch, Bensoni, Lord Grosvenor, Gooseberry, Worcester Pearmain, Stilbert, and June Gilliflower. Messrs. J. Cheal & Sons, Crawley, showed some Apples and Pears, as did W. Roupell, Esq, Harvey Lodge, Roupell Park. Seedling Melons were shown by Mr. L. B. Holman, Broughton Place, Maidstone; by Mr. H. C. Denton, gardener to Major Egerton, Alverley Hall, Doncaster; by Mr. J. Strong, Lindisfaine, Bournemouth; by Mr. Chas. Brook, Red Rice, Andover, Hants; and Mr. J. Church, Milford Hall, Suffolk, showed a large red variety of Capsicum—the one from which is made the Paprika or Hungarian Pepper of commerce.

Shropshire Horticultural.—*Aug. 21st & 22nd.*

It was admitted by all who were capable of giving an opinion that the show held last week in the far-famed Quarry at Shrewsbury was the best the society has ever held, and that is saying a great deal. Unfortunately the weather was deplorable on both days, still the Salopians stood manfully by the executive, and patronised the show in large numbers. The competition in most of the classes was very strong, and the quality of the exhibits of a high order, especially so in the vegetable section, in which the local champions well held their own against all comers. For the first time at Shrewsbury, Mr. Cypher, of Cheltenham, had to lower his colours in the class for twenty specimen plants, being well beaten on this occasion by Mr. Finch, gardener to James Marriott, Esq., Coventry. Mr. Roberts, gardener to C. Nicholson, Esq., Leek, was third. For six exotic Ferns, Mr. Cypher and Mr. Roberts were both beaten by Mr. Lambert, of Onslow, who also came to the front again in the local gardeners' class. For a group of plants arranged for effect, Mr. Baerlein, of Didsbury, secured the first and second prizes. The cut-flower classes brought out some very fine things, especially among Roses, Hollyhocks, Gladiolus, Dahlias, while the cut, stove and greenhouse plants were superb, notably so the collection from Trentham.

The fruit classes were well filled, and the Grapes, with the exception of a few Muscats, were splendidly coloured. Mr. Goodacre, of Elvaston, had the finest collection of twelve dishes, beating Mr. Davies, of Temple Newsham, and Mr. Gilman, of Ingestrie. For nine dishes, Mr. Milner, of Sundorne Castle, came in first, beating Mr. Lambert and Mr. Pearson, of Attingham. The great attraction for the professional visitors was, however, found in the vegetables, and I question if a finer lot has ever been seen in competition anywhere. The collection of twelve dishes brought out a grand competition, so good, in fact, that the judges had to give fourth and fifth prizes, in order to do justice to the competitors; the awards being made as follows:—First, Mr. Lambert, Onslow; second, Mr. Milner, Sundorne; third, Mr. Wilkins, Inwood House, near Blandford; fourth, Mr. C. J. Waite, Glenhurst, Esher; fifth, Mr. A. J. Skinner, Cullen House, near Cheltenham. For the prizes given by Messrs. Webb & Sons, Wordsley, Mr. Lambert also came to the front in a strong contest, beating Mr. Wilkins, Mr. Corfield (Leaton Knolls), Mr. Lockie (Oakley Court, Windsor), and Mr. Milner. Mr. Lambert also secured first honours in the county class for six dishes, and thus, for the first time, secured the three leading first prizes. The various contests were well fought out, and altogether the display was worthy of the society, which has been the means of giving a great stimulus to local horticulture.—*From a Correspondent.*

QUESTIONS AND ANSWERS.

Antirrhinums—*J. Forbes, Hawick:* A very showy assortment of self-coloured, striped, and mottled flowers of good size, and thickly set on long spikes. A very good strain.

Arum Lilies and Ferns.—*Felix:* You may give the Arums a shift now with advantage. Put them into pots one or two sizes larger than those they are now in, and use a compost of loam, leaf-soil, a little manure, and sand. The Polystichum and the Pterises may also be fresh potted now, the former into a 48-sized pot. The compost mentioned above, by substituting a little peat for the manure, will suit them well. Drain liberally in both cases.

Broccoli and Celery.—*Stella:* Nitrate of soda is the quickest in action, but we should not use it ourselves if good ordinary liquid manure or sewage could be obtained.

Cucumbers for Exhibition.—*North Lincoln:* A good strain of Rollinson's Telegraph will give what you require.

Flue Chimney.—*R. L. A.:* We can suggest nothing but a light tin or thin zinc moveable cowl. Sometimes relief is gained by quickening the draught, and it occasionally happens that this is best done by fastening a narrow strip of wood, iron, or slate &c., across the top of the chimney.